Denver Undergraduate Curriculum Proposal

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Context:

Over the course of the past two decades Globalization, coupled as it has been with the digital information revolution have radically transformed the practice and the profession of Architecture. The consequences of this transformation for architectural pedagogy are measurable and direct.

Globalization's drive to overcome geographic divides and boundaries in effect has and will continue to force diverse cultures into unprecedented proximity, and an unavoidable dialogue.

The proximity is both real and virtual. The latter is, arguably, the more forceful of the two. What makes contemporary globalization a far more formidable and irresistible force than prior attempts at globalization is contemporary globalization's intimate and indispensable link to the information technologies that transform our historically heterogeneous space and time into homogeneous entities, virtually. One consequence of the convenient marriage between globalization and information technologies is that cultures, in all their diversity and differences, are no longer or in the least not readily afforded space and time as literal and conceptual implements of mutual separation and distinction. The cohabitation of diverse cultures induces a potentially tense and difficult dialogue. The difficulty of this dialogue is owing to the globalization's demand for uniformity in place of diversity across a wide spectrum of economic activities. In the long run this is a costly demand, as it requires adaptation and wholesale cultural change. The latter unavoidably entails resistance, friction, and conflict.

What is certain is that globalization is inevitably transforming all cultures concerned at a scale and a rate that is impressive, if not unprecedented. The question and challenge that this change directly and forcefully poses for architectural education is how to educate the next generation of architects to meet not only the unique demands of a plurality of cultures, but more important a plurality of cultures in a state of flux and change? The assumption here being that with the rapid transformation of traditional spatial and temporal dividing-lines between cultures, professional practices of all kinds, including architecture, are multi-cultural propositions more so than ever.

Assuming that architecture, as a spatial, formal, and material language, is an indispensable medium that allows a culture to form and transform its assumptions, beliefs, views, and ideas about the world into a factual, lived experience, the pedagogical challenges of globalization are formidable and immediate.

In spatial and temporal seclusion, a culture may readily maintain a prolonged and effective synthesis between its assumptions about the world and its experience of the world through the agency of, among others, its architecture. In the face of globalization maintaining this synthