FACULTAD DE ARQUITECTURA, PLANEAMIENTO y DISEÑO
UNIVERSIDAD NACIONAL DE ROSARIO

PLAN OF STUDY

Course of Studies in Architecture

RES. 713/08 SC
RES. 849/09 SC

FACULTY OF ARCHITECTURE, PLANNING AND DESIGN,
NATIONAL UNIVERSITY OF ROSARIO
SINGLE ANNEX - Resolution No. 145/2008 GB and Resolution No. 713/08 SC

ANALYSIS

I. BRIEF CHRONOLOGY OF THE MODIFICATIONS MADE TO THE PLAN OF STUDY OF THE COURSE OF STUDIES IN ARCHITECTURE

The Plan of Study implemented in the Faculty of Architecture, Planning and Design between the end of 1984 and the beginning of 1985 constitutes a constant point of reference when it comes to rethinking how the institution addresses the training of future architects, not only because of the Plan's intrinsic characteristics and the process that led to it, but also because the Faculty of Architecture of Rosario was the first public faculty of architecture to review its Plan immediately after democracy was restored in the country.

At the time, the Commission in charge of reviewing the Plan was appointed by Resolution of the Academic Advisory Normalizing Council, to represent the student body as well as the teaching staff. The Commission submitted several reports to the Council, which were advances for the elaboration of the Plan, later implemented in 1985. From that year and based on the structure defined by the new Plan, the first national calls to fill in teaching positions since the beginning of democratic period were launched.

It is worth mentioning that the new Plan was the product of general debate within the academic community, represented by members of the different bodies that compose the Faculty (students, teachers, graduates and non-teaching staff). Therefore, this effort was not conceived as merely organizing a course structure but as a way of meeting certain institutional demands during a historical time of great importance for public university and the country. This idea was present during every stage of the review.

Ten years later, in November 1995, the Orientation Course for New Students was approved by Resolution No. 134/95 CD. It was first taught in March 1996 and has been running to this day. A partial reform of the 1985 Plan was carried out in 1997 and it is still in force. This document included some unique and specific changes, assuming that "these should be understood as adjustments to the Plan and not as a significant modification"[1].

The changes made on that occasion can be described as follows:

Materials 1, 2 and 3, courses from 2nd, 3rd and 4th year respectively, were moved to 1st, 2nd and 3rd year, being completely incorporated to the Basic Cycle.

Also within the Basic Cycle, the course Applied Descriptive Geometry was divided into semester courses (Applied Descriptive Geometry 1 and 2), the first one being taught in the first semester of 1st year and the second, in 2nd year.

Likewise, the course Theory of Knowledge was divided into two semester courses taught in 1st and 2nd year. These changes also included removing the optional courses Computer Science and the Conclusive Seminars from the last year of the program. This was only a nominal removal since those curricular activities had not been implemented in the twelve years since the Plan had been approved.

From the 1997 reform, two paths were taken. The first has to do with a more "structural" academic policy, by which the Faculty had and continues to have an active role in the elaboration of documents aimed at a curricular integration between national Faculties of Architecture and the MERCOSUR. So far, this purpose has been set down in the following documents (written in Spanish):

1. *"Professional Training in the Faculties of Architecture as regards the scope of the degree in Architecture"*. Document to be addressed by the Council of Deans of Faculties of Architecture of National Universities (CODFAUN), prepared by the Faculties of the Littoral Region (UNNE, UNL, UNR), September 30, 1997.

2. *"Evaluation and accreditation of undergraduate courses in Faculties of Architecture of National Universities"* Document prepared by the Council of Deans of Faculties of Architecture of National Universities (CODFAUN),

[1] From the "Whereas" section of the Plan of Study presentation document submitted before the Superior Council of the National University of Rosario, 1997.

October 2000.

3. *"Baseline Document for Curricular Integration",* Steering Group for Curricular Integration of the Association of Architecture Schools and Faculties of the MERCOSUR (ARQUISUR). 2001.
4. *"Accreditation of the Undergraduate Course in Faculties of Architecture. Basic curricular contents; Minimum workload; Time criteria for practical training; Standards for the accreditation of the Course of Studies in Architecture; Professional activities pertaining to the degree in architecture".* May 2003. This document is the result of an extended work jointly developed by the Council of Deans of Faculties of Architecture of National Universities (CODFAUN), and later adopted by the Commission of Deans of Private Management Faculties of Architecture, and submitted for exhaustive examination by the Council of Universities.

The second path consisted of a series of activities aimed at an internal review of the Plan of Study. In a first stage, the discussion was partly marked by the lack of continuity and organic institutionalism. Open meetings of teachers were therefore convened, and surveys were conducted, which led to a number of reports elaborated between 1998-2000. As a result, two psycho-pedagogues, Susana Vior and Silvia Brusilovsky, were hired. They met with Head, Associate and Assistant Professors of each group of courses and, in 2020, they elaborated the Spanish document "*Diagnosis of the Curricular State of the Course of Studies in Architecture".*

In 2003, the first public Round Table was held to review the 1985 Plan of Study, attended by members of the Faculty bodies. A document summarizing the results of the meeting was prepared and distributed among teachers. During 2004, *Seminars of Integration and Curricular Exchange* between Basic Cycle and Higher Cycle courses from the areas of Theory and Technique of the Architectonic Project and Basic Sciences, and the areas of Urban Theory and Technique and History of Architecture were organized, resulting in documents that were later distributed among teachers.

In 2005, before the ARQUISUR 2005 Conference on "Teaching Architecture", pre-conference*s* were held and a CD was published. Later, during 2006 and 2007, several work meetings on the subject were maintained, both by the Committee of Academic Affairs of the Governing Board and the Academic Secretary and Undersecretary, as well as by management team of the Faculty.

Once the Self-Assessment and Accreditation process of the Course of Studies begun, towards the end of 2007, a Self-Assessment Commission was created by Resolution No. 170/07 of the Faculty's Governing Board. This Commission gave rise to the Plan of Study Working Group, with included teachers, students and teacher and student council members and held public sessions. The Group was responsible for outlining the present proposal, which was later informed by the members of the Commission to each of the bodies they represented.

So it can be affirmed that the intention of reviewing the Plan of Study in Architecture —that is, reviewing desirable and possible content adaptations and how we carry out the process of training future professional architects— has been present, implicitly or explicitly, during the entire period of validity of the current and previous Plan.

Today, those of us who are in charge of running the Faculty understand that it is the right time to advance the formulation of a concrete proposal, relying on the path laid down by the aforementioned initiatives. We are also convinced that the proposal must be built collectively, although without evading our responsibility to lead the process.

In addition, we cannot ignore another "key" factor of any present-day curricular reform project: the aforementioned agreements laboriously developed by a group of public Faculties of Architecture —then sanctioned by the National Interuniversity Council and the Council of Universities— which have set "minimum standards" for training architects, and were incorporated in the Ministry of Education Resolution No. 498 in 2006. This Resolution sets forth a basic agreement on the curricular developments of the Plans of Study in Architecture. Needless to say, its content has been taken into account in this proposal.

II. GENERAL ACADEMIC CONSIDERATIONS REGARDING THE PROPOSED REFORM

The Plan of Study Working Group identified the following starting points for the modification, to be considered by the bodies in charge of its final approval.

1. To provide this Plan with a new, flexible and integrative structure that includes the recommendations of Ministerial Resolution No. 498/06 regarding the incorporation of optional and elective courses, Supervised Professional Practices and the Course of Studies Final Project.
2. To update the academic contents of the courses in light of the progress made in the fields of knowledge covered by the curricula. In fact, each course is constantly updating its contents as documented in their syllabus.
3. To adapt the organization in Areas and Cycles proposed by the Ministerial Resolution to the current state of knowledge, to the academic tradition of FAPyD and to the composition of selected teaching teams, in compliance with the mandatory workload established for Basic Curricular Contents under the Ministerial Resolution.
4. To improve the interaction with High School and course of studies permanence rates by implementing a Mentoring System (Res. Nº 100/07 CD) and rebalancing the 1st year workload to the remaining years of the course of studies.
5. To minimize any unnecessary content overlaps between compulsory courses, in order to incorporate optional and/or elective courses without leading to considerable workload increase.
6. To create a Plan of Study Monitoring Committee for further evaluation and review of the Plan.

PLAN OF STUDY

This Plan of Study of the Faculty of Architecture, Planning and Design of the National University of Rosario has been elaborated in compliance with the guidelines of Ministerial Resolution No. 498/2006 and the Single Annex of Ordinance No. 551/94 of the National University of Rosario: *"Guía para la presentación de Planes de Estudio"* [Guide for the submission of Plans of Study]. The Plan of Study Working Group, which aroused from the Self-Assessment Commission, duly constituted by Resolution No. 170/07 of the Faculty Governing Board has had an active role in the elaboration of this Plan.

I. IDENTIFICATION OF THE PLAN OF STUDY

Plan of Study of the Course of Studies in Architecture, Faculty of Architecture, Planning and Design, National University of Rosario.

II. PURPOSE OF THE PLAN OF STUDY

The University is conceived as a place that produces knowledge that, far from any dogmatism or single "truth" concept, ensures the plurality of a democratic educational structure. The Faculty of Architecture, Planning and Design undertakes intellectual production as a fundamental university task and is committed to formulate, advance and deepen specific scientific-technical and socio-cultural knowledge. Specificity is constituted from the direct recognition of each reality, as an inseparable socio-cultural practice.

Based on this context, this Plan of Study aims to:

* Undertake the education of architects, understanding their specific disciplinary practice as production, transformation and materialization of the human habitat, at a particular historical time.
* Advance the production of cultural and technical-scientific knowledge related to this disciplinary practice.
* Ensure solid training, grounded on socio-cultural and scientific-technical knowledge, so that professional graduates may acquire a wide background for an active understanding of current issues that leads them to find effective solutions.

III. PURPOSE OF THE PROFESSION

The purpose of an Architect includes planning, building and giving meaning to the human habitat and its equipment elements, at all its levels.

It involves the systematic programming and ordering of the requirements imposed by the human habitat in general and in particular. This is materialized in human settlements, where architectonic and urban projects are planned at all their levels. That is where issue-related conditions acquire location, dimension and technical and aesthetic materiality. Therefore, they form a significant organized group of elements that meets the demands of each course's syllabus.

"The human habitat" is thus presented as a field of reflection and qualitative transformation through the actions of architects, considering that it is impossible to approach such specificity from a single field of action. Such confrontation will provide the critical reflection each disciplinary area needs to expand and transform.

IV. CHARACTERISTICS OF THE COURSE OF STUDIES

IV.1. Degree: Undergraduate Course of Studies

IV.2. ACCREDITATION: An Architect degree will be awarded.
"Architect" is the maximum degree granted and, in order to safeguard it, any intermediate degrees granted shall not include the term "Architect" to avoid misinterpretation of the scope of the degree.[2]

[2] Ministerial Resolution No. 498/2006.

Bachelor's Degree in Architecture is the intermediate degree that will be awarded to students who have taken and passed 1500 hours (150 credits) of compulsory courses included in the Plan of Study. Bachelor's Degree with Major in Architecture is the intermediate degree that will be granted to those who have taken and passed 1440 hours of specific courses and 440 hours of complementary courses, for a total of 1880 hours, as stated in the table of Section **VI. TIME ALLOCATION.**

IV.3 SCOPE OF THE DEGREE - PROFESSIONAL SCOPE

As stipulated by Resolution No. 498 from 11-05-06 of the National Ministry of Education Science and Technology, the Professional Scope exclusive to the Architect Degree is as follows:

1. *To design, plan, run and execute the concreteness of spaces intended for human habitat.*
2. *To plan, run and execute the construction of buildings, groups of buildings and related spaces, including equipment, infrastructure and other works intended for human habitat.*
3. *To plan, calculate, run and execute the construction of resistant structures compatible with architectonic works.*
4. *To plan, calculate, run and execute the construction of complementary facilities corresponding to architectonic works, except when their specificity requires the intervention of an engineer.*
5. *To plan, run and execute works for recovery, renovation, rehabilitation and re-functionalization of buildings, groups of buildings and other spaces intended for human habitat.*
6. *To design, plan, run and execute the construction of interior and exterior, fixed and mobile equipment intended for human habitat, including rooms for transportation of people.*
7. *To design, plan and carry out technical the control of components and materials intended for architectonic works.*
8. *To schedule, run and execute the demolition of architectonic works.*
9. *To carry out studies, plan and run the execution of works intended for landscape.*
10. *To carry out the architectural and urban planning of spaces intended for human settlements.*
11. *To plan plots of land intended for human habitat.*
12. *To carry out plot measurement and leveling to execute architectonic works.*
13. *To carry out studies and research on regulations and planning of habitat spaces and the issues derived from designing, planning and executing architectonic works.*
14. *To advise on ordering and planning of habitat spaces and issues derived from designing, planning and executing architectonic works.*
15. *To participate in plans, programs and projects of physical-environmental territorial ordering and urban and rural space use.*
16. *To participate in the elaboration of legal regulations related to ordering and planning human habitat spaces.*
17. *To participate in the elaboration of plans, programs and projects that, even if not part of the scope, may have an impact on human habitat.*
18. *To carry out surveys, appraisals and valuations of real estate.*
19. *To carry out arbitrations, surveys, appraisals and valuations related to ordering and planning habitat spaces and the issues derived from designing, planning and executing architectonic works.*
20. *To design, execute, run and evaluate hygiene- and safety-related issues of architectonic works.*

IV.4. PROFILE OF THE DEGREE

The Professional Profile of the graduate in Architecture must respond both to current requirements set for the exercise of professional activities that are exclusive to the degree and to new situations that may arise as a result of political, socioeconomic and cultural changes. In this context, globalization and the vertiginous development of new technologies become relevant processes. Therefore, the profile of an architect should meet more than its traditional role of designer; it is also essential that architects consider the following professional activities:

a) Strategic environmental and urban planning; and participation in different forms of political, economic and technical management related to human habitat.

b) Participation within interdisciplinary teams in the design of operations meant to intervene the city and the territory.

c) Participation in the configuration of spaces from public and private areas that administer the city, the urban environment, the quality of life, or specific activities such as health, education, housing, etc.

d) Research, diagnosis, design of proposals and regulations on building, urban and environmental issues.

e) Participation in non-traditional innovative forms of social habitat management, through intermediate, State and grassroots organizations, contributing to the design of housing and social facility actions and operations.

f) Administration of cities' urban, architectural and cultural patrimony, carrying out intervention projects to value its aesthetic, cultural and social qualities.

This broadening of the scope has to do with radical changes of the times and it emphasizes, from an epistemological perspective, the ethical training and social and political responsibility that professional actions entail, as well as the issues of sustainable development and environment protection, understood from their ecological, economic-productive, socio-political and cultural aspects. Today, professional practices recognize contexts and forms of action that imply the diverse and multiple participation of architects, thus reaffirming their responsibilities. In this sense, professional training demands a holistic approach, so that architects may be open to change, update themselves and continue learning. The following abilities are absolutely necessary for an architect:

a) To interpret relevant cultural and environmental aspects of individual and collective demands related to the work of the architect with the aim of improving habitat quality.

b) To transform this interpretation into programmatic guidelines to cover the spectrum of human needs, aspirations and expectations regarding a culturally produced environment.

c) To transform these programmatic guidelines into consistent architectonic and urban projects as regards their instrumental, technical-constructive and expressive aspects, taking into consideration specific historical, cultural and environmental contexts.

d) To efficiently carry out construction and technology-related tasks as a whole, employing appropriate construction techniques and every complementary work and facility.

e) To carry out relevant socio-political, technical and administrative activities related to organization, direction and management, at the corresponding levels.[3]

IV.5 ADMISSION REQUIREMENTS

The requirements are those established by the National University of Rosario, which in no case shall interfere with the requirements of free unrestricted admission.

V. PLAN OF STUDY ARRANGEMENT

V.1. Goals

Upon passing the courses of this Plan of Study, students will be able to:

1. Master architecture and urban planning knowledge and technical and methodological resources with an integrative and inter-sectoral approach.

[3] Ministerial Resolution No. 498/2006

2. Manage project-related processes with a positive attitude of transformation and personal commitment, while bearing in mind the social, political, technical and aesthetic dimensions of architecture and urban planning so as to enhance cultural, historical, material and immaterial resources of contemporary reality.
3. Achieve a high level of critical reflection, permanent self-evaluation and commitment to the production of knowledge through receptive work on regional, national and Latin American realities and habitat and cultural strengths and weaknesses in general. Frame their actions in a permanent inquiry, overcoming a mere reproduction of academic notions from other cultural contexts.
4. Guarantee the commitment to serve the community upheld by the public University, defined by social, technical and cultural belonging.
5. Achieve high-level skills and manage to apply them in a suitable or ubiquitous manner (sector skills, transdisciplinary skills).
6. Value the interdisciplinary contribution of related disciplines for the interpretation and integral transformation of the human habitat.
7. Evaluate the feasibility and sustainability of their projects (from social, legal, institutional, economic, ecological and technical points of view).
8. Select appropriate technologies, materials, and construction and structural systems for each particular situation.
9. Apply the most convenient criteria to organize and manage works.
10. Have sound knowledge of legal and ethical aspects involved in the exercise of the profession.
11. Have the necessary training background to take part in research teams, interdisciplinary practice teams and public administration management teams.

V.2. Plan Structure and Characteristics

Due to its nature, this Plan is a "Guide Plan", whose foundational bases were set from the moment of its effective date. In "building" this Plan, we have undertaken the commitment of permanent transformation in terms of control and further development.

Achieving the proposed goals and incorporating disciplinary and project-related operations are the basis of this curricular structure. By coordinating the knowledge provided by each area and its relevance within their corresponding cycle, we have established an appropriate framework for transfer and final synthesis processes. Another central goal of the Plan is merging general and disciplinary training, so as to develop the level of synthesis required in each stage of training.

Within the limits of its own area, each course is defined by a coherent theoretical "corpus" built and shared as a common reference to different levels of action. Such theoretical "corpus" is key in combining another two necessary stages: didactic-pedagogical and thematic.

The idea of "workshop" or "vertical course" is a particular academic variant that relates courses and combines three fundamental stages: the theoretical (crucial to achieve such combination), the didactic-pedagogical and the thematic stage. This variant stands out for organizing the courses in a vertical succession; therefore, courses constitute real laboratories, defined by the realization of each stage in a sequential line, which chains a theoretical construction that is continuously being tested in practice. Each area can opt for employing the variant in the way that best suits it.

The Plan promotes adequate training for students to participate in group work and interdisciplinary teams, and prepare them to interpret complex contexts and acquire broad and general knowledge of related disciplines.

Outreach, as a concrete link with the social and cultural environment, benefits from the feedback of academic contents. It is by involving themselves in the community that students can gather questions and demands that are later incorporated as new contents and curricular adjustments. In this sense, the external internship system constitutes an effective academic requirement to achieve student’s involvement in and contact with regional realities.

Research activities are added to the Plan as a specific space to work on the Final Project, and as normal activities carried out from the beginning of the training cycle. The processes of knowledge production and innovation have an active role in the structure of the Plan, as irreplaceable aspects in the convergent development of synthesis capacities during training.

Curricular flexibility is manifested both in the structure —arranged as a two-direction scheme of cycles and areas— and in the incorporation of optional and elective paths to guide the decisions of specialization and insertion in other fields of knowledge. Thus, a main purpose of this Plan is to provide students with the opportunity to establish different curricular designs and alternatives for professional development.

V.3. Cycles, Areas and Courses

The Plan is structured in three education cycles, and four areas of knowledge. Objectives and contents of the courses are organized both horizontally and vertically. The course of studies has a total duration of six years.

As regards the academic credit system, it is established that 1 credit equals 10 hours of in-person classes.

V.3.1. Education cycles:

The proposed curricular organization includes a Basic Cycle, a Higher Cycle and a Final Cycle. The first is instrumental to the specificity of the second. The second is formative, thought-provoking and contributes to the maturation of propositional and critical thinking. The third one concludes and integrates the knowledge acquired. The contents and operational-academic forms of cycles are developed in each Area.

1. BASIC CYCLE (instrumental training): 1st, 2nd and 3rd year (six semesters).
2. HIGHER CYCLE (thought-provoking, contributing to the maturation of propositional and critical thinking) 4th and 5th year (four semesters).
3. FINAL CYCLE (professional) 6th year (two semesters).

V.3.2. Basic Cycle

The Basic Cycle involves a critical approach to laws, procedures and products of each area of knowledge, to be presented in a systematized way that makes them manageable. Students should be equipped with the necessary background for propositional action within different systems of thought.

The Basic Cycle is made up of the following courses:

		Attendance	Hours per Week	Weeks	Hours per Year	Credits
	First Year					
01.01	Introduction to Architecture	Annual	9	30	270	27
01.02	Graphic Expression 1	Annual	3	30	90	9
01.03	Materials 1	Annual	5	30	150	15
01.04	Physics	Annual	3	30	90	9
01.05	Mathematics 1	Semester	2,5	16	40	4
01.06	Epistemology 1	Semester	2,5	16	40	4
			22,5		**680**	**68**
	Second Year					
02.07	Project Analysis 1	Annual	9	30	270	27
02.08	Materials 2	Annual	5	30	150	15
02.09	Statics and Strength of Materials	Annual	3	30	90	9
02.10	History of Architecture 1	Annual	3	30	90	9
02.11	Descriptive Geometry	Annual	3	30	90	9
02.12	Graphic Expression 2	Annual	3	30	90	9
			26		**780**	**78**

	Third Year					
03.13	Project Analysis 2	Annual	9	30	270	27
03.14	Materials 3	Annual	3	30	90	9
03.15	Structural Design 2	Annual	5	30	150	15
03.16	Introduction to Urbanism	Annual	3	30	90	9
03.17	History of Architecture 2	Annual	3	30	90	9
03.18	Mathematics 2	Semester	2,5	16	40	4
			25,5		**730**	**73**
	Credits to be covered with optional courses					**3**
	Basic Cycle Compulsory Courses Workload				**2190**	**219**
	Basic Cycle Workload to be covered with Optional Courses				**30**	**3**
		Basic Cycle Total Workload			**2220**	**222**

From the last year of the Basic Cycle, students must take a minimum of three (3) credits corresponding to optional courses, as described in sections V.6 and V.6.1.

V.1.3. Higher Cycle

The Higher Cycle is conceived as a prolonged period to redraw background knowledge provided in the Basic Cycle through its operation, aimed at propositional and critical thinking maturation of the architect to be. It mainly focuses on project-related practice and critical revision of previously acquired knowledge.

The Cycle is made up of the following courses:

		Attendance	**Hours per week**	**Weeks**	**Hours per Year**	**Credits**
	Fourth Year					
4.19	Architectonic Project 1	Annual	9	30	270	27
4.20	Structural Design 2	Annual	3	30	90	9
4.21	Urban Analysis	Annual	3	30	90	9
4.22	Building Production 1	Annual	5	30	150	15
4.23	History of Architecture 3	Annual	3	30	90	9
			23		**690**	**69**
	Credits to be covered with optional courses					**9**
	Fifth Year					
5.24	Architectonic Project 2	Annual	9	30	270	27
5.25	Urban Intervention	Annual	3	30	90	9
5.26	Building Production 2	Annual	5	30	150	15
5.27	Epistemology 2	Semester	2,5	16	40	4
			19,5		**550**	**55**
						9
	Compulsory Courses Workload				**1240**	**124**
	Workload to be covered with Optional Courses				**180**	**18**
			Total Workload		**1420**	**142**

V.3.4. Final Cycle

The Final Cycle deepens the specialized disciplinary training related to the professional scope. Thus, its general goals are to:

1. Guide the graduate to be in the correct direction as regards job prospects and professional specialization in the region.
2. Provide students with appropriate and varied professional practices, advancing and perfecting the professional level achieved during the course of studies.
3. Allow the exercise of critical and creative thinking in order to face concrete and objective scenarios related to broad issues of the discipline and today's habitat.

The Cycle is made up of the following courses:

		Attendance	Hours per Week	Weeks	Hours per Year	Credits
	Sixth Year					
06.28	Final Project	Annual	7	30	210	21
			7			
	Final Cycle Compulsory Courses Workload				**210**	**21**
06.29	Supervised Professional Practice (SPP)	Semester	5	16	80	8
06.30	Modern Language					
	Compulsory Courses Workload				**210**	**21**
	Workload to be covered with SPP courses				**80**	**8**
			Total Workload		**290**	**29**

V.3.5. Areas of Knowledge

As the "human habitat" is constituted in a space of reflection and qualitative transformation through architecture, it is not possible to address professional training from a single field of knowledge.

Therefore, the Plan establishes disciplinary "areas" that, combined, are functional to the university training of an architect and, independently, are useful to learn, advance and produce knowledge from different fields of action.

The specificity of each area is based on autonomous disciplinary elaboration, having its own objects and methods of study; on the intention of making them into systematized bodies of specific knowledge; and on their condition as systems of thought. These developments will provide necessary critical reflections for continuous growth and transformation in each disciplinary area.

Thus understood, each area can be approached from different theoretical-ideological options that make them into plural areas, although without exceeding the limits of their specificity. In each area, each Chair undertakes to follow a coherent theoretical "corpus".

In short, the Chair-student relationship, including vertical workshops or courses, constitutes a favorable atmosphere for a teaching-learning process conceived as joint intellectual production. From this perspective, "development, advancement and production of knowledge" implies eradicating the traditional concept of "knowledge transfer" based on agents defined as "sender" and "receiver".

Relevant areas of knowledge proposed to deepen and produce specific knowledge:

AREA OF THEORY AND TECHNIQUE OF THE ARCHITECTONIC PROJECT

a. Architectonic Project

b. Graphic Expression

c. Materials

d. Epistemology of Architecture

AREA OF BASIC SCIENCES, PRODUCTION AND MANAGEMENT

a. Basic Sciences

b. Structural Design

c. Production and Management

AREA OF HISTORY OF ARCHITECTURE

AREA OF URBAN THEORY AND TECHNIQUE

The Supervised Professional Practice constitutes a transversal space that receives knowledge from various areas.

