

# PROJETO PEDAGÓGICO DE CURSO: UMA EXPERIÊNCIA EM CONSTRUÇÃO

## PEDAGOGICAL COURSE PROJECT: AN EXPERIENCE IN CONSTRUCTION

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### RESUMO:

Este artigo apresenta reflexões sobre o Projeto Pedagógico de Curso (PPC) que tem como desafio o processo de ensino-aprendizado participativo e interativo entre seus agentes para atuarem em um mundo complexo, conflituoso e diverso. Defende que a formação em Arquitetura e Urbanismo deve aliar capacitação técnica e raciocínio científico e crítico com vistas a resolver velhos e novos problemas, de modo transdisciplinar – multi e interdisciplinar. A partir de necessárias abordagens para atuação e enfrentamento no mundo contemporâneo, o artigo se organiza a partir de três eixos que orientaram, também, a construção do PPC: 1. o enfrentamento da formação do estudante em sujeito político reflexivo técnico-científico e profissional, 2. a intersecção das “caixinhas” orientando a experiência e estruturação do estudante por uma trama construída por (i) eixos aglutinadores que favorecem a intersecção de conteúdos e saberes; (ii) ateliês e estúdios integrados misturando conteúdos, abordagens e práticas e (iii) linhas de atravessamento transversais, eventos que costuram novas formas de produção do conhecimento e 3. as temáticas, os contextos integradores e as experiências que extrapolam as práticas em atividades além das salas de aula, que visam direção ao caminho da extensão. Neste ambiente, propicia-se o florescimento de novas atitudes estudantis, que preconizam um papel mais ativo na construção coletiva, não só da escola, mas da sociedade em constante formação, dentro de um quadro geral complexo em permanente transformação, no qual a tecnologia e os desequilíbrios constituem uma temática constante e mutante, na busca por um outro e necessário sentido de mundo para todos nós.

**PALAVRAS-CHAVE:** ensino de Arquitetura e Urbanismo; formação universitária; ensino, pesquisa e extensão; FAU-Mackenzie.

### ABSTRACT:

This article presents reflections on the Course Pedagogical Project (PPC) that addresses the challenge of a participatory and interactive teaching-learning process among its agents, preparing them for practice in a complex, conflicting and diverse world. It is advocated that education in architecture and urbanism should combine technical training with the scientific and critical thinking needed to solve old and new problems, in a multi, inter and trans-disciplinary way. Based on the approaches needed for practice and engagement in the contemporary world, the article is organized according to three key fronts that also underpinned the PPC: 1. the preparation of students to be political-scientific and reflective professionals; 2. the intersection of nodes in a lattice guiding the student's experience and trajectory via a framework comprising; (i) clustering contexts that favor the intersection of contents and knowledge; (ii) integrate ateliers and studios that mix contents, approaches and practices; and (iii) transversal links, events that meld new forms of knowledge production; and 3. the themes, integrating contexts and experiences that take practices in activities beyond the classroom, for application in extension activities. Within this environment, new student attitudes can flourish, paving the way for a more active role in collective construction, of the school and a society in constant change, within a general context of permanent transformation, in which technology and imbalances constitute a constantly shifting theme, in the quest to find new meaning to the world we live in.

**KEYWORDS:** Architecture and Urbanism teaching; university education; teaching, research and extension; FAU-Mackenzie.

How to cite this article:

FERH, L.; ALVIM, A. T. B.; RUBIO, V. M.; JR FABIANO, A. A. Projeto pedagógico de curso: uma experiência em construção. **Gestão & Tecnologia de Projetos**. São Carlos, v17, n2, 2022.  
<https://doi.org/10.11606/gtp.v17i2.190462>

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Fonte de Financiamento:  
Universidade Presbiteriana  
Mackenzie; Fundo MackPesquisa

Conflito de Interesse:  
Declaro não haver.

Submetido em: data de submissão:  
08/09/2021  
Aceito em: 11/01/2022



## **COURSE PEDAGOGICAL PROJECT: AN EXPERIENCE IN CONSTRUCTION**

This article<sup>i</sup> presents a reflection on the teaching and learning experience based on discussion, development, application and continual review of the Course Pedagogical Project (PPC) of the School of Architecture and Urbanism of the Mackenzie Presbyterian University (FAU-Mackenzie), São Paulo<sup>ii</sup>. Taking a critical approach, this article seeks to elucidate other approaches for academic training, rooted in the 3 central planks of teaching, research and extension of the matrices of participative active thinking and purpose of this key document. The article is split into five parts: 1. the world we live in – expounding on tackling the broad array of challenges faced today, 2. challenges in education: the school we seek – rooted in a statement of the underpinning wishes drawn up collectively, 3. Collective construction of the new framework – in the presentation of the proposed method, 4. Experiences that go beyond –providing a description of the activities which extend beyond the school walls and find utility and constructions in the world outside the campus; and 5. Some strides made – in the review to shed light on the advances made and their limitations.

### **THE WORLD WE LIVE IN**

The hand-in-hand expansion in education, often regarded as a business, together with the decline in the quality of professional education, is evidenced by cross checking records on Architecture and Urbanism courses in Brazil – where official data from the Ministry of Education (MEC) for 2019 show there were 650-780 Architecture and Urbanism courses, 65 of which were delivered by public institutions, with over half located in the state of São Paulo and 25% in the city of São Paulo – plus the extensively disseminated survey showing that 85% of Brazilians who carry out building work do so without engaging an urban architect and/or engineer (CAU/BR, 2015). These overlapping factors corroborate, and sometimes compound, the inequalities in socio-spatial reproduction, issues which education should address via instrumentalization and reflective critical education and training.

These facts force us to review the meaning of current training of urban architects, training which grew following the real-estate boom in the beginning of the 21<sup>st</sup> century (early 2000s), as confirmed by the data from the System of the Federal Board of Engineering and Agronomy and the Regional Boards of Engineering and Agronomy (Confea/CREA)<sup>iii</sup> and from the Board of Architecture and Urbanism (CAU). These organs note that, in 2019, Brazil boasted 368,930 qualified civil engineers and active professional registrations, and 202,588 urban architects available to practice the profession (SANTOS, 2021). Of this total of urban architects, 11,930 graduated in 2018, an 8% increase on the previous year's graduates (CAU/BR, 2019a). The distribution of urban architects can be broken down into the following concomitant professional activities: Architectural Projects (87%), Architecture of interiors (68%), Execution of Works (64%), Complementary Projects (49%), Management and Consulting (30%), Landscaping (28%), and Public Service (23%) (CAU/BR, 2019b), where 20% of professionals earned a salary of 3-5 minimum monthly wages and 22% < 3 minimum wages (CAU/BR, 2019b). In practice, a large contingent of professionals work within the realm of traditional practice, engaging in individual initiatives through actions driven by opportunity and entrepreneurship, yet removed from critical construction of another type.

Consequently, when the construction of intellectual-critical autonomy is not governed by public interest, this constitutes an obstacle to new professionals seeking alternatives that envisage possible experiences of emancipatory reality, both in the sphere of intellectual and material production.

Amid these and numerous other conflicts, it is necessary to exploit the articulation between the University and actions which embrace and seek social advances, as a tool to counter the contradiction between private production in the commercial market, brokering and socio-spatial practices that can contribute toward a shift, where urban society conceived as a mere product gives way to a collective entity (LEFEBVRE, 1981).

It is clear, given the financial production of space and intellectual construction, the relevance of the discussion of our role – the role of the urban architect –, by means of praxis in the education of students that prepare them as political, technical and scientific professionals. It is therefore acknowledged that Architecture and Urbanism is a special tool for discussion that can be applied to devise a feasible hypothesis to shape a more inclusive world. This instrument represents a means of building a landscape for life (ROLNIK, 2019), based on the notion and perception of spaces as territories of voices and ears, able to promote vocations of collective advances.

The search, therefore, for one (or more) experience (s) of constructions of hypotheses which aim to define and redefine the role of academic education as an instrument promoting rights to life, based on the indissociable practice of research, teaching and extension, guides the discussion and production of other pedagogical practices which serve as a tool contributing to collective control of the contemporary urban condition. It is this condition that primes critical, analytical, practical and theoretical investigation to the level of discussion of the pedagogical practice, toward promoting reflection on the preparation of students as potential instruments to secure rights the city.

The theory of how Architecture and Urbanism can contribute to the defining of construction and production of space, as a socially necessary transforming activity of immanent emancipation, is what is expected from training of the urban architect, made possible through environment-space-society interactions, according to Freirean thinking (FREIRE, 2002).

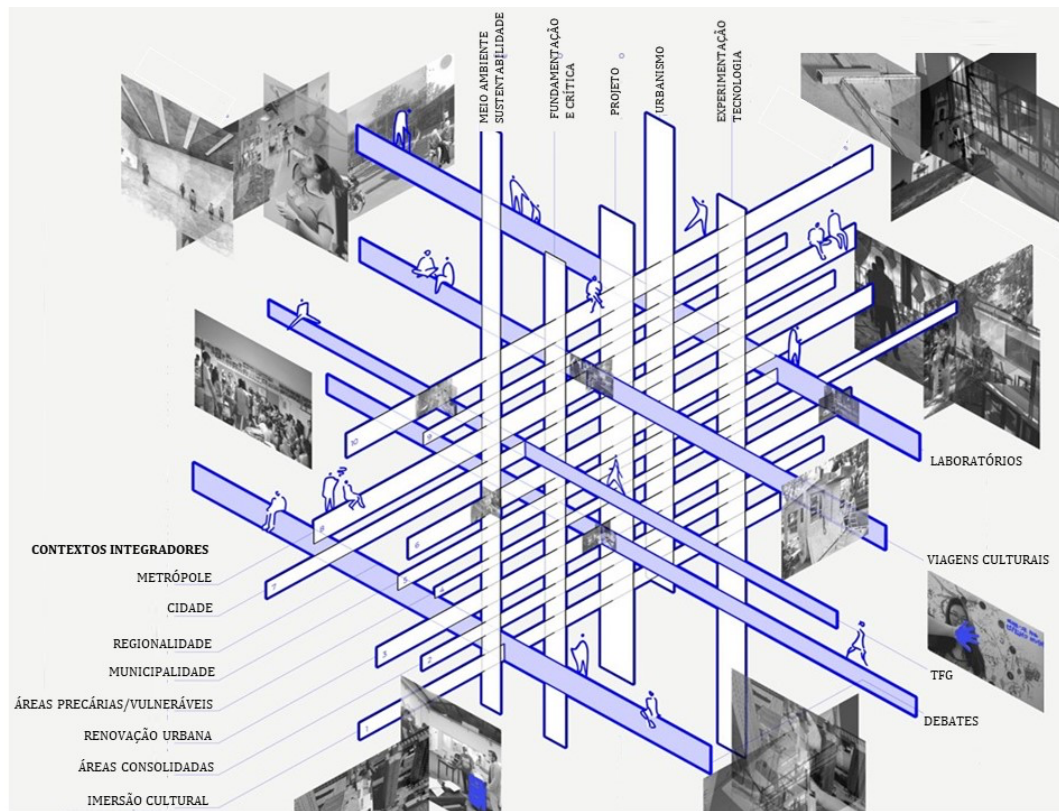
The training and technical-scientific and professional practice of the urban architect in the current unprecedented conditions faces, at least, the challenge of understanding the dynamic of spatial organization in contemporaneity with a view to contribute in the material and non-material production of the built space which redefines the controlling attitude of modern man, in terms of the medium as a way of building a social reality and a discourse that works in an inclusive manner. Thus, a process of education needs to be consolidated that can catalyze immanent horizons, where the University acts as an important center of knowledge open to new popular and erudite knowledge, through participation and construction with other agents (HOOKS, 2017). This entails presenting a tool for education, reflection and novel solutions which extends beyond the University that can build alternatives that can address the increasingly unequal reality.

Considering Resolution number 7, published on the 18<sup>th</sup> of December 2018 by the National Board of Education/Ministry of Education, which establishes guidelines for the forming the curricula of extension studies in Brazilian higher education, it appears that the education of students must have, within its scope, the facing of reality and of the struggles inherent to the process of learning, in which the appropriation of knowledge occurs through successive approximation to broad contexts, intrinsic to objects and objectives of study of Architecture and Urbanism. Thus, based on the tripartite of teaching, research and extension, the experimentation, reasoning and critical thinking constantly realign in an indissociable and coordinated fashion, in an organized framework within the amplitude, horizontality and complementarity of the knowledge and actions of life pertinent to all of us.