- *Disciplinary Area of Theory and Technique of the Architectonic Project*

The main goal of the area is to work on a theory of architectural doing from its meaning and procedural dimensions. The distinctive feature of this area is the development of a theory based on project-related architectonic experience.

This commitment encompasses and links together the following set of issues:

- *The project*: producing architectonic spaces and forms as a synthesis of data coming from modeling the constitutive features of architecture, namely, spatial, geometric, constructive and dimensional features. The theory inner to project-related reflection will be intrinsically related to the activities of the Project Workshop. It tends to a (significant) axiomatization of architectonic works to substantiate a practice aimed at formulating explanations or understanding how architectonic facts are constructed.
- *Drawing*: graphic systems are the most suitable tools for project-related action. Here, they are defined as systems of meaning since they constitute instruments of interpretation. To consider drawing as producer of meaning displaces any attempt to reduce graphic codes to simple dimensional transcription, or to understand the drawn image as a naive natural reflection of an object.
- *Materialization or construction*: conceived as a theoretical-technical development for controlling and verifying architectural elaborations by following a comprehensive reasoned path of architectural structure types, materials and construction orders, in such a way as to build the elements and relations of the architectonic work in any of its scales.
- *Epistemological reflection*: understood as theoretical reflection on "doing architecture".

This area is made up of the following compulsory courses, grouped into the corresponding sub-areas:

Sub-area of Architectonic Project
Introduction to Architecture
Project Analysis 1
Project Analysis 2
Architectonic Project 1
Architectonic Project 2
Final Project

Sub-area of Graphic Expression
Graphic Expression 1
Graphic Expression 2
Descriptive Geometry

Sub-area of Materials
Materials 1
Materials 2
Materials 3

Sub-area of Epistemology of Architecture
Epistemology 1
Epistemology 2

- *Disciplinary Area of Basic Sciences, Production and Management*

a- Basic Sciences: Mathematics, Physics, Statics and Strength of Materials

By including Mathematics in this Plan of Study, the aim is to promote procedures of intellectual development by incorporating topics whose modality of treatment leads to acquiring basic mathematical knowledge: logic and intuition; analysis and construction; generality and individuality. More than focusing on the individual components of each pair, Mathematics offers an important field of experimentation on the permanent interaction of these components.

By including Physics "applied to construction", the aim is to expand students' training on instruments and notions so that they may define and control the variables that, in project-related decision-making, contribute to the material nature of architectonic works, as well as to the adequacy and comfort of built environments. Students deal with complex topics and notions from the field of Physics, which allow them to interpret and address the building–natural environment relationship, and the building–human body relationship in quantitative and qualitative terms.

b- Structural Design

In Structural Design, students are expected to acquire operational knowledge related to static-resistant behavior of construction components, and verification and dimensioning methods necessary for their correct distribution and individualization. It emphasizes on the concept of "structural system" as a "specific" response to a precise set of static-constructive structural demands present in any architectonic project. Structural Design "fine-tunes" the technical-conceptual instruments necessary for making typological determinations (structural design) as well as verifying and predetermining their critical behaviors (dimensioning).

c- Production and Management

The purpose of Production and Management is for students to develop the ability to relate and operate, through intentional assessment, systematic knowledge on construction procedures, including the factors that define building production, such as: programmatic interpretation of the demand; qualitative characteristics of the product; procedures and rules that govern the relationships between leading actors in the production process; economic and investment aspects; management strategies and techniques in each operational phase.

This area is made up of the following compulsory courses, grouped into the corresponding sub-areas:

Sub-area of Basic Sciences
Mathematics 1
Mathematics 2
Physics
Statics and Strength of Materials

Sub-area of Structural Design
Structural Design 1
Structural Design 2

Sub-area of Production and Management
Building Production 1
Building Production 2

Supervised Professional Practice (SPP)

- *Disciplinary Area of Urban Theory and Technique*

Creating an urban policy, especially as part of an urban plan, is certainly a process that involves numerous actors and their respective interests, where a correlation of forces is at stake. Therefore, it is necessary to analyze the roles and actions that define each actor in terms of "the urban". Courses related to urbanism can and must be guided by the operational dimension, that is, the study of urban institutions and the main technical-administrative practices related to them.

The area is made up of the following compulsory courses:

Introduction to Urban Planning
Urban Analysis
Urban Intervention

- *Disciplinary Area of History of Architecture*

The general goal of this Area is to interpret the historical path from and to the present, defining the country's architectural issues as a significant field of action. Prioritizing this field does not imply leaving aside an international configuration, but making it available in order to understand specific issues of our country. In the specificity of the area, "History of Architecture" is understood as construction of interpretations, that is, as multiple histories. Interpreting the historical path as production of meaning is conceived as a critical action on the present, an action mainly targeted at architectural issues, which does not exclude its direct instrumentality for design.

The area is made up of the following compulsory courses:

History of Architecture 1
History of Architecture 2
History of Architecture 3

V.4.- COURSES AND DEFINITION OF CONTENTS

Name of the Course:	**INTRODUCTION TO ARCHITECTURE**
Cycle	Basic
Year Area	1st
Sub-area	Theory and Technique of the Architectonic Project Architectonic Project

Attendance:	Annual
Weekly workload:	9 Hours
Total workload:	270 Hours
Credits:	27

GENERAL GOALS:

To bring students closer to the architectonic "nature", that is, to build a first set of notions on key aspects of the project-related process: morphological, distributive, material-related aspects on which special emphasis will be made to make students aware of them. The course will simultaneously show the world of architecture and graphic instruments necessary to operate in this world. The close-knit relationship between architecture and architectural drawing is therefore emphasized, understanding the latter as a tool for thinking, thus producing the former. It will be essential to consider drawing as a "graphic language" —an instrument that allows interpretation— making its constitutive function and the principles that regulate its code-producing action explicit. In accessing the figurative space of each system, the normative level will be the priority.

DESCRIPTION:

The course necessarily and intentionally covers a wide range of examples of projects, buildings or fragments of buildings, so as to promote interest and stimulate students' curiosity about project experiences in architecture. Students will be guided in their capacity to observe and represent the physical world that surrounds them. This constitutes a first empirical approach to the logics that have determined the organization and configuration of such world.

The course has two instrumental positions as starting points:

- The given architectural object, its material consistency and potential experimentation: the graphic process becomes a selective procedure that "models" the complexity of a given phenomenon and demands for coding procedures.
- The given graphic material: how to interpret an architectural object that has been expressed through codes, reflecting on their active role in constituting that object.

The course concludes with a first approach to a project experience that reveals the operations of the architectonic project and the importance of acquired knowledge.

GENERAL CONTENTS

The following approaches will be taken:

1. Formal and spatial recognition, addressing the unitary and the multiple as well as the configuration of building skins;
2. Recognition of organizational-distributive orders, understood as the potential uses of spatial structuring, regardless of any functional determinism;
3. Recognition of the material consistency of architecture, that is, what makes its artificiality or capacity to sustain itself and to alter the natural climate conditions;
4. Recognition of founding operations involved in the project-related process.
5. Learning about graphic operations, which are instrumental to the previous points.

Name of the Course:	**PROJECT ANALYSIS 1**
Cycle	Basic
Year	2nd
Area	Theory and Technique of the Architectonic Project
Sub-area	Architectonic Project

Attendance:	Annual
Weekly workload:	9 Hours
Total workload:	270 Hours
Credits:	27

GENERAL GOALS

- To understand the architectonic project in a broad sense as something determined by multiple socio-cultural aspects (organizational, material, etc.)
- To theoretically justify a project through categorical (conceptual and graphic) reflection on architectonic works.
- To develop the concept of compositional element (regardless of any scale limitations) as a part or minimal significant articulation that, if repeated, paired or assembled with other components, becomes a spatial structure.
- To develop the concept of logic or underlying order of buildings, analyzed as an operable instrument of the project-related procedure.
- To transfer theoretical knowledge to a project-related practice of increasing complexity.

DESCRIPTION

Project Analysis 1 constitutes an instrumental instance in the training of students, as they will have to study, understand and use design and analytical methods specific to the architectonic project. Conceived as a pedagogical training device based on free discussion of ideas, collaboration and pedagogical self-management, this workshop constitutes the temporal-spatial environment for studying, understanding, and applying analogical and digital graphic methods and procedures, as well as three-dimensional scale models. Those are instrumental resources for representing and prefiguring the different levels of analytical and project-related processes. Project Analysis 1 will mainly focus on studying, interpreting and transferring simple architectural organisms to each level of the project, buildings or parts of a building by experimenting with (built or projected) architectural heritage.

GENERAL CONTENTS

1. General aspects.
1.1. Project-context relationship. Architecture as mediator in face of a context.
1.2. Architecture as spatial support for human activities.
1.3. Architecture as environmental filter.
1.4. Spatial, formal, organizational, formal-figurative and material structure of the architectonic work.
1.5. Conceiving the project as a progressive purposeful analytical process, able to expand and lead to argumentation and refutation, as well as problem-solving actions.
1.6. Concepts of scale, dimension and proportion.

2. Specific aspects
2.1. Distributive/ spatial order: recognition and management of basic spatial units of the architectonic fact; its dimensional and qualitative definition, and interior/ exterior relationships. Types of spatial structuring. Notion of circulation diagrams and functional areas. Program.
2.2. Constructive order: material commitment of architecture. Architectural elements as basic components of the constructive order. Applying the notion of constructive system as a project-structuring logic; structural module. Concepts of supporting structure and enclosures.
2.3 Morphological and dimensional definition of construction elements and the way they combine at a general level. Materials as volumetric-spatial and expressive-formal characteristics of the project, according to their natural conditions.

2.3. Expressive/ formal order: the architectural form as the result of the interaction of internal and external forces. The form in relation to the environment: problems of background and figure; contact with the ground; contact with the sky. Specific determinants of landscape and urban environments. Study of building skins as indoor-outdoor environmental filter. Material conditioning factors of form and relationship with construction systems.

3. Drawing

3.1. Applying acquired notions of analog and digital drawing, three-dimensional scale models as basic instrumental resources of architectural communication: their study, understanding and application in analytical, propositional and presentational phases of the project.

3.2. Conceptual graphic: research and development. Sketch and perspective development as a preconfiguration and basic introspection tool in the project-related process.

Name of the Course:	**PROJECT ANALYSIS 2**
Cycle	Basic
Year	3rd
Area	Theory and Technique of the Architectonic Project
Sub-area	Architectonic Project

Attendance:	Annual
Weekly workload:	9 Hours
Total workload:	270 Hours
Credits:	27

GENERAL GOALS:

- To understand the architectonic project in a broad sense as something determined by multiple socio-cultural aspects (organizational, material, etc.)
- To theoretically justify a project through categorical (conceptual and graphic) reflection on architectonic works.
- To develop the concept of compositional element (regardless of any scale limitations) as a part or minimal significant articulation that, if repeated, paired or assembled with other components, becomes a spatial structure.
- To develop the concept of logic or underlying order of buildings, analyzed as an operable instrument of the project-related procedure.
- To transfer theoretical knowledge to a project-related practice of increasing complexity.

DESCRIPTION

The teaching-learning process of analytical and project-related procedures has to be understood as a spiral where conceptual and procedural contents are retaken but gradually adding in complexity. Therefore, Project Analysis 2 constitutes an instrumental instance of advancement in and delving into the training process that started with Project Analysis 1. The contents of the workshop involve studying, understanding and using analytical and design methods specific to the architectonic project. Conceived as a pedagogical training device based on the free discussion of ideas, collaboration and pedagogical self-management, this workshop is a temporal-spatial environment for studying, understanding, and applying analogical and digital graphic methods and procedures, as well as three-dimensional scale models. Those are the instrumental resources needed for representing and prefiguring the different levels of the analytical and project-related process. Project Analysis 1 will mainly focus on studying, interpreting and transferring simple architectural organisms to each level of the project, buildings or parts of building by experimenting with (built or projected) architectural heritage.

GENERAL CONTENTS

1. General aspects
1.1. Categorization and systematization of the concepts and mechanisms acquired in Project Analysis 1.
1.2. Study of project articulation between architectural and urban levels in medium-complexity buildings.
1.3. Concepts of living space and technical space.
1.4. Recognition and treatment of conditioning norms and regulations typical of urban environments.
1.5. Development and application of the concepts of building and urban heritage.
1.6. Implications of the concepts of sustainability and environmental impact.

2. Specific aspects
2.1. Distributive/spatial order: study and analysis of the distributive and spatial order in medium-complexity buildings, made up of simple units repeated in modules.
2.2. Resolution of the levels of organization corresponding to the part and the whole, and their integration interface.
2.3. Study of the relationships between architectonic space and urban space in medium-complexity buildings.

3. Construction order

3.1. Understanding and application of the tectonic discipline typical of construction orders as conditioning factor for the spatial and expressive make-up of medium-complexity buildings.

3.2. Complex structural organizations made up of modular repetition of simple structural units. Mixed, standardized, prefabricated and non-traditional construction systems.

4. Expressive/ formal order

4.1. Expression of the building as a deliberate response to a built environment.

4.2. Understanding the configuring nature of internal and external forces present in the expression of the project, specially the impact of construction systems and the decisions made on materialization, as well as how to include environmental control elements.