This poses a challenge to be considered, that a student's education should go hand in hand with preparing individuals who are reflective and able to exercise their freedom, thought and action (CHAUI, 2014), and through praxis that guides the processes of the education experience that produces individuals who are technical-scientific political. Having the theme and perspective of democratic broadening, to motivate actions in everyday life of the cities, alternative possibilities of spaces of life to be built, considered, created and occupied can be envisaged that counter a world which increasingly builds itself up and destroys itself in an unequal way. The model of reflection in action of Donald Schön (2000) provides a base for group reflection among teachers and students, on meanings and opening up to the new which emerges every year.

The reformulation of the pedagogical course project (PPC) of the Architecture and Urbanism program of the School of Architecture and Urbanism (FAU)-Mackenzie, São Paulo outlined faces the challenge of implementing a teaching-learning process that is integrated, participative and interactive among its agents: students, teachers, the academic community and society at large. Based on approximation, integration and merging of disciplines, a design was sought which helps prepare students to be scientific-technical political individuals, where the Architecture and Urbanism project forms the backbone not only of the course, but of the reflection of the practical-theory activities, upon which future professionals should be able to build, grounded in methods of design and practice (SALAMA, 2009).

The enriched curriculum grid made up of the old section-based departments and their requisites, problems and potentialities pragmatically separated, provided the basis for the new framework comprising (i) clustering contexts, with no defined boundaries, which favor the intersection of content and knowledge; (ii) integrated ateliers and studios mixing different contents, approaches and practices; and (iii) transversal links and events which meld and promote new forms of production of knowledge. The schematic of these crossovers between integrating contexts, structure of ateliers and studios and transversal actions is depicted in Figure 1.



**Figure 1.** New framework

Source: FEHR et al, 2021.

Two premises are fundamental in this framework: 1. the stages evolve from fixed groups to having permanent articulation, dedicated to the field of thinking and to the effective necessary attitudes and extension-related activities; and 2. the progression of learning is no longer contained within a single center of knowledge, but acquires a multi, inter and trans-disciplinary nature – with the incorporation of its interfaces with other ‘disciplines’ and areas of knowledge. In this context, new student attitudes flourish, marking a more active role in the collective building of the course and of society, both in a state of constant flux and formation.

All this, placed within a general scenario in constant transformation, with contexts that shift rapidly in one unique complex and diverse world, in which technology and social and environmental imbalances constitute a constant theme in the vision of new base of hope for the planet. It is advocated that an integrated system of knowledge is a possible solution for the human identity, amid the fragmentation and complexity of contents that also makes up the knowledge, acknowledging the conception of the project as an element of articulation in the sphere of complexity (MORIN, 2005). This element emerges as a potential alternative in the understanding of the land and in the building of the landscape linked to collective action, through exploring possibilities of dialogue, where speaking and listening is only meaningful when this process is driven by all and for all.

## CHALLENGES OF EDUCATION: THE SCHOOL WE SEEK

We are entering the third decade of the 21<sup>st</sup> century, where the transformation of cities and society poses a complex scenario fraught with numerous challenges for professionals across all generations, particularly for future urban architects. These transformations together with



their specificities should be central in pedagogic-teaching practices of Architecture and Urbanism courses, contributing to the training of professionals who work in the scenario of world cities.

According to Alvim (2017), new issues emerge in the professional field within the area of Architecture and Urbanism, which interweave with the complexity and problems of the reality of Brazilian cities. The intense process of urbanization witnessed in the 20<sup>th</sup> century was driven by exponential industrial and technological development with urban centers playing a strategic role. However, contemporary cities are, concomitantly, loci of opportunity, quality of life, inequality and socio-spatial exclusion. In the words of the author:

*Estimates of the United Nations (UN) indicate that, by 2030, over two-thirds of the world's population will reside in cities (UN-HABITAT, 2016). This statistic could be cause for celebration, given that cities are the hubs of economic development, opportunities, culture, among other myriad attributes which characterize urban life. The same estimates, however, also indicate an urban world in which both inequality and exclusion are soaring. (ALVIM, 2017, pg. 347)*

In the Brazilian context, despite the marked slowdown in demographic growth, the rapid expansion in occupation of land in the city has continued in a fragmented fashion and without the accompanying urban infrastructure needed. The process of urbanization in the country took place over 3 centuries, commencing in the 18<sup>th</sup> century, consolidating from the middle of the 20<sup>th</sup> century in an industrial-urban context, resulting in huge shifts in morphology and expansion of the cities and in the distribution of the population throughout the national territory (SANTOS, 2009). In just a few decades, data from the demographic censuses conducted by the Brazilian Institute of Geography and Statistics (IBGE) bear out this change: in 1940, a total of 41,236,315 people lived in urban areas, or 31.34% of the population, while in 2010, this number had swelled to 160,925,792 urban dwellers, or 84.36% of the population (IBGE, 2010).

A survey released in 2020 by the IBGE, conducted initially in preparation ahead of the 2020 Demographic Census operation, recorded over 5.1 million households in precarious conditions. Compared with the 2010 Census, the number of sub-standard settlements had almost doubled, as had the number of cities housing them: in 2010, there were some 63, 000 such settlements located across 323 cities, a figure which had risen to over 131,000 in 2020.

This sharp increase in the population living in precarious settlements reveals another major challenge besides a housing shortage: the need to reconcile socioenvironmental damage with provision of housing, urban infrastructure and environmental sanitation. Thus, the intensification of degraded areas is an emerging theme and one which urban architects will increasingly encounter in the future.

On top of the problems outlined, there are countless others such as issues involving urban mobility, use of new technologies and materials, the aging of the population, climate change and the technical support for underserved populations (ALVIM, 2017). Amid this context of huge challenges and complexities imposed by contemporary society, the 2017 PCC of the FAU-Mackenzie represents an instrument which aims to constantly update and review these themes and principally, the different approaches which involve areas of knowledge, both in their curricular components in graduate and post-graduate programs, as well as in numerous research and extension activities.

The updating of pedagogical actions is carried out without overlooking the specificities of each knowledge area, particularly those which involve reflection on the project, in its multiple scales of operation. The transit of different scales conceived concomitantly as a project method

reveals not only the desire to accommodate new social forces of production, but to also build in conjunction with them. This leads us to formulation of a reterritorialization of political praxis (NEGRI; GATTARI, 2017), not as a return to universalization, but as recognition of the conditions of the multiple bodies, struggles and shared desires that, as instruments, make up the land.

The challenge of today is achieving interaction between theory and practice to act in a broad context ranging from buildings to cities, considering the social, cultural, technical, economical and esthetic dimensions.

Reflection by teachers involves the reflexive construction of the students (SCHÖN, 2000) and hence it is necessary to prepare citizens who are qualified to respond technically and critically to social demands, applying theory and practice, calling for the construction of new creative solutions and committed with the social role of the field of knowledge of Architecture and Urbanism. Students and emerging professionals should receive both a technical and humanized education, to enable them to understand and engage with the complexity of the contemporary world (UNIVERSIDADE PRESBITERIANA MACKENZIE, 2017).

This positioning always brings to the fore questions over the pedagogical role and approach of the Schools of Architecture and Urbanism when facing the challenge of preparing new professionals.

Although not able to fully address the complexity of the themes outlined, some actions are fundamental to an ongoing process of improving courses and activities of a school of Architecture and Urbanism, as described by Alvim (2017, pg. 357-359):

- *adapting of curricular components, whenever possible, to reflect contemporary themes and technical advances;*
- *incentive for inter and trans-disciplinarity, needed for renewal of the practices and processes of teaching-learning, integrating curricular components, practical and theory, activities of Teaching, Research and extension.*
- *promotion of applied research as an alternative to direct solutions in public and private sectors;*
- *use of new instruments in the teaching-learning process in which experimentation plays a central role;*
- *amplification of the relationships with society, in such a way as to extend the reach of areas of knowledge to excluded strata of society, while also helping promote citizenship and nurture new talents;*
- *introduction of new ways of improving social involvement, promoting broader dialogue between theory and practice, as an instrument for bringing the different fields of knowledge and society closer together.*
- *greater approximation to the market and growing demands of society;*
- *investing in continuing education of teachers of Architecture, Urbanism and Design;*
- *consolidation of internationalization, permeating the different areas of knowledge and levels of education;*
- *strengthening of entities representing the School – collegiate organizations, working groups, student and faculty representatives, Congregation– so as to involve different actors in the formulation and implementation of ideas and bringing actions into fruition;*

- *strengthening of ethical values and citizens in the developing of students' skills, competencies and attitudes to produce creative ethical professionals that contribute to their areas of expertise.*

## COLLECTIVE CONSTRUCTION OF A NEW FRAMEWORK

The incorporation of new instruments of complementary activities in the learning-teaching process, extending the core program, such as Special Topics (extra-curricular education, research and/or extension courses); greater use of laboratories, extension projects, involvement of students in Research Groups and as observers in Post-Graduate disciplines, allied with a range of activities organized in collaboration with the Academic Administration, such as the *Semana Viver Metr pole – SVM* – in Architecture, Urbanism and Design created in 2003, and the *Semana de Integra  o* (Integration Week) – SI, based on the vertical atelier (created in 2016), serve to strengthen the interdisciplinary approach and expand student participation in the FAU-Mackenzie, reinforced by the creation of other student entities, such as the *Escrit rio Modelo Mosaico* (2004) and *Coletivo Feminista Zaha* (2016).

In 2020 (albeit via online activities due to the pandemic)<sup>iv</sup>, the Contextualization and Extension Workshops were set up, activities run in the first week of the course. Incorporated by all of the components in the course programme, these activities center on the integrating contexts, their territories and social agents, with active participation to encourage students to debate different proposed approaches. The idea is that these warm-up activities which act as a guide for integrated actions between curricula program components of each stage of the course, students can throughout the semester, undertake projects that prompt wider reading across components, in addition to providing the feedback necessary to the agents involved.

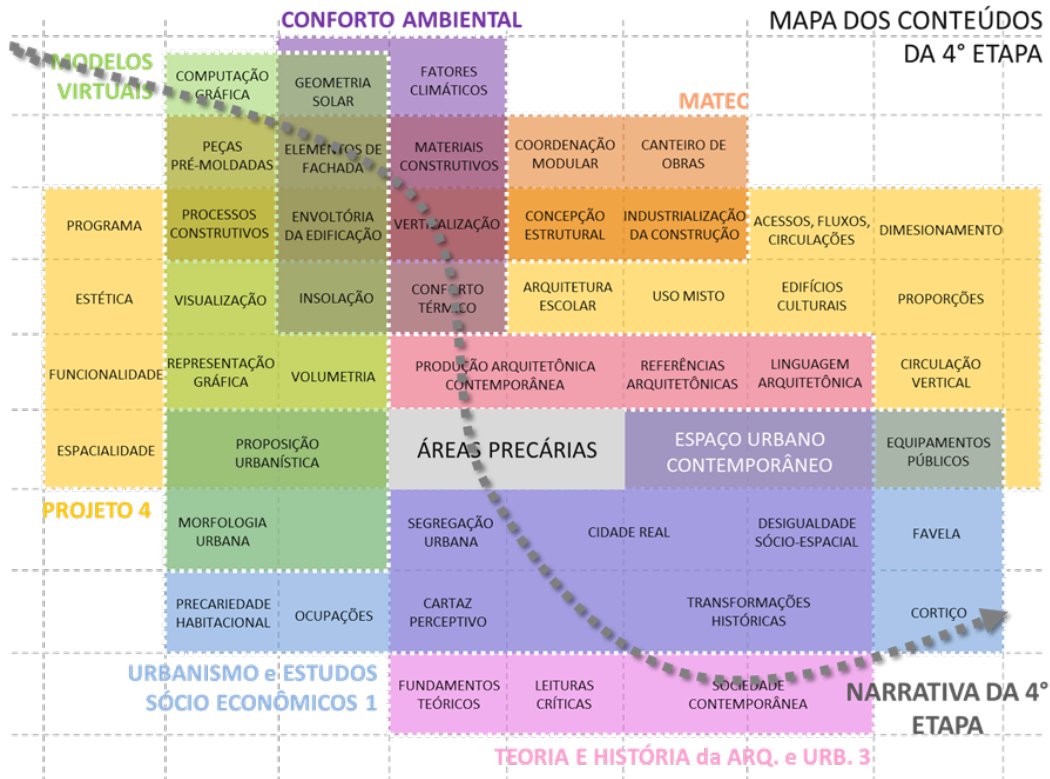
The PPC presented was devised in 2017 within the ambit of the Structuring Faculty Center (NDE) of the course with extensive participation and involvement of the teachers and students in all stages of the course, organized into Work Groups, Student Union, Course board and academic coordinators. These meetings were held both in the context of the small groups mentioned, and also in open meeting and public debates held by teachers, students and staff.