5. Drawing

5.1. Mastery of the internal logics of analog and digital communication systems and their deliberate combination in a complete, expressive and coherent account.

5.2. Integrated management of conceptual graphics, sketches and perspectives, geometric representations and three-dimensional models, both for prefiguration and communication of ideas and project-related decisions.

Name of the Course:	**ARCHITECTONIC PROJECT 1**
Cycle.	Higher
Year:	4th
Area:	Theory and Technique of the Architectonic Project
Sub-area	Architectonic Project

Attendance:	ANNUAL
Weekly workload:	9 HS
Total work schedule:	270 HS
Credits:	27

GENERAL GOALS:

- To approach the disciplinary field by projecting spatial structures to develop links beyond the specificity of each case, incorporating the social and cultural dimensions of the architectural space.
- To carry out a theoretical-practical approach to the basic factors relevant to the project-related process: morphological, distributive and related to materials, and their reciprocal relations.
- To recognize the principles regulating the codifying action of graphic instruments and to operate them in an intentional and meaningful way at their normative and expressive levels during a project.

DESCRIPTION

Architectonic Project courses constitute a fundamental critical-reflective stage in students' training, as they allow and demand for a meaningful action-oriented rearrangement of acquired knowledge: in an architectonic project in the city and territory, proposing and guaranteeing cultural diversity in students' training. Necessary condition of theoretical construction, i.e. making explicit a technical-instrumental procedure based on the architectonic project experience, propose academic implementation in the form of vertically organized courses.

Architectonic Project 1 is presented as a workshop space to development design issues related to the spatial project, building configuration at all levels, open public spaces, in urban, dispersed and/ or suburban contexts and in relation with nature. This course deals with the construction of an integral architectonic object by facing a specific condition of programmatic "utility", relying on certain state of knowledge and the ability to operate with specific project-related techniques, namely: distributive-spatial and dimensional ordering, assembly of forms, building, open spaces, etc. It constitutes a progressive advance in student's cultural and technical approach to functional, morphological, technological, and aesthetic issues, as well as those related to the production of spatial structures in general, and the building object in particular.

GENERAL CONTENTS

It proposes a practical theoretical reflection on simple architecture, both in unitary and multiple terms, which involves specific meaning-form spatial relationships. Here, knowledge production may be confronted from the analytical dimension addressed in Basic Cycle classes. The focus is on further develop analytical-critical and methodological research, including existing elements of the city and the territory in the process. The aim is to make progress in the formulation of project hypotheses that "give new value" to their transformation, by addressing the following topics:

1. Analog nature of architectural drawing.
2. Systematized approaches and procedures applied to building programming and planning. Project-related process and its incorporation in decision-making areas.
3. "Composition" and/ or determination of spatiality and architectural form. Generation of space and architectural form. Architecture as a language. Figurative intention and analytical approach.
4. Conceptual, geometrical, procedural and constructive disciplines that regulate the project-related process. Incorporation of digital tools, based on their complementarity with analogue procedures.
5. "Project description" and its definition in spatial, dimensional and constructive terms. Its relationship with a particular site, and a precise notion of context.

6. Project concreteness: constructive-compositional elements in relation to an intentional re-invention of the object.
7. Relationship between variables specific to the topic of the project and variables of a meaningful urban concept, as a synthetic and operational programmatic introduction in the face of the “multiple” demands of the architectonic project.
8. City-architecture relationship. Relationship between urbanization weaves and architectural form. Relationship between monuments and urban fabric. Elements of the urban form that affect building structure.
9. Adaptation to specific demands related to the condition of the site and the community of users in the construction of the architectonic project.
10. Architecture in its relationship with nature. Application in complex environmental, cultural and historical contexts. Approach to construction-building conventions typical of the region in a limited dimension in terms of size and complexity.

Name of the Course:	**ARCHITECTONIC PROJECT 2**
Cycle	Higher
Year	5th
Area	Theory and Technique of the Architectonic Project
Sub-area	Architectonic Project

Course Regime:	ANNUAL
Weekly workload:	9 HS
Total workload:	270 HS
Credits:	27

GENERAL GOALS

- To carry out a concrete approach to the social, cultural and technical dimensions of architecture. This can be done by 1) enhancing the material and immaterial historical-cultural phenomena of urban, regional and Latin American reality;
  2) valuing the strengths of cultural, natural and artificial (urban) landscapes; and 3) transforming the weaknesses of the region through dialectics.
- To approach the disciplinary field by projecting spatial structures to develop links beyond the specificity of each case, incorporating the social and cultural dimensions of the architectural space.
- To carry out a theoretical-practical approach to basic factors relevant to the project-related process: morphological, distributive and related to materials, and their reciprocal relations.
- To recognize the principles that regulate the codifying action of graphic instruments and to operate them in an intentional and meaningful way at their normative and expressive levels during a project.
- To develop a body of knowledge that implies an open-minded life attitude towards *permanent training*, encouraging introduction, assessment, confrontation and judgment of different schools of thought and project-related action in architecture and urbanism. Students are meant to form a theoretical body in constant dialogue with their social practice.
- To advance on the interaction between analysis and assessment of pre-existing urban facts and hypotheses on the architectonic project.
- To operate on the dimensional, scalar and figurative complexity of the "dispersed" city and other emerging natural territories, as typical examples of contemporary difficulties to define the link between context and project in programmatic and expressive terms.

DESCRIPTION

Architectonic Project 2 constitutes a workshop space devoted to confronting and progressively mastering design issues already covered in Architectonic Project 1, facing the demands of a “multiple” fragmentary urban project. Progress is made on cultural and technical issues typical of the architectonic project but in relation to its context. The topics addressed in the previous course are poured into a cultural and technical effort to relate topic and program, project and context (meaning), building and place (materials). Therefore, project-related work aims at constructing and disassembling architectonic projects and trying to (instrumentally and operationally) master the key issues of urban and territorial projects. The architectonic project is presented as a factor that can transform the natural or artificial context in which it is inserted, making progress in analytical-critical methodological research while including contextual elements in the process. The objective is to formulate project hypotheses that "give new value" to its transformation.

GENERAL CONTENTS

The course intends to expand the learning and practice of discipline-related aspects regarding knowledge and intervention on parts of the city. Students are also expected to reflect on, interpret and criticize project-related issues involving building structures and their relationship with urban structures. Following this line, "built environment" becomes a flagship for qualitative reflection and transformation through the architectonic project, and it is at the heart of the course. Taking the center-periphery relationship of contemporary cities as the object of the project, a qualitative interpretation and transformation of the city emerges as the turning point for different contributions.

1. Conceptions of, approaches to and ways of understanding the city and the territory as well as project-related interventions. Interpreting the city and the urban and natural territory as a complex social, cultural and material expression that has been built over time.

2. Urban space and form, components and articulations. Space generation and urban form. Relations between urban-territorial project and architectonic project. In this line, project-related practice is organized according to the main topics of each semester course.
3. Housing units and “primary” components of the contemporary city and territory.
4. Building-place relationship. Characteristics and definition of the project in spatial, dimensional and constructive terms. Projects in relation to a particular site, to a specific notion of historical context, and to human and cultural multi-dimensions.
5. Synthetic and operational programmatic introduction to the "multiple" demands of the architectonic project. The constructive nature of the project in relation to the topic variables (cultural, social and user demands; dimensioning of components; spatial and constructive definition) and to the variables of a meaningful urban-territorial concept.
6. Adapting-updating project choices in response to specific demands of the site and the community of users.
7. Systematized modes of projective and constructive action in the case of high-complexity buildings; their relationship with open public space and urban or territorial environment.
8. Architecture in its relationship with nature. Its application in complex environmental, cultural and historical contexts. Complex territorial structures in terms of levels, topics and operation.

Name of the Course:	**GRAPHIC EXPRESSION 1**
Cycle	Basic
Year	1st
Area	Theory and Technique of the Architectonic Project
Sub-area	Graphic Expression

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90 HS
Credits:	9

GENERAL GOALS

- To develop a graphic language oriented to architectonic meaning.
- To know the different levels and specific modes of graphic language, addressed from the relationships between subject-object of knowledge; perceptual reflective and categorical subject; and space-form of the city and architecture.
- To familiarize with the visual world and graphic expression.
- To incorporate graphic language as the means and way of understanding urban-architectural space and form.

DESCRIPTION

The object of the course is to address graphic language at its expressive and communicative levels. Graphic Expression 1 covers the knowledge on systems from a subject-object perspective and proposes reading, assessing and communicating architectonic works from their constitutive structures.

GENERAL CONTENTS

1. Graphic language at the level of expression and meaning, considered as core concepts.
2. The means and ways of graphic language.
3. Natural and urban contexts in graphic representation.
4. Features of reality in graphic perception and reconstruction.
5. The sketch: structure, usefulness and importance of its operational management. Mental and graphic processes to elaborate sketches.
6. Training to communicate the meaning of architectural forms.
7. Architectural drawing: Graphic coding and project interpretation.
8. Training in techniques and modes of graphic expression. Traditional graphic techniques. Systems and products. Classification. Instrument, techniques and formats. General concepts of graphic narrative.
9. Graphic variables and their role in the construction of meaning.

Name of the Course	**GRAPHIC EXPRESSION 2**
Cycle	Basic
Year	2nd
Area	Theory and Technique of the Architectonic Project
Sub-area	Graphic Expression

Attendance:	ANNUAL
Weekly workload:	3 hours
Total work schedule	90
Credits:	9

GENERAL GOALS

- To build a graphic language oriented to architectonic meaning.
- To know the different levels and specific modes of graphic language covered from the relationships between subject-object of knowledge; perceptual reflective and categorical subject; and space-form of the city and architecture.
- To familiarize with the visual world and graphic expression.
- To incorporate graphic language as the means and way of understanding urban-architectural space and form.
- To improve student's capacities to register different ways of creating the Architectural Form, considering that they are unavoidable to create the project.
- To develop the ability to critically reflect on the graphic production of form and space generation and pre-configuration processes.

DESCRIPTION

The object of the course is graphic language at its expressive and communicative levels. Graphic Expression 2 covers the knowledge on systems from a subject-object perspective, and proposes to read, assess and communicate the design process of architectonic works through analog and digital graphics.

GENERAL CONTENTS

1. Architectural drawing. Regulations and infringement of regulations. Recognizing the project-related process in relatively complex cases. Different graphic moments and stages.
2. Authors' drawings: Graphics in the history of architectural production. Graphics according to their authors; different ways authors conceive their projects.
3. Increasing technical-operational knowledge to better communicate the architectonic project
4. Applying graphic media in the process of pre-configuration by using new technologies.
5. Traditional and digital techniques of synthesis drawing, considered as a work tool in project-related practice.
6. Traditional and digital techniques to generate forms and spaces.
7. Mixed techniques used in graphic language.
8. Transfer to pre-configuration through new technologies.

Name of the Course:	**DESCRIPTIVE GEOMETRY**
Cycle	Basic
Year	2nd
Area	Theory and Technique of the Architectonic Project
Sub-area	Graphic Expression

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90
Credits	9

GENERAL GOALS

- To recognize and solve graphic mechanisms at an instrumental creative level so as to analytically understand architectural forms, their representation and communication.
- To train students on the geometric analysis of architectural forms.
- To develop the ability to deal with spatial complexity.
- To contribute to the knowledge and understanding of the internal logics that govern graphic codes, focusing on how to justify choices. To expand the instrumental field (graphic mechanisms) by mastering its internal mechanisms and operating them selectively in the analysis and production of architectural forms.
- To gain confidence and accuracy in coding so as to deal with high-complexity drawing.

DESCRIPTION

Knowledge on descriptive geometry leads to interpret graphics as an operational language and understand its logic in the conceptual construction of architecture. Mastering the graphic language allows student to understand and communicate spatial issues.
Topics are presented emphasizing their application in architecture, since the graphic systems taught in Introduction to Architecture cover the normative aspects to operate the codification of figurative space. It is therefore necessary to advance on the internal justifications of systems (specific of Descriptive Geometry) by addressing the scientific foundations of graphic procedures.
The course presents a theoretical explanation and practical verification of the laws and principles that account for different systems in architecture.

GENERAL CONTENTS

1. Introduction to graphic representation systems.
2. Orthographic projection.
3. Representation of elements related to geometric shapes.
4. Intersections and visibility. Auxiliary methods: change of planes and rotation.
5. Classification and generation of bodies and surfaces, flat sections, developments.
6. Representation of regular and semi-regular polyhedrons.
7. Classification and representation of curved surfaces.
8. Orthogonal and oblique axonometric projection.
9. Perspective. Constructive methods.
10. Theory of shadows. Shadows in different representation systems: dihedral, axonometric and conical.

Name of the Course	**EPISTEMOLOGY 1**
Cycle	Basic
Year	1st
Area	Theory and Technique of the Architectonic Project
Sub-area	Epistemology of Architecture

Attendance: semester
Weekly workload: 2.5 HS
Total workload: 40 HS
Credits: 4

GENERAL GOALS

- To recognize architecture as a specific field of knowledge.
- To perceive disciplinary doing as a cultural operation in the specific field of production of projects that are part of the physical space.
- To apply hermeneutics in the specific discipline as a tool to question its reduction to a mere technique.
- For student's to become aware of their own interpretive character.

DESCRIPTION

Thinking about architecture from epistemology demands facing its *technē-praxis* dual nature. It is the manipulation of the physical space what reveals architecture as a significant social production, a controversial way of expressing the conflict of reality, realized in the *difference*. The academic tradition of the FAPyD expresses this double nature. Each course is conceived as part of a plurality, and can be approached from the different theoretical corpuses as chosen by each Chair and ratified by students' right of choice. Therefore, reflection on architecture requires assuming that it is an epistemic domain that cannot be reduced to the scientific status, as long as this status hegemonizes intellectual production by means of neo-pragmatic and/ or neo-positivist paradigms (today reduced to operative "instrumental reasoning").
To develop an Epistemology of Architecture, it is essential to operate on the absolute nature of the limits given by instrumental reasoning, as they prevents architecture from unfolding its propositional capacity, thus reducing it to the role of producer of non-significant objects. Adding this course to the Basic Cycle calls for a hermeneutical experience for students to recognize (and recognize themselves as) the producers of meaning, someone able to perceive denaturalized project-related operations.

GENERAL CONTENTS

Hermeneutic notion applied to the specific field of architecture:

1. The Project
   Project-related choices do not start from scratch but from a plural space belonging to the culture that conceptually precedes them, just like (and because) language pre-exists the subject. Moreover, project-related actions transform and modify that extremely plural space.
2. The Critical Breakthrough
   Hermeneutics allows a critical subject to break in the project through interpretive action (by combining intuition and argumentation) to then get a grasp of one's own world and the world of Others, accepting that both subjects are *culture operators*.
3. The Difference
   By forming their own reading of basic project-related operations students will be able to inscribe their own irreducible *alterity* as subjects-in-culture.

Name of the Course	**EPISTEMOLOGY 2**
Cycle	Higher
Year	5th
Area	Theory and Technique of the Architectonic Project
Sub-area	Epistemology of Architecture

Attendance: Semester
Weekly Workload: 2.5 HS
Total work schedule: 40 HS
Credits: 4

GENERAL GOALS

- To recognize architecture as a non-unified field of knowledge.
- To perceive the disciplinary doing as cultural operations sustained by conflicting epistemological assumptions.
- To apply hermeneutics in the specific discipline as a useful tool to question the aspiration of technical-scientific logic to unify architecture as a field of knowledge.
- To become aware of the crossroads faced by the discipline.

DESCRIPTION

Thinking about architecture from epistemology demands facing its *technē-praxis* dual nature. It is the manipulation of physical space what reveals architecture as a significant social production, a controversial way of expressing the conflict of reality, realized in the *difference*. The academic tradition of the FAPyD expresses this double nature. Each course is conceived as part of a plurality, and can be approached from the different theoretical corpuses as chosen by each Chair and ratified by students' right of choice. Therefore, reflection on architecture requires assuming that it is an epistemic domain that cannot be reduced to the scientific status, as long as this status hegemonizes intellectual production by means of neo-pragmatic and/ or neo-positivist paradigms (today reduced to operative "instrumental reasoning").

To develop an Epistemology of Architecture, it is essential to operate on the absolute nature of the limits given by instrumental reasoning, as they prevents architecture from unfolding its propositional capacity, thus reducing it to the role of producer of non-significant objects.

By including Epistemology 2 in the last year of the Higher Cycle, we are able to correlate the hermeneutical experience with bibliography necessary to critically reflect on the dual nature of disciplinary doing, providing students access to the theoretical framework required to meet some of the demands of the Final Project.

GENERAL CONTENTS

Hermeneutic notions applied to architecture as a non-unified field of knowledge:

1. The Project
   Project-related choices confront the *technē-praxis* dual nature of architecture from epistemological presuppositions defined by their difference.
2. The Critical Breakthrough
   Hermeneutics allows for epistemological awareness on the project-related operations of each subject-in-the-culture.
3. The Difference
   By forming their own reading of reality, students will be able to inscribe their own irreducible *alterity* as subjects-in-culture.

Name of the Course	**MATERIALS 1**
Cycle	Basic
Year	1st
Area	Theory and Technique of the Architectonic Project
Sub-area	Materials

Attendance: ANNUAL
Weekly workload: 5 HS
Total workload: 150 HS
Credits: 15

GENERAL GOAL

For students to know and develop strategies to organize matter in structural, tectonic, usage, productive, energetic, and thermal and acoustic comfort dimensions, and to recognize the "critical points" that improve the useful life of materials.

DESCRIPTION

The workshop brings together, as an indispensable unit, practice and theory from duly selected bibliography.
Practice begins by recognizing built architectural facts depending on the unit of analysis to be covered. Examples will be organized focusing on relevant aspects and fitting characteristics. Through these practical exercises students will be able to face the process of propositional synthesis of material facts.
By getting acquainted with theoretical bibliography, students will be introduced to technological culture, which will make it possible for them to creatively develop habitat materiality and overcome a simplistic presentation of age-old processes.

GENERAL CONTENTS

1. Global approach to the material dimension of the architectonic work.
2. Functional and material requirements.
3. Materialization as constructive order. Analysis of material types according to the architectonic idea. Materials: different sources or origins, and technical-energetic processing.
4. Architectonic space and gravity. Structural types and their relationship with matter. Foundations.
5. Architectonic space and climate.
6. Architectonic space and exterior enclosures, both light and heavy, in relation to climate and its physical-chemical behavior.
7. Architectonic space and interior elements to divide and communicate spaces.
8. Interior and exterior tiling, movement safety and rain infiltration.
9. Architectonic space and active operations to process matter and energy. Matter and energy expressed in the architectonic project.
10. Water and gas evacuation.

Name of the Course	**MATERIALS 2**
Cycle	Basic
Year	2nd
Area	Theory and Technique of the Architectonic Project
Sub-area	Materials

Attendance: ANNUAL
Weekly workload: 5 HS
Total workload: 150 HS
Credits: 15

GENERAL GOAL

To develop the fundamentals of natural, hygrothermal and lighting comfort, as well as acoustic comfort related to sound insulation and conditioning. Having a sound understanding of the concepts of conditioning is of particular importance in the passive design of buildings. Once this goal is achieved, Materials 3 will cover central ideas on the active operation of said buildings.

DESCRIPTION

The knowledge production process is supported in the physical concepts covered in Physics. These concepts are developed in their material, formal and usage dimensions in relation to building size, purpose, operating principles, location and urban role.

Practical work and bibliography back students' project-related decision-making and assessment of results, while helping to formulate ethical-ideological principles for human habitat.

GENERAL CONTENTS

1. Design and climate. Sun and radiation, direct and diffuse radiation, thermal load and architectonic space. Human beings, heat and cold.
2. Apparent motion of the sun in the local sky. Own shades, and fixed and mobile protection. Energy exchange of point and extended light sources.
3. Material behavior against solar radiation and thermal radiation. Semi-transparent surfaces (glass and polymers).
4. Heat and humid air. Behavior of heavy and light, opaque and semitransparent enclosures. Sol-air temperature effect. Recognition of regional space and climate. Thermal bridging. Surface and interstitial condensation. Vapor barriers, vapor permeance and permeability of materials. Psychometric chart, psychrometer.
5. Natural lighting, different positions of the collector plane in space, heating load. Level and uniformity, glaring. Architectural expression of natural lighting.
6. Artificial lighting. Different lamps and luminaires. Color temperature in illumination. Effect lighting and uniform general lighting, both interior and exterior. Architectural expression. Facade lighting. Natural and artificial lighting energy compared.
7. Noise and sound. Sound insulation and conditioning. Airborne noises and sounds, impact noises, vibrations. Behavior of light and heavy systems. Acoustic absorption materials and assemblage of elastic materials. Unobstructed vision, space structuring for flat screens and three-dimensional spaces. Acoustic visibility.

Name of the Course:	**MATERIALS 3**
Cycle	Basic
Year	3rd
Area	Theory and Technique of the Architectonic Project
Sub-area	Materials

Course of studies: ANNUAL
Weekly workload: 3 HS Total
workload: 90 HS
Credits: 9

GENERAL GOALS

For the students to develop knowledge related to matter (water, gas and other solids) and energy (electricity, etc.) provision installations and how to evacuate the waste generated in their processing. Installation of artificial heating and cooling systems, relating them to the passive design criteria developed in Materials 2. Vertical and horizontal movement in buildings, whether of people, vehicles or different loads.

DESCRIPTION

Critical reflective work is conducted as a synthesis of the entire workshop. Emphasis is made on achieving a positive attitude towards technology so that students can face the many problems encountered in professional life, and solve them with great creativity and rigor. Specific learning goals are framed in the development of previous knowledge, therefore, Materials 3 has a conclusive nature.

GENERAL CONTENTS

1. Water supply, use, treatment and collection systems. Use of rainwater/liquids.
2. Electrical energy, gaseous hydrocarbons and liquids supply. Solar and wind energy.
3. Home automation for improving building efficiency.
4. Hygrothermal conditioning systems, with liquid-to-air exchangers. Heat pumps.
5. Spatial strategies for infrastructure arrangement. Technical spaces, spacious dimensions, robustness, flexibility.
6. Internal movement in buildings: elevators, forklifts, rolling floors, etc.

Name of the Course	**MATHEMATICS 1**
Cycle	Basic
Year	1st
Area	Basic Sciences, Production and Management
Sub-area	Mathematics

Attendance: Semester
Weekly workload: 2.5 HS
Total workload: 40 HS
Credits: 4

GENERAL GOALS

- To acquire organized knowledge and problem-solving skills related to trigonometry, geometry and algebra and their applications to architecture. To interpret instructions, search for analogies and elaborate logic diagrams for different mathematical approaches. To learn how to employ mathematical language.
- To understand the nature and potential of mathematical thinking, applying reasoning to draw conjectures, search for evidence, refute arguments and make decisions.

DESCRIPTION

In the first stage, the course aims at revising the fundamentals of flat and solid synthetic geometry through problems that involve different concepts to deal with linear, flat and spatial dimensions (line, plane, space).

At this point, trigonometric concepts are covered, leading to different processes for measuring geometric objects (flat, solid, connected structures conceptualized as plane or spatial figures, etc.). Logistic problems are introduced to show the potential of calculus.

Geometric and analytical vectors lead to the use of reference systems and analytical geometry, more precisely, the concept of locus. This will be done by studying and analyzing the equations of a line in the plane in its different forms. At the same time, these contents will be applied to the problems addressed in the first stage of the course.

Students are then provided with elements to solve problems not only through theoretical content but also proposals, conjectures, analogies and arguments typical of mathematical language, thus showing their potentiality.

GENERAL CONTENTS

1. Trigonometry
2. Vectors
3. Elements of Analytical Geometry and their applications
4. Elements of calculus

Name of the Course	**MATHEMATICS 2**
Cycle	Basic
Year	3rd
Area	Basic Sciences, Production and Management
Sub-area	Basic Sciences

Attendance: semester
Weekly workload: 2.5 HS
Total workload: 40 HS
Credits: 4

GENERAL GOALS

To acquire organized knowledge as well as problem-solving skills related to architecture. To be able to interpret instructions, search for analogies, elaborate logic diagrams for different mathematical approaches. To learn how to employ mathematical language.
To understand the nature and potential of mathematical thinking, applying reasoning to draw conjectures, search for evidence, refute arguments and make decisions.

DESCRIPTION

This course may be regarded as a space to "apply" what may be of interest in the professional training of an architect. Therefore, selected topics are directed to reach useful applications, such as the critical path method.

Training in elements of basic statistics provides students with the tools to deal with data systematization and statistical parameter interpretation related to architectural doing.

The concepts of transformations and fractals are useful mechanisms to address different design applications.

An attempt is thus made to create a space for future professionals to value the discussion of the topics covered and other related issues that may interest them.

GENERAL CONTENTS

1. Graph theory
2. Critical path
3. Statistics
4. Transformations - fractals

Name of the Course	**PHYSICS**
Cycle	Basic
Year	1st
Area	Basic Sciences, Production and Management
Sub-area	Basic Sciences

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90 HS
Credits:	9

GENERAL GOALS

- To provide useful instruments and notions to define and control the variables that, in project-related decision-making, have to do with the material nature of architectonic works and comfort and adaptation of built environments.
- To understand basic concepts regarding light, heat and sound, and to interpret physical phenomena and principles related to environmental control.
- To understand basic concepts and principles regarding fluid mechanics and electricity, and to interpret the systems and phenomena related to electrical installations and fluid circulation in constructions.
- To develop the ability to observe, reflect on, communicate and synthesize the physical world. To develop the ability to consult specific bibliography and access the right information.

DESCRIPTION

This course can be defined as a workshop of Physics applied to construction and devoted to complex topics and notions from the field of Physics, used for quantitative and qualitative interpretation and treatment of relationship phenomena, either between buildings and the natural environment or between buildings and the human body. It will comprise two levels:

- One dealing with the laws of Physics, with special focus on mechanics, optics, thermodynamics and acoustics, hydrostatics and electricity.
- Another starting from the empirical problems of the productive and project-related process of the building sector faced throughout history.