In a move to avoid fragmentation and compartmentalization of departments in the education process, commencing with a review of the PPC in 2003 and its updating in 2006, 2008, 2010, e 2013, the structuring into main thematic lines, the course schedule and pedagogic practices were built around the following framework: (i) Horizontal Axes; (ii) Vertical Axes; (iii) Transversal Axes. Although based refined versions of earlier PPCs, most notably the 2013 PPC (UNIVERSIDADE PRESBITERIANA MACKENZIE, 2013), the 2017 reform marked a radical change in its proposed goals, with a merging of disciplines into integrated curricula components – practical/technical/theory – reducing their number to an average of 5 per stage, all working in a coordinated fashion and overseen by a Working Group in thematic axes, consisting of teachers and students. Thus, the WGs constitute a forum of permanent debate on the actions and progress of the proposed integration.

The Transversal Axes provide the base of the organization of the course and are defined by criteria of affinity, specificity and merging of contents and activities which shape the new course curriculum structure. These bases allow each axis to be dynamic and open to contributions and visions of other specialties, and thus promoting constant updating of the themes and actions related to surveys. This brings together different components of the course, in descending order of adherence, thereby ensuring transdisciplinarity of Architecture and Urbanism and its vocational nature and underpinning foundation. namely: Design; Urbanism; Foundation and Critique; Experimentation and Technology; Environment and Sustainability.



The Vertical axes are defined by serial complementary criteria addressing the structuring program content supporting the training of urban architects. They involve the sequential contents of Architecture Design, Urbanism, Landscaping, History of Architecture and Urbanism, Cultural Heritage and Retrospective Techniques, Expression, Representation and Culture, Theory of Architecture and Urbanism, Environmental Comfort, Stability of Buildings, Building Materials and Technology, Topography and Geoprocessing, Technology Systems, Building Systems, Urban Infrastructure, Soil Mechanics, Socioeconomic Studies, Physical and Virtual Modelling, Architecture of Interiors. Figure 2 depicts the framework of integration of all components of the fourth stage and possible dialogue within each specificity.



**Figure 2.** Schema showing integration of components of 4th stage.

**Source:** produced by Alexandre Hepner, teacher on 4th Stage of the Architecture and Urbanism course of the FAU-Mackenzie, 2020.

Currently, the WGs of the Vertical and Horizontal Axes act as spaces for liaison between components, both for stage (Horizontal Axes) and correlated disciplinary axes (Vertical Axes) and, besides organizing the Contextualization and Extension Workshop, produce regular dialogue to appraise the development of the activities envisaged.

The Transversal Axes are intended to bring students into closer contact with content in an integrated simultaneous fashion, via a set of curricula components which involve interdependent integrated subject matter and practical activities. This reinforces the understanding of the simultaneous and parallel problem-solving process as pedagogy to encourage students to formulating of theory-practice syntheses based on the refining of their critical thinking ability.

Without fixed boundaries, the Transversal Axes seek to establish the pedagogic-didactic space for establishing dialogue and exchange between the various instruments which serve as a basis for organizing education at the FAU-Mackenzie. Its implementation required a structural and cultural change in the way teaching, research and extension was organized, going beyond appropriation of knowledge in a fragmented fashion through hermetic disciplines.

## ON ORGANIZATION: INTEGRATING THEMES AND CONTEXTS

With a 5-year duration (10 stages), the course is based on a structure of curricula components – which go beyond traditional disciplines – organized in the form of ateliers and studios, providing the bases of the new pedagogical conception of the course by integrating the different axes and disciplinary fields merged in the same studio setting, where knowledge on theory is set against practical problems of the project. This has the underlying characteristic of explicitly defining in the project, at all levels of scale ranging from the building to the course, the synthesis of knowledge investigated in the different constituent areas of knowledge by the group of components and other pedagogical actions of the course.

The curricula components organized in the form of ateliers represent 46% of the course, with a teacher/student ratio of 1/15. They amalgamate the vocational and reflective nature of the practical activity of design by urban architects, where students experience situations and problems that resemble the challenges encountered in the profession, producing an integrating synthesis of knowledge from teachers of a variety of activities, with individual monitoring in the execution of exercises. The design ateliers, featuring in the 1<sup>st</sup>-8<sup>th</sup> stages, as per the structural framework of the course, are comprised by: (i) activities for specific training, in which technical, theoretical, representation and laboratory experimentation content are taught and practiced; (ii) design activity, in which reflective and practical design tasks are carried out; and (iii) integration activity, involving teachers of the previous activities in the atelier, and in which students can receive joint guidance from teachers of design and of other specific areas of expertise. This involves contents and teachers of design, structure, construction, materials, technology systems, building systems, urban infrastructure, graphic representation, physical and virtual modeling, and theory and history of architecture and urbanism.

The curricula components organized in the form of studios are theoretical and practical in nature and represent 50% of the course, with teacher/student ratio of 1/25, bringing together theory and practical activities, and also teachers of urbanism, landscaping, and the theory and history of architecture and urbanism, socioeconomic studies, environmental comfort and technology.

The optional components are offered in the 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> stages, with a teacher/student ratio of 1/20, and are aimed at providing students with more in-depth specific knowledge, possibly defining a separate path to the core training, but also allowing, depending on individual interest, exposure to different content and addressing of problems tackled in the research groups.