The purpose is to give students access to knowledge on physics applied to construction, taking into consideration a proper teaching of the theoretical and operational instruments specific to the discipline so as to go beyond any technical knowledge. In parallel, students will progressively learn to justify their interpretations and conceptually support their design criteria.

GENERAL CONTENTS

1. Introduction to architectural acoustics. Wave formation and propagation. Sound waves. Objective characteristics of sound. Pure and compound sounds. Sound intensity. Subjective characteristics. Comfort. Audibility curves and sonority. Notions of architectural acoustics.
2. Thermal phenomena in construction. Temperature and heat. Thermometric scales. Thermal expansion. Heat propagation. Conduction. Convection. Radiation. Solar energy. Greenhouse effect. Humidity. Human body heat transfer. Comfort.
3. Light and artificial lighting. The nature of light. Optical properties of matter. Photometric magnitudes. Intensity. Light flux. Luminance. Illuminance. Visual comfort. Artificial light sources. Luminaire efficiency. Natural lighting. Artificial lighting.
4. Fluids in construction. Properties of fluids. Pressure. Density. Viscosity. Surface tension. Fluids at rest. Fundamental expression of hydrostatics. Applications: Level surface. Hydraulic seals. Superficial phenomena. Capillarity. Humidity in construction. Fluids in motion.
5. Home electric power. Fundamentals of electromagnetism and electrical machines. Electric current. Electric strength. Electric resistance. Electric circuit. Power and electric energy. Thermal effect of current. Direct current. Alternating current. Power factor. Electric power supply. Generation systems. Three-phase and single-phase alternating current.

Name of the Course	**STATICS AND STRENGTH OF MATERIALS**
Cycle	Basic
Year	2nd
Area	Basic Sciences, Production and Management
Sub-area	Basic Sciences

Course Regime	ANNUAL
Weekly workload	3 HS
Total workload	90 HS
Credits	9

GENERAL GOALS

- To provide useful instruments and notions to define and control the variables that, in project-related decision-making, have to do with the material nature of architectonic works, and comfort and adaptation of built environments.
- To understand the basic concepts regarding light, heat and sound, and to interpret the physical phenomena and principles related to environmental control.
- To recognize different structural types commonly used in architectonic works and to learn about their stability conditions and resistance mechanisms.
- To analyze the different states of loads acting on buildings.
- To assess safety conditions of structural members applying different regulatory standards.

DESCRIPTION

This course can be defined as a second workshop of Physics applied to constructions and devoted to complex topics and notions from the field of Physics, used for quantitative and qualitative interpretation and treatment of relationship phenomena, either between buildings and the natural environment or between buildings and the human body. Starting from observation and background intuitive empirical knowledge of physical laws, the course will further develop the notion of equilibrium of free solids subjected to any force, with special focus on the loads that usually act on building structure. Reactions resulting from connections will be identified and classical equations for equilibrium will be deduced.
The elastic response of different construction materials will be studied, including the analysis of simple cases of stress and strain. The concept of limits subjected to the resistance and deformability of materials will be introduced, and different criteria for setting safety margins will be studied. The course will include exercises on applications of the elastic method based on allowable stresses for homogeneous sections of steel or wood. Relations between loads, structural demands, section geometry, stresses and strains in simple cases will be studied, namely, traction, compression, simple bending in doubly symmetrical sections, shear and torsion; as well as the problem of equilibrium instability produced by compression in slender parts, but only in cases of buckling of simple bars.
Starting from the basic concepts previously acquired, the course will identify resistance mechanisms of different structural types. Simple and continuous beams, lattices, mixed systems, wooden mezzanine.

GENERAL CONTENTS

1. Actions on buildings. Concentrated and distributed loads. Different states of load. Moment of a force. Force systems. Equivalent systems. Equilibrium conditions. Structure. Connections. Reactions and interactions. Free body diagrams.
2. Internal forces in sections of linear structures. Bending moment. Shear stress. Normal stress. Twisting moment. Structural demands diagrams.
3. Notions of strength of materials. Construction materials. Load-bearing masonry. Behavior against acting loads. Tensions and strains. Resistance limits. Safety factors. Determination of structural members sections. Required resistance. Design resistance. Load and resistance factors. Stress and strain in bars subjected to traction. Simple cut into simple joints. Simple bending in double symmetrical homogeneous sections (steel, wood). Determination of normal stresses. Shear stress in bent parts. Tangential stress produced by torsion. Slender structural members subjected to compressive stress. Buckling of simple bars.
4. Section Geometry. 1st and 2nd moment of area. Steiner's formula. Radius of gyration.
5. Box-girded structures. Simple and continuous beams. Boundary conditions. Use of tables. Determination of stress and strain (homogeneous sections with a single axis of symmetry). Oblique flexion. Frames. Sections subjected to compound bending. Bases. Flexo-compression without admissible traction. Columns. Different cases of connection.
6. IT resources. Software frequently used for structure resolution.

Name of the Course	**STRUCTURAL DESIGN 1**
Cycle	Basic
Year	3rd
Area	Basic Sciences, Production and Management
Sub-area	Structural Design

Attendance:	ANNUAL
Weekly workload:	5 HS
Total workload:	150 HS
Credits:	15

GENERAL GOALS

- To conceptualize the issue, advantages and disadvantages of hyperstatic structural elements.
- To apply the concept of continuity when solving structural demands in different types of continuous frames and beams. Preliminary dimensioning principles.
- To learn about the characteristics of reinforced concrete (RC) as construction material for building structures and its possibilities of design.
- To understand tension in the above-mentioned sense.
- To calculate and dimension small interventions in all parts of RC.
- To identify foundation problems due to soil heterogeneity.

DESCRIPTION

The course offers operational knowledge related to statics and resistance of materials. Verification and dimensioning methods needed to properly distribute and individualize construction components are also part of this course.

The concept of "structural system" is introduced as a "specific" response to a particular set of static and constructive structural demands in an architectonic project. The course also aims at “fine-tuning” technical-conceptual instruments necessary to make typological determinations (structural design) and verify and predetermine critical behaviors (dimensioning) of structural systems.

In addition, the course will address the problem of "stability" through the analytical study of emblematic architectonic works, chosen either because of their particular structural demands or because of the significant value attributed to each component (elements and relationships) of their structural system. These architectural problems will help develop specific technical issues and the corresponding operational domain according to specific (architecture and stability-related) demands.

GENERAL CONTENTS

1. Concept and purpose of structures: origin and evolution of structures. Introduction to structural design process.
2. Loads acting on structures. Origin and types of loads. Different methods to analyze and distribute loads. Pre-dimensioning load assessment. Charge-shape relationship.
3. Reticulated structures. Hypotheses. Resolution methods (nodes, sections). Design of lattice structures.
4. Hyperstatic structures. Relevance of continuity in materials. Use in RC as part of the construction process of this material.
5. Constituent materials of concrete. Concrete components and resistance, types of concrete and steel.
6. Constructive techniques with RC. Materials production and technologies. Current regulations. Characteristic shapes. Importance of trusses.
7. Tension in RC. Rectangular sections and plates subjected to compound bending. Doubly symmetrical reinforced sections. Pure compression. Turnbuckles. Shear stress. Bent trusses and stirrup sections.
8. Foundations. Soil as structural material. Stress of different types of bases on RC. Behavior and construction aspects of Roman wells and piles.
9. Portal frame structures. Double-articulated and double-recessed portal frames. Influence of stiffness between beams and supports of portal frames, and its correspondence with their structural demands. Multi-span and multi-story portal frames. Constructive and formal aspects.
10. Use of simple software to calculate structural demands in different types of structural designs and hyperstatic elements.

Name of the Course	**STRUCTURAL DESIGN 2**
Cycle	Higher
Year	4th
Area	Basic Sciences, Production and Management
Sub-area	Structural Design

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90HS
Credits:	9

GENERAL GOALS

- To visualize the potential uses of hanging (pure traction) structures and the issues related to shape preservation. Introduction to the concept of prestressed rope networks.
- To become aware of the problems related to arch-type structures by getting to know arch materials that act as pure compression structures. The concept of tri-articulated arches as a way of teaching hyperstatic arches for their pre-dimensioning.
- To understand tension in laminar structures, pre-dimension structures under gravity loads and define their support.
- To understand how structures subjected to horizontal forces behave and pre-dimension them.

DESCRIPTION

The course offers operational knowledge on statics and resistance of construction components and verification and dimensioning methods necessary to properly distribute and individualize them.

The concept of "structural system" is introduced as a "specific" response to a particular set of static and constructive structural demands in an architectonic project. The course also aims at “fine-tuning” the technical-conceptual instruments necessary to make typological determinations (structural design) and verify and predetermine critical behaviors (dimensioning) of structural systems.

In addition, the course will address the problem of "stability" through the analytical study of emblematic architectonic works, chosen either because of their particular structural demands or because of the significant value attributed to each component (elements and relationships) of their structural system. These architectural problems will help develop specific technical issues and the corresponding operational domain according to specific (architecture and stability-related) demands.

GENERAL CONTENTS

1. Structures subjected to pure traction.
2. Structures subjected to pure compression.
3. Buildings subjected to wind. Wind effect on structures: general aspects of wind, regulatory issues. Suitable typology and design for different types of works.
4. Thin-shell structures. Bending and stiffness.
5. Folded structures, definition and types.
6. Short and long cylindrical shells. Circular directrix.
7. Domes: meridians and parallels.
8. Hyperbolic paraboloid: square or quadrilateral plan views.
9. Earthquakes: what kind of phenomenon it is and how it can be rendered into vertical and horizontal forces. Earthquake-resistant structures: general aspects of earthquakes, historical, regulatory and construction aspects. Suitable typology and design for different types of works.
10. Free-form structures.
11. Complex structures: calculation to solve hyperstatic systems.

Name of the Course	**BUILDING PRODUCTION 1**
Cycle	Higher
Year	4th
Area	Basic Sciences, Production and Management
Sub-area	Production and Management

Attendance	ANNUAL
Weekly workload:	5 HS
Total workload:	150 HS
Credits:	15

GENERAL GOALS

- To recognize, study and develop the organizational and technical-documentary elements required to enter the "construction" phase of the architectonic project.
- To learn about the legal and technical aspects involved in the project. To familiarize with different construction materials, their production properties and possibilities of combination.
- To acquire critical analytical information on new production technologies from the previously proposed architectural goals.
- To relate production techniques with the previously proposed architectural goals and apply them to different architectural solutions.
- To learn about hygiene and safety-related aspects in construction.
- To learn how to prepare the graphic documentation of an architectonic project so that it can be used for tendering, budgeting, building and directing a construction work.

DESCRIPTION

The field of Building Production currently combines craft-like organizational traditions and industrial-type systems or procedures that come into play without much maturation.
In the first case, simple in-depth knowledge on construction works allows for associations with project-related practice. In the second case, the traditional sequence "*project moment - execution moment"* has to be replaced by a complex combined process. As it has happened before in other industrialized productive sectors, such process must allow students to identify the leading actors that interact with different modalities and times. Reflecting on this issue deepens the knowledge on systems, procedures, techniques, roles and internal functions involved in the process of material production of an architectonic idea.

GENERAL CONTENTS

1. Building production design and technique, and related regulations.
2. Construction systems and their different compositional elements.
3. Materials and finishes to adopt.
4. Mortars and concretes, their characteristics, dosages and applications.
5. Constructive pathologies, different types and causes.
6. Safety in building construction.
7. The executive project: graphic and written documents.
8. "Legal" aspects related to the project: professional fees. Architect's responsibilities and rights. Party walls. Horizontal property Law. Notions on expert reports and appraisals.
9. Measurement and leveling of plots at the beginning of the execution stage of an architectonic work.
10. Visits to in-progress and/ or completed work sites. Visits to workshops and laboratories.

Name of the Course	**BUILDING PRODUCTION 2**
Cycle	Higher
Year	5th
Area	Basic Sciences, Production and Management
Sub-area	Production and Management

Attendance:	ANNUAL
Weekly workload:	5 HS
Total workload:	150 HS
Credits:	15

GENERAL GOALS

- To internalize the concept of architecture as a continuous interactive process between design and construction.
- To deepen the knowledge on the economic and financial aspects related to each stage of project decision-making.
- To learn about the regulatory and legal aspects involved in the project-related process.
- To delve into the relationship between economy and architectural form.
- To know the legal scope, rights and obligations of professionals working in the construction sector.
- To learn technical management of the documents involved in building production.

DESCRIPTION

The course will delve into the fundamental aspects of architectonic work production, making special emphasis on their relationships: the project and the technology that sustains it, the economy that makes it possible, the legal aspects that frame it. After completing the course, students will have internalized these issues to the degree that they will stop thinking in an "additive" way during the design of the project and they will begin to see it as a "concentric" process, progressively focusing, first, on the general and, then, on the particular in an effortless manner.
The course combines the study of every aspect of the costs, control and schedule of building production considered on two levels:

a- As a result of a complete and finished architectonic project, fetching a price and considering every aspect involved.
b- As integration of every aspect and presence during the design process.

GENERAL CONTENTS

1. Economic aspects that affect building design and production.
2. Cost, price and elements that intervene in an architectonic project.
3. Control over work execution. Investments.
4. Housing financing.
5. Project management and assessment.
6. “Legal” aspects involved in project execution: tenders, contracting systems, construction contracts.
7. Work planning and scheduling.
8. Visits to active work sites.

Name of the Course	**HISTORY OF ARCHITECTURE 1**
Cycle	Basic
Year	2nd
Area	History of Architecture
Sub-area	

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90HS
Credits:	9

GENERAL GOALS

These three courses pursue a series of goals:

- To recognize the discipline as cultural action within the specific realm of production of projects that shape the physical space.
- To inquire about historical processes so as to understand the fundamental and particular dimensions of architecture.
- To understand architecture throughout time as a space of debate, confrontation and controversy on diverse disciplinary projects that have reached different degrees of hegemony.
- To operate instruments/ tools typical of History of Architecture, as well as the information, notions, concepts and core topics addressed in each course.

SPECIFIC GOAL

To approach the fundamental instruments and goals of History of Architecture, selected by each workshop within the specific guidelines of the area, prioritizing national architectural issues as a field of action inserted in the international scene.

DESCRIPTION

"History of Architecture 1" and "History of Architecture 2" are to be conceived as a single course divided into two years for operational reasons (length of the global syllabus).

GENERAL CONTENTS

The particularized development of the course is delimited by the following topics:

1. Historical processes that underlie the construction of the Western architectural tradition during the Classical Cycle (name given by different approaches) and its different moments.
2. Historical-critical analysis of works, projects and texts that constitute the disciplinary canon.
3. Variations in the limits of the architectural realm, the role of architects and their place in the field of construction and arts. Transformations that took place as a result of broader cultural, social and economic processes.
4. Vicissitudes when discussing the notions that sustained the Classical Cycle; derivations and consequences; emergence of new problems.

Name of the Course	**HISTORY OF ARCHITECTURE 2**
Cycle	Basic
Year	3rd
Area	History of Architecture
Sub-area	

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90HS
Credits:	9

GENERAL GOALS

These three courses pursue a series of goals:

- To recognize the discipline as cultural action within the specific realm of production of projects that shape the physical space.
- To inquire about historical processes so as to understand the fundamental and particular dimensions of architecture.
- To understand architecture throughout time as a space of debate, confrontation and controversy on diverse disciplinary projects that have reached different degrees of hegemony.
- To operate instruments/ tools typical of History of Architecture, as well as the information, notions, concepts and core topics addressed in each course.

SPECIFIC GOAL

To approach the fundamental instruments and objectives of History of Architecture, selected by each workshop within the specific guidelines of the area, prioritizing national architectural issues as a field of action inserted in the international scene.

DESCRIPTION

"History of Architecture 1" and "History of Architecture 2" are to be conceived as a single course divided into two years for operational reasons (length of the global syllabus).

GENERAL CONTENTS

The particularized development of the course is delimited by the following topics:

1. Discussion of the concept of modernity in architecture as part of broader cultural, economic, social and political processes, identifying specific disciplinary features and transformations that marked the modern world.
2. Diversity of professional strategies in the face of modernization processes and the experience of modernity (industrialization, urbanization, social reformism, metropolitan life, individualism, privatization, vanguardism and artistic market).
3. Understanding the notions that structured the modern disciplinary debate and the processes to disseminate, render and reformulate experiences.
4. Critical recognition of attempts to encode modern experiences by theory, criticism, or historiography.
5. Debate on built heritage, identification of several guidelines and instruments according to past legacies.

Name of the Course	**HISTORY OF ARCHITECTURE 3**
Cycle	Higher
Year	4th
Area	History of Architecture
Sub-area	

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90HS
Credits:	9

GENERAL GOALS

These three courses pursue a series of goals:

- To recognize the discipline as cultural action within the specific realm of production of projects that shape the physical space.
- To inquire about historical processes so as to understand the fundamental and particular dimensions of architecture.
- To understand architecture throughout time as a space of debate, confrontation and controversy on diverse disciplinary projects that have reached different degrees of hegemony.
- To operate instruments/ tools typical of History of Architecture, as well as the information, notions, concepts and core topics addressed in each course.

SPECIFIC GOAL

To be able to critically review the previous experience (History of Architecture 1 and 2) in a specific field of study, recognizing the fundamental instruments and objectives of History of Architecture proposed by each workshop within the specific guidelines of the area.

DESCRIPTION

Class attendance is annual and will be organized as a seminar in order to promote the typical atmosphere of debate needed to achieve the stated goals.
Interpreting the historical path, conceived as a critical action from and for the present, leads to assessing spatial appropriation modes in relation to ideas, problems and works.

GENERAL CONTENTS

The particular field of study will be set by each workshop as an *ad hoc* proposal in pursuit of its own goals within the boundaries of the course.

Name of the Course	**INTRODUCTION TO URBAN PLANNING**
Cycle	Basic
Year	3rd
Area	Theory and Urban Techniques
Sub-area	

Attendance: ANNUAL
Weekly workload: 3 HS
Total workload: 90 HS
Credits: 9

GENERAL GOALS

- To identify and interpret the fundamental constitutive elements of urban configuration.
- To recognize the precedents of the urban discipline, its purpose, object of study and professional scope.
- To recognize the evolution of urban planning ideas in relation to processes of transformation of the city and formation of the contemporary metropolis.
- To analyze the components of the urban project and the way they relate to the general organization of the city.
- To reflect on different attitudes to be taken towards the issues and problems posed by the emergence of the contemporary metropolis. To recognize both the characteristics of the city and the procedures that underlie each urban project.

DESCRIPTION

This course initiates students into the general concepts of urban planning, its relationship with the process of formation of the contemporary city and with the professional scope of architects. The course deals with different notions of the city, starting from the conception of an urban idea, recognizing that each specific disciplinary field tends to build its own idea of the city.

Focus is made on identifying the key moments in the transformation of the city in the light of disciplinary core ideas, the instruments of urban ordering, and the instruments and techniques of the urban project.

GENERAL CONTENTS

1. Urban planning and its object of study. Project and ordering instruments in the city and the territory.
2. City construction/ transformation processes. The emergence of urban planning and the improvement of urban ordering instruments and urban projects.
3. The urban project of Modern Architecture and the contributions made by the discipline during the 20th century.
4. The contemporary metropolis. Urban transformation processes and projects.

Name of the course	**URBAN ANALISIS**
Cycle	Higher
Year	4th
Area	Urban Theory and Techniques

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90 HS
Credits:	9

GENERAL GOALS

- To recognize the key distinctive elements of the configuration of a city and the dynamics of the construction/ transformation process of today's city.
- To critically and proactively understand the nature and contents of different urban ordering instruments.
- To deepen students' knowledge on the relationships between intentional transformation (project) and knowledge of the city by delving into the procedures and categories used for planning urban-sector projects.
- To acquire knowledge on the role played by the agents involved in city construction processes. To apply this knowledge to analyze and propose urban planning instruments at different levels.

DESCRIPTION

The course helps students to understand the transformation dynamics of the urban fact by revealing the most recent trends. Students are trained in professional intervention in the city by making them recognize and master the technical instruments of urban planning.

Focus is made on identifying the actors involved in and the particularities of urban ordering, both in the city and the territory; instruments of urban ordering and projects are regarded as syntheses of intervention ideas, strategies and proposals applied to the city.

GENERAL CONTENTS

1. Analysis and criticism of urban processes.
2. Building process of contemporary cities.
3. Urban ordering and key issues of city management
4. Instruments of urban ordering and instruments of the urban project
5. City project, urban plans and regulations.

Name of the Course	**URBAN INTERVENTION**
Cycle	Higher
Year	5th
Area	Urban Theory and Techniques

Attendance:	ANNUAL
Weekly workload:	3 HS
Total workload:	90HS
Credits:	9

GENERAL GOALS

- To recognize the scope of the instruments of intervention at different levels of urban action.
- To further the knowledge, construction and management of instruments involved in urban-territorial ordering and projects.
- To deepen the formulation of ideas aimed at a global transformation of the city and the territory, and confront them with partial project initiatives.
- To further the knowledge of architectural urban planning methods to intervene the city.
- To introduce new perspectives, approaches and thematic issues typical of city and territory management.

DESCRIPTION

The course helps students understand the different levels of territorial ordering action and territorial intervention, considering both the metropolitan dimension and urban fragment. It fosters an operational understanding of the environmental urban-territorial dimension of development; it deepens on experiencing local issues, interpreting and formulating intervention proposals in several Latin American cities. The course also delves into the technical, operational and institutional features of territorial management.

GENERAL CONTENTS

1. Challenges, demands, approaches and current state of city and territory intervention.
2. New insights on territory. The notion of "cultural landscape" and its application to formulate local development plans and policies. Concepts of sustainability and sustainable development.
3. Rethinking the contemporary city. Challenges for the Latin American city.
4. Urban dimension of the territory. Metropolitanization as a distinctive feature of the second millennium. Distinctive features of contemporaneity and how it is expressed in Latin America and Argentina. Metropolitan areas, intermediate cities and rural centers as areas of study.
5. Forms of urban intervention and logics of city-territory construction.
6. Territorial organization and management of the city. Intervention levels and instruments.
7. Urban planning at the intermediate level.

V.5. OTHER CHARACTERISTICS OF THE PLAN

V.5.1. Horizontal coordination

The general order of the Plan has been established according to section V.3.2. and based on the development of knowledge that each disciplinary area requires from the others, paying particular attention to the development of its specificity.

V.5.2. Vertical coordination

In order to pass a course, students must pass the corresponding prerequisite courses, as detailed in the table of Section VII. PREREQUISITE SYSTEM.

V. 6. OPTIONAL COURSES

Optional are those courses from the curricular offer of the FAPyD that students can take in order to reach the academic credits required to obtain an Architect degree. The credits corresponding to optional courses should be taken from the third year of the course of studies, that is, the last year of the Basic Cycle.

Goals:

- To complete the general training offer.
- To contribute to research and knowledge and human resources production.
- To contribute to the flexibility of the system.
- To recognize the students' vocational particularities.
- To provide academic training spaces for advancements in the discipline.
- To stimulate students' interest in furthering their disciplinary knowledge.
- To guide the postgraduate training.

The Plan of Study Monitoring Committee will receive from the corresponding Chairs proposals for the optional courses that they are interested in delivering, which will be submitted to the Governing Board of the Faculty for approval. The proposals will be valid for at least two years, and may be renewed upon the submission of a report that accounts for students' level of interest and response to the course. Proposals must guarantee the offer of optional courses by including a minimum number of courses per area.

Proposals must include:

- Substantiation specifying the field of knowledge to be addressed and its relevance as a complement or advance on an unaddressed body of knowledge, or knowledge covered in compulsory courses of the Plan of Study that will be deepened.
- Area and Sub-area
- Attendance
- Weekly and total workload
- Credits
- General and specific goals
- Abbreviated syllabus
- Basic and complementary bibliography

To be awarded an Architect degree, students must obtain a minimum of 21 credits corresponding to optional courses.

V. 6.1. Elective Courses

Elective are those courses from the curricular offer of any course of studies offered by the National University of Rosario (from a list previously considered suitable by the FAPyD) that students may take to fulfill the academic requirements to be awarded the Architect degree.

Apart from ensuring a more open and flexible Plan of Study, by being able to choose the topics students may have one or more training orientations at the end of the course of studies, provided that they take and pass the series of elective courses established for this purpose by the institution.

Credits obtained from elective courses may replace the credits from optional courses up to a percentage that will be set biannually by the Plan of Study Monitoring Committee.

V.7. SUPERVISED PROFESSIONAL PRACTICE

Goals

- To develop a synthesis of the knowledge acquired during the course of studies at a project level.
- To address different levels of depth and complexity typical of professional practice.
- To develop external links with the field of action.
- To develop, through work and services experience, the levels of theoretical-practical synthesis required to conclude their academic training.
- To complement the theoretical-practical training received at the Faculty with the development of skills and abilities acquired in the workplace.
- To link students with the real needs and conditions that arise in the workplace, so that they be capable of solving real problems with scientific and technical foundation, if possible.
- To bring the Faculty closer to the community, getting feedback on courses syllabuses based on community demands.

Supervised Professional Practice Options

A number of alternative modalities are proposed.

The first type of modality is "outreach practices", that is, to linking the educational system with Research Units from Institutes and Research Centers, or Research and Outreach Programs or Projects linked to an architect's field of action. In this case, students will carry out activities jointly organized and supervised by the FAPyD and said teams. This modality also includes "social practice", which consists of a direct approach to the community in order to give technical advice and assistance on how to achieve minimum conditions for habitability, hygiene and habitat safety, and train community members on how to take advantage of their self-construction potential to improve their homes or community facilities.

The second modality has to do with students' incorporation to external work teams, such as those from public or private organizations, companies and architecture firms, among others. Students will carry out activities jointly organized, coordinated and evaluated by the FAPyD and said organizations, as defined by conditions established on a bilateral basis.

The last modality corresponds to practices legally classified as internship. Students will join external work teams, whether private (companies, architecture firms, among others) or public (mainly municipal and communal departments), where they will carry out activities proposed by said organizations.

In order to take the Supervised Professional Practice, students must obtain 100% of Basic Cycle credits.