With the aim of articulating and integrating the ateliers and studios, from the first to the eighth stage, an overarching theme is defined which spans two stages (or 1 year of the course) and includes an integrating context for each semester stage. The four guiding themes for each year of the course are:

- 1<sup>st</sup> and 2<sup>nd</sup> stages – Culture: the students are encouraged to identify and establish links between Architecture and Urbanism, society and general culture.
- 3<sup>rd</sup> and 4<sup>th</sup> stages – Construction: focuses on the constructive and instrumental aspects of Architecture and Urbanism.
- 5<sup>th</sup> and 6<sup>th</sup> stages – Technology: The student is encouraged to view technology from a systemic, critical-thinking perspective.

- 7<sup>th</sup> and 8<sup>th</sup> stages – City: the student performs projects which embrace, within their scope, the complexity, dynamics and potentialities of the city and the metropolis in the contemporary universe.

The introduction of contexts of integration aims to develop themes into issues which should better guide the integration of ateliers and studios in the respective stages, toward establishing their teaching actions and contents together. The contexts of integration are regularly reviewed to promote an ongoing debate at the FAU-Mackenzie. At the start of each semester, the Working Groups per Stage propose the Contextualization and Extension Workshops, in which the general integrating guidelines of the stage are established, with actions and events and involvement of all components of the stage. The current defined integrating contexts adopted by the course are:

- 1<sup>st</sup> Stage – Cultural immersion in the universe of Architecture and Urbanism.
- 2<sup>nd</sup> Stage – Consolidated urban areas
- 3<sup>rd</sup> Stage – Urban areas undergoing renovation
- 4<sup>th</sup> Stage – Precarious areas with social vulnerability
- 5<sup>th</sup> Stage – Municipality
- 6<sup>th</sup> Stage – Regionality
- 7<sup>th</sup> Stage – City
- 8<sup>th</sup> Stage – Metropolis

The Final Graduation Project (TFG), introduced in 2003 as the base of this transforming move, involves the final 2 stages (9<sup>th</sup> and 10<sup>th</sup>) and strengthens the integrating project. It represents the synthesis, produced by the student, of knowledge, content and practices acquired throughout the course. Also regarded as a formative process, this entails the conducting of a study which serves as the basis for an individual project, and is driven by this. Drawing on content inherent to a project aware of and committed to social, technological, esthetic and ethical issues, the projects seek to study architectural, urban and landscape aspects of a broad structure. The project work is defined as a succession of approximating actions, where the student is responsible for running and organizing the process. Through the 4 integrating activities, the students are guided by the teachers from different axes of the course:

- Academic guidance: undertaken by a teacher chosen by the student to run the study, helping to devise the concept and content pertinent to the theme of their project, with clarity of objectives, articulating them with the other activities.
- Project-based exercise: aimed at guiding the student in producing the research brief of the project on the chosen theme, and consequently the object of study.
- Principles and Critique: encompasses the theoretical-conceptual details of the issues related to the aspects concerning the building, city, land, society and to the ethical behavior of the future professional.
- Experimentation: characterized by experimentation dictated by the theme and project, with the support of the laboratories, comparing essential elements of the project and land.

It is noteworthy that the TFG of the FAU-Mackenzie often garner awards at a number of competitions, such as the national Opera Prima competition, where the school has won prizes since the first edition in 1988<sup>v</sup>.

Appraisal processes are an integral part of the education process and, thus, of the learning process, whereby student progress and results for each phase completed are presented by the teacher in a contextualized detailed manner. Each curricula component, within its specificities, defines the evaluation instruments needed to assess the pedagogic-didactic practices and their content. Given the practical nature of the ateliers and studios, the course seeks to make advances in the processes of integrated assessment, through which one student project addresses contents from more than one Curricula Component. In this respect, plain explanatory assessments are encouraged, which concentrate on horizontal interdisciplinarity through complementary themes and practical exercises involving different components at each stage of the course, enabling the student to perform a more complete integrated study.

## THE EXPERIENCES WHICH GO BEYOND

Research and Extension activities, as part of the learning-teaching process have taken on a larger role in the course, where students and teacher are working together in a more integrated fashion. The interdisciplinary approach was strengthened by consolidating activities organized together with the DAFAM – academic board – management and coordinators, an example being the Semana Viver Metr pole (Live Metropolis Week), marking its 18th. edition (2021), the Semana de Integra  o (Integration Week), now reaching its 4th edition (2021), boosting student participation in the collective growth of the school. On top of these actions, a series of talks, roundtables, seminars and workshops have been held over the years.

The Integration Week consists of an academic immersion event, held annually with the aim of debating emerging themes in Architecture and Urbanisms, in a format that favors the exchange of experiences and life stories among students and teachers. The event is organized as a large vertical atelier, with teams comprising students from all stages of the Architecture and Urbanism course and Design course. The goal is promote the sharing of experiences between course participants on different stages of the course by debating architectural and urban problems, besides viable conceptual strategies to reformulate/overcome these issues. In the last two editions, the teams were coordinated by the TFG students, based on the themes proposed for the final projects, favoring topics that are emerging and contemporary.

The Viver Metr pole Week entails a large event held annually since 2003, whose aim is to forge closer ties between the University community and external agents. This takes the form of a platform for creating activities and discussions open to the public on architecture, urbanism, design, art, culture, education and society, with a comprehensive program and high relevance to the sociopolitical context of the country. Students, teachers and members of the public are involved in the many events, including talks, workshops, visits, meetings and ateliers.

Introduced into the course in 2013, the Special Topics were strengthened under the new PPC and are considered integrating activities that bring graduate students alongside postgraduate students and research groups, with themes submitted by teachers and doctoral students based on student requests. These instruments are open, totally separate from content defined *a priori* for the regular components, but that converge to enhance professional training or cultural awareness, integrating the Complementary Activities.

Proposed in 2019, the EXPOFAU+D Exhibition consists of a show for all the projects produced at the school, for the purpose of the evaluation process and to provide dialogue of the course with society. Due to the pandemic, the last four editions have been produced in videos.

The objective of the Extension is to promote dialogue and exchange of knowledge with the external community. The extension programs and projects boast the participation of students and teachers on graduate and post-graduate course, and have the main aim of bringing these

into closer contact with different socioeconomic and environmental situations, catering to the needs of society. These are proposed and carried out normally, but not solely within the entities that support their actions, such as the Center for Research and Extension, the Mosaic Model Office and laboratories such as the Projects Lab, Public Policies Lab and Geotechnologies Lab, as well as the Research Groups, which propose projects in articulation with applied research. Extension courses contribute to the continuous education according to the demands of professional activity and build on the relationship between graduate and post-graduate *stricto* and *lato sensu*.

In 2020, teachers and students held the FAU+D Acolhe, a broad extension program aimed at meeting some of the demands of residents and agents of entities in the context of the COVID-19 pandemic who work in vulnerable areas, who have a regular presence in the school as partners in academic activities. The pandemic worsened the situation of this population and highlighted the urgent need for concrete actions to improve these areas. Organized on 4 fronts – Fundraising, Communication, Project and Solidarity Savings –, the program promoted a number of actions and projects in partnership with other units and institutions to help cope with the impacts of the pandemic, such as kitchens, bathrooms, sinks, and community centers; school kits; baby care kits; and multifunctional furniture for pregnant women and newborn infants; face shields; solidarity savings program and community communication material on COVID-19.

The Research Policy of the FAU-Mackenzie defines the research groups (certified by CNPq) as a fundamental means of strengthening the relationship between teaching, research and extension, and also for fostering greater integration between graduate and post-graduate areas. This enables graduate students to join the realm of research and extension (via scientific initiation grants) and allows the applying of knowledge learned to their training. The studies conducted by the research groups have contributed, not only to the issues and objectives of the studies, but also to the updating of content given in the curriculum components of the courses.

There are currently 20 Research Groups from FAU-Mackenzie registered on the CNPq<sup>vi</sup> Directory receiving financial support from a number of funding bodies, and also from the University via the Fundo Mackpesquisa (Mackresearch Fund). The Research Groups are organized according to the 2 Research Lines of the course and of the Post-Graduate Program in Architecture and Urbanism, namely: 1. LP Modern and Contemporary Architecture: Representation and Intervention. Groups: The construction of the city: architecture, documentation and critique; The Landscape of the Sustainable City: architecture, environment and technology; Architecture and Construction; Architecture, teaching and profession; Architecture, process of design and digital analysis; Architecture: Design & Research & Teaching; Design Strategies in Urban/Degraded Land areas and Ports; Projects and Public Policies Laboratory; City and Design, production and management of social housing in Brazil; Building Systems in Contemporary Architecture; Theory and Design in the Digital Era; Design-Theory: Society-Culture; and 2. LP Modern and Contemporary Urbanism: Representation and Intervention. Groups: Architecture and Philosophy; Sustainable Buildings and Cities; Paradigms for the study of Ibero-American cities in the 21<sup>st</sup> Century; Urban Projects and Sustainable Urban Development; Urban Issues: Design, Architecture, Planning, Landscape; Brazilian and Ibero-American Urbanism; Contemporary Urbanism: Networks, Systems and Processes; Verticalization, Urban Projects and Social Inclusion.

The Jornada Discente and Fórum de Pesquisa and (Research Forum) (10<sup>th</sup> edition), organized by the Research Department, are annual events for publication and debate of academic studies in local and national settings, respectively.



Two curricula components of the graduate course are exclusively aimed at research preparation: Science, Technology and Society, in the 3<sup>rd</sup> stage of the course, preparing for Scientific and Technological Initiation; and Methodology Applied to Architecture and Urbanism, at the 8<sup>th</sup> stage of the course, whose goal is to establish the conceptual foundation which will culminate in the TFG, also within the ambit of research. The teaching stage of post-graduate students and monitoring of graduate students are important means of integrating different educational levels, research, extension and extracurricular activities.

## SOME STRIDES MADE

The organization of the new curriculum framework of the thematic axes, the structuring of studios and ateliers by activity and the various activities proposed in the course, such as the TFGs; the vertical atelier of the Integration Week; the Viver Metr pole Week; the experimentation activities; the optional components, the organization of the Special Topics, participation in Research Groups and Extension actions, together with the other complementary activities of the course, contribute and strengthen inter, multi and trans-disciplinarity.

Four years after implementing the PPC2017, and despite 2 of those years involving remote activities, numerous promising results are evident. Without detracting from the tradition of strength in the architecture project which has always characterized the school, the integrations proposed have begun to show results and bear fruit: the new ateliers and studios have created the conditions needed to implement an integrated course between hitherto separate technical, design, urban, landscaping and theoretical disciplines, providing students with the opportunity of broader more complete understanding, reflection and practice.

The results have started to show: 1<sup>st</sup>-stage students began to conduct their projects with the aid of systemic development of physical models and their purer more convenient representation of architectural solutions; 2<sup>nd</sup>-stage students learn the contents of materials stability and strength applied to their own projects, devised for consolidated urban areas; and likewise for 3<sup>rd</sup>-stage students, who learn the principals of installations in the project, developed for areas undergoing urban transformation; 4<sup>th</sup>-stage students are exposed to, understand and plan urban and architectural interventions in contexts of precarious areas of the metropolis; we have a 5<sup>th</sup>-stage where refined construction technique of the architectural elements builds on previously acquired knowledge; a 6<sup>th</sup> stage where the incorporation of a complex precise architectural and technological program should cater to regional, landscaping and mobility needs, on top of full requirements of comfort and installations; a 7<sup>th</sup> semester which places the city and its preexisting aspects, agents and socioeconomic and political context as the central design question of modern times, drawing on architectural theoretical support and urban infrastructure; and an 8<sup>th</sup> stage which addresses the metropolis, its regulation, transport systems, and local architectural and landscaping intervention designed on a large scale. This process culminates in the TFG as the pivotal moment of course conclusion, where the role of the student is taken to the extreme, supported by numerous guided activities, such as design, critical and technological thinking and experimentation.

Without doubt, many obstacles were encountered at this time of avoidance of face-to-face contact. However, the stimuli from the different urban realities and the presence of extension-related activities within the scope of the construction of the school, besides the transversal design of the framework, made not only between components, but also by the stimulated research and extension activities, suggest that the role of the training of urban architects, their technical knowledge and their creative capacity of a speculative and investigative native is intrinsically linked with the idea of concrete reality and notions of belonging to the world.