V.8. COURSE OF STUDIES FINAL PROJECT

Goals

- To create a space for a synthesis of the operative and propositional levels reached by students during the preceding courses.
- To create a curricular environment suitable for knowledge integration and consolidation.

- To encourage individual maturation of the skills necessary to make an original proposal on a project topic previously agreed upon by the institution.
- To promote the development and strengthening of individual skills to present, justify, discuss and objectively assess (with cultural coherence and technical validity) the reflective and instrumental strategies that were at stake in the elaboration of the proposal and the implementation of the project.
- To arrange the academic "logics" of pre-requiring and functionality ("prerequisite system") corresponding to the courses that make up the Plan of Study, and, from this final stage, to provide an integral perspective on the core of training and instrumental demands to be faced in teaching-learning instances.
- To reflect on the epistemological nature of architectural doing as well as on professional ethics as part of an architect's performance.
- To benefit from interdisciplinary contributions.
- To encourage applied research in the integral development of design proposals.

Characteristics

- Every year, before each course begins, the Architectonic Project Chairs in charge of the Final Project, in agreement with the Plan of Study Monitoring Committee, will set the thematic goals of the "Annual Call for Completion of the Course of Studies".
- Students will develop their Final Project, individually or in teams (maximum two students).Students will agree on the topic of their Final Project with the professor of the Architectonic Project Chair that will mentor them, within the thematic fields defined in the "Annual Call for Completion of the Course of Studies" mentioned in the preceding paragraph.
- The documentation to be submitted for approval will include: definition of urban, project and technological aspects, according to the possibilities defined or required by the extent and type of topic chosen, which shall demonstrate a full understanding of the project by the author.

Final Project Evaluation Methods

- The evaluation and final grade of the Final Project will be in charge of an examining board presided by the professor of the Architectonic Project Chair under which the Final Project was developed, to be carry out in a public presentation.
- Depending on the topic chosen, each project may resort to a body of advisers that may include professors from other courses, members of research institutes, honorary professors or, in special cases as required by the topic, external advisers. The participation of advisors may be proposed by the Chair or the student, provided that the Chair is informed thereof.
- The Final Project may be considered the final exam to pass fifth-year compulsory or optional courses, provided that the professors in charge of the courses agree that the topic is appropriate to the contents covered by their courses.
- The Final Project will be valid for two years.

VI TIME ALLOCATION

Time allocation has been planned to cover two essential goals:

1) to achieve the general and specific goals set out in this Plan;
2) to have time availability to further acquired knowledge.

Therefore, the time budget provides for compulsory courses, namely the hours necessary for fulfilling the requirements set in section V.3, and optional courses, so as to further explore the topics that require so due to their nature.

The following table shows the number of hours required to obtain the Architect Degree, including compulsory and optional courses, taking into account that each academic year is scheduled to last thirty (30) weeks.

Basic Cycle		Attendance	Weekly hours	Weeks	Annual hours	Credits
	First Year					
01.01	Introduction to Architecture	ANNUAL	9	30	270	27
01.02	Graphic Expression 1	ANNUAL	3	30	90	9
01.03	Materials 1	ANNUAL	5	30	150	15
01.04	Physics	ANNUAL	3	30	90	9
01.05	Mathematics 1	SEMESTER	2.5	16	40	4
01.06	Epistemology 1	SEMESTER	2.5	16	40	4
			22.5		**680**	**68**
	Second year					
02.07	Project Analysis 1	ANNUAL	9	30	270	27
02.08	Materials 2	ANNUAL	5	30	150	15
02.09	Statics and Strength of Materials	ANNUAL	3	30	90	9
02.10	History of Architecture 1	ANNUAL	3	30	90	9
02.11	Descriptive Geometry	ANNUAL	3	30	90	9
02.12	Graphic Expression 2	ANNUAL	3	30	90	9
			26		**780**	**78**
	Third Year					
03.13	Project Analysis 2	ANNUAL	9	30	270	27
03.14	Materials 3	ANNUAL	3	30	90	9
03.15	Structural Design 1	ANNUAL	5	30	150	15
03.16	Introduction to Urban Planning	ANNUAL	3	30	90	9
03.17	History of Architecture 2	ANNUAL	3	30	90	9
03.18	Mathematics 2	SEMESTER	2.5	16	40	4
			25.5		**730**	**73**
	Credits to be covered with optional courses					**3**
3.3. Higher Cycle						
	Fourth Year					
04.19	Architectonic Project 1	ANNUAL	9	30	270	27
04.20	Structural Design 2	ANNUAL	3	30	90	9
04.21	Urban Analysis	ANNUAL	3	30	90	9
04.22	Building Production 1	ANNUAL	5	30	150	15
04.23	History of Architecture 3	ANNUAL	3	30	90	9
			23		**690**	**69**
	Credits to be covered with optional courses					**9**
	Fifth Year					
05.24	Architectonic Project 2	ANNUAL	9	30	270	27
05.25	Urban Intervention	ANNUAL	3	30	90	9
05.26	Building Production 2	ANNUAL	5	30	150	15
05.27	Epistemology 2	SEMESTER	2.5	16	40	4
			19.5		**550**	**55**
	Credits to be covered with optional courses					**9**
3.4. Final Cycle						
	Sixth year					
06.28	Final Project	ANNUAL	7	30	210	21
			7	30	**210**	**21**
06.29	Supervised Professional Practice	SEMESTER	5	16	80	8
06.30	Modern Language					
				Compulsory Courses Workload	**3720**	**372**
06.31			**Workload to be covered with Optional Courses**		**210**	**21**
				Total workload	**3930**	**393**

In order to obtain the Bachelor's Degree in Architecture, students are required to pass 1500 hours corresponding to the courses of this Plan of Study.

The following table shows the number of hours required to obtain the Bachelor's Degree with Major in Architecture, taking into account that students are required to pass 1440 hours of the courses considered as Disciplinary Training, and 440 hours of courses considered as Complementary Training.

		Attendance	Weekly hours	Weeks	Total hours	Training
	First Year					
01.01	Introduction to Architecture	ANNUAL	9	30	270	Disciplinary
01.02	Graphic Expression 1	ANNUAL	3	30	90	Complementary
01.03	Materials 1	ANNUAL	5	30	150	Disciplinary
01.04	Physics	ANNUAL	3	30	90	Complementary
01.05	Mathematics 1	SEMESTER	2.5	16	40	Complementary
01.06	Epistemology 1	SEMESTER	2.5	16	40	
			22.5		**680**	
	Second year					
02.07	Project Analysis 1	ANNUAL	9	30	270	Disciplinary
02.08	Materials 2	ANNUAL	5	30	150	Disciplinary
02.09	Statics and Strength of Materials	ANNUAL	3	30	90	Complementary
02.10	History of Architecture 1	ANNUAL	3	30	90	
02.11	Descriptive Geometry	ANNUAL	3	30	90	Disciplinary
02.12	Graphic Expression 2	ANNUAL	3	30	90	Complementary
			26		**780**	
	Third Year					
03.13	Project Analysis 2	ANNUAL	9	30	270	Disciplinary
03.14	Materials 3	ANNUAL	3	30	90	Disciplinary
03.15	Structural Design 1	ANNUAL	5	30	150	Disciplinary
03.16	Introduction to Urbanism	ANNUAL	3	30	90	
03.17	History of Architecture 2	ANNUAL	3	30	90	
03.18	Mathematics 2	SEMESTER	2.5	16	40	Complementary
			25.5		**730**	
	Disciplinary Training Courses Workload					**1440**
	Complementary Training Courses Workload					**440**
	Bachelor Degree with Major in Architecture Total Workload					**1880**

VII. PREREQUISITE SYSTEM

The prerequisite system has a double purpose:

- To establish global requirements from the change of cycle with the aim of balancing training levels and allowing knowledge transfers appropriate to each formative stage.
- To establish particular requirements for the series of courses within each area in relation to the increasing complexity and depth of their contents.

VII.1. Beginning of studies

In order to start attending the specific courses of the course of studies, students must fulfill the corresponding requirements established by the National University of Rosario, and nothing shall interfere with the principle of free unrestricted admission.

VII.2. Change of Training Cycle

In order to establish a global prerequisite system in the change of cycle that can be balanced with the workload of the courses involved, some requirements will be established taking into account the number of credits granted by each course.

To move from the Basic Cycle to the Higher Cycle, students must obtain 162 compulsory credits of the Basic Cycle, including all courses corresponding to the Architectonic Project Sub-area of such cycle.

VII.3. Pass criteria for prerequisite courses

In order to pass a course, students must pass the previous prerequisite courses, as explained in the table that summarizes the prerequisite system.

VII.4. End of studies

In order to pass the Supervised Professional Practice, students must obtain 100% of compulsory credits corresponding to the Basic Cycle.

In order to present and submit for evaluation their Final Project, students must obtain 100% of the credits of the course of studies, except for those compulsory or elective courses that are meant to be passed by submitting the Final Project, as specified in section V.8 "Final Project Evaluation Methods".

The courses that make up the Prerequisite System are detailed in the following table.

Basic Cycle		Annual hours	Credits	(Passed) Prerequisite Courses
	First Year			
01.01	Introduction to Architecture	270	27	
01.02	Graphic Expression 1	90	9	
01.03	Materials 1	150	15	
01.04	Physics	90	9	
01.05	Mathematics 1	40	4	
01.06	Epistemology 1	40	4	
	Second year			
02.07	Project Analysis 1	270	27	Introduction to Architecture - Graphic Expression 1
02.08	Materials 2	150	15	Materials 1 - Physics - Introduction to Architecture
02.09	Statics and Strength of Materials	90	9	Mathematics 1 - Introduction to Architecture
02.10	History of Architecture 1	90	9	Introduction to Architecture
02.11	Descriptive Geometry	90	9	Introduction to Architecture
02.12	Graphic Expression 2	90	9	Introduction to Architecture - Graphic Expression 1
	Third Year			
03.13	Project Analysis 2	270	27	Project Analysis 1 - Graphic Expression 2 - Descrip. Geometry
03.14	Materials 3	90	9	Materials 2 - Project Analysis - Statics and Strength of Mat.
03.15	Structural Design 1	150	15	Statics and Strength of Materials
03.16	Introduction to Urbanism	90	9	History of Architecture 1 - Introduction to Architecture
03.17	History of Architecture 2	90	9	History of Architecture 1 - Introduction to Architecture
03.18	Mathematics 2	40	4	Mathematics 1 - Introduction to Architecture
To move from the Basic Cycle to the Higher Cycle, students must obtain 162 compulsory credits of the Basic Cycle, including all courses corresponding to the Architectonic Project Sub-area of such cycle.				
	Fourth Year			
04.19	Architectonic Project 1	270	27	Project Analysis 2
04.20	Structural Design 2	90	9	Structural Design 1
04.21	Urban Analysis	90	9	Introduction to Urbanism
04.22	Building Production 1	150	15	Materials 3
04.23	History of Architecture 3	90	9	History of Architecture 2
	Fifth Year			
05.24	Architectonic Project 1	270	27	Architectonic Project 1
05.25	Urban Intervention	90	9	Urban Analysis
05.26	Building Production 2	150	15	Building Production 1
05.27	Epistemology 2	40	4	Epistemology 1
Students must pass 100% of compulsory and optional courses, except those which are part of the Final Project.				
	Sixth Year			
06.28	Final Project	210	21	
06.29	Supervised Professional Practice	80	8	100% of Basic Cycle compulsory credits
06.30	Modern Language			

VIII. EFFECTIVE DATE OF THIS PLAN OF STUDY

This Plan of Study will come into effect for students admitted to the 2009 academic year. In addition, the Faculty of Architecture, Planning and Design will make available a mechanism for students of the 1997 Plan of Study who wish to voluntarily transfer to the new Plan.

IX. ANALYSIS OF COURSE OF STUDIES INTERNAL COHERENCE

Scope of the degree	Courses Involved
1.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Materials 1, 2 and 3, Building Production 1 and 2
2.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Materials 1, 2 and 3, Building Production 1 and 2
3.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Structural Design 1 and 2
4.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Materials 1, 2 and 3
5.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Materials 1, 2 and 3, Building Production 1 and 2, History of Architecture 1, 2 and 3
6.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Materials 1, 2 and 3, Building Production 1 and 2
7.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Materials 1, 2 and 3, Building Production 1 and 2
8.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Materiality 1, 2 and 3, Building Production 1 and 2
9.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Introduction to Urban Planning, Urban Analysis, Urban Intervention
10.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Introduction to Urban Planning, Urban Analysis, Urban Intervention
11.	Introduction to Urban Planning, Urban Analysis, Urban Intervention
12.	Building Production 1 and 2
13.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Introduction to Urban Planning, Urban Analysis, Urban Intervention
14.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Introduction to Urban Planning, Urban Analysis, Urban Intervention.
15.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Introduction to Urban Planning, Urban Analysis, Urban Intervention
16.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Introduction to Urban Planning, Urban Analysis, Urban Intervention
17.	Introduction to Architecture, Project Analysis 1 and 2, Architectonic Project 1 and 2, Final Project, Supervised Professional Practice, Introduction to Urban Planning, Urban Analysis, Urban Intervention, Building Production 1 and 2
18.	Building Production 1 and 2
19.	Building Production 1 and 2
20.	Building Production 1 and 2