This preliminary framework is a work in progress, supported at specific times by other auxiliary components which complement essential knowledge content essential to urban architects. It is acknowledged, however, that this process requires continuous improvement to hone, refine and expand it. There is a long way to go. The switch over from good practices, hitherto carried out separately, to more integrated collaborative actions has taken concerted efforts by faculty. The care to retain content fundamental to the training of the urban architect requires close attention and commitment. The strategy for this constant enhancement is provided by the form of the Work Groups for each stage, which bring together teachers of the different components of each stage, particularly the design ateliers and urbanism studios and their integrated content. Together, they formulate, according to the context proposed regularly by the NDE and by the course Board, the joint actions to achieve the desired profile proposed for this school – generalist, broad, yet technical and socially responsible –, where interdisciplinarity and integration should be favored in times of fragmentation and transience (CAMPOMORI, 2018).

Breaking from the old long-defunct departments, calls for a huge effort to achieve permanent progress and synchrony of the vertical sequences of content, with the constant risk of losing the meaning of the training. On top of this challenge, is the quest for transdisciplinarity of a contemporary course, integrated with the latest discoveries and technological advances and behavioral and cultural changes of society. Achieving this requires association with other areas of knowledge, current and future research groups and with extension actions, implemented and in a phase of expansion and incorporation into the curriculum. Within the task of constant monitoring and review of the PPC, is the survey of other Architecture and Urbanism courses. This holds particularly true for the schools of Latin America which also amended their PPCs in recent years so that, within a wider scope, novel experiments and dialogues can be formed that can promote an array of other ways forward and paths in education.

Design, technical and humanistic actions are considered a tool to promote the commitment needed for devising environments for life. Through purposeful, critical reflection on the complexity of urban spaces, and by elucidating issues evident empirically and supported by theory, a methodology emerges which construes interweaving with everyday challenges based on the idea of “space as a sphere of possibility of the existence of multiplicity” (MASSEY, 2008, pg. 31). Also, through individual experiences and, conversely, cases of exception, alternative solutions are sought as a tool, open and under development, viewed as a shift in attitudes which aims to investigate other social possibilities.

We therefore have the role of envisaging the future. The University constitutes a tool, not only educational, but as an instrument which seeks to foster reflection, critical debate and the formulation of thinking which communicate with effective action, through concrete elements, to discuss the right to space and to the city as a space of experience to be lived to the full by all.

## ***Acknowledgements***

The authors extend their thanks to colleagues at the Núcleo Docente Estruturante (Structuring Faculty Center) and the Board of the Architecture and Urbanism course of the School of Architecture and Urbanism of the Mackenzie Presbyterian University, and students of the Academic Board of the Mackenzie School of Architecture and Urbanism – DAFAM, entities that actively participated in devising the Course Pedagogical of the Project Architecture and Urbanism course throughout 2017; and also to members of the Council for Teaching and Research and of the University Committee of the Mackenzie Presbyterian University for approval of the content. The authors also grateful to the Fundo MackPesquisa for funding the translation of the article.

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## Notas

<sup>i</sup> The article draws on the reflections contained in the brief of the MOSTRA competition and PRÊMIO NACIONAL TODOS OS MUNDOS UM SÓ MUNDO (ALL WORLDS ONLY ONE WORLD NATIONAL AWARD). ARQUITETURA 21. Categoria Práticas Pedagógicas. 27<sup>th</sup> World Congress of Architects – UIA2021RIO. International Union of Architects. Rio de Janeiro, 2021.

<sup>ii</sup> At the time of producing this Pedagogical Project, Lucas Fehr and Angélica Benatti Alvim held the positions of Coordinator of the Architecture and Urbanism course and Director of the School of Architecture and Urbanism of the Presbyterian Mackenzie University, respectively.

<sup>iii</sup> The Confea/CREA system is a joint entity comprised by the System of the Federal Board of Engineering and Agronomy (Confea) and by the Regional Boards of Engineering and Agronomy (CREAs) which work in conjunction with the aim of “promoting the defense of society and sustainable development in the country, observing professional ethical principles”(CONFEEA, c2021, s/p.).

<sup>iv</sup> In March 2020, the World Health Organization (WHO) declared the transmission of Covid-19 (SARS-CoV2) as a pandemic. Almost two years on, and at the end of November 2021, according to JHU CSSE

COVID-19 Data, there was a total of 258 million cases and 5.15 million deaths worldwide, and 22 million cases and 613,000 deaths in Brazil. Since the outbreak of the pandemic up until November 2021, classes at the Mackenzie Presbyterian University (and likewise in most education institutions in Brazil) were given remotely in conformance with the ruling by the MEC (Ministry of Education). To tackle the problem, the university established the Regime Excepcional de Contingência – Exceptional Contingency Period (REC) defining the general guidelines for courses according to their specificities. The FAU-Mackenzie courses were given online with the aid of different technology tools combining creativity and collaborative work among all those involved.

<sup>v</sup> Both the TFG and PPC of the FAU-Mackenzie, as outlined, won awards for the MOSTRA competition and PRÊMIO NACIONAL TODOS OS MUNDOS UM SÓ MUNDO (ALL WORLDS ONLY ONE WORLD NATIONAL AWARD. ARQUITETURA 21. Categoria Práticas Pedagógicas. 27th World Congress of Architects – UIA2021RIO. International Union of Architects. Rio de Janeiro, 2021. Available at: [https://www.uia2021rio.archi/FINAL\\_PRATICAS\\_PEDAGOGICAS\\_UIA.pdf](https://www.uia2021rio.archi/FINAL_PRATICAS_PEDAGOGICAS_UIA.pdf) acesso 2021 12 14

<sup>vi</sup> The course currently engages 180 teachers, 77% of whom are permanent or part-time staff that devote part of their working hours to research and/or extension activities, and supervision of Scientific Initiation scholarships and/or final graduation project (TFG). Many teachers perform multiple roles, both practical – within the commercial market, government entities or NGOs, and academic, in graduate and post-graduate spheres. This mix is a factor in the selection process for hiring new teachers, where holding professional practical experience and high level academic qualifications has been a requirement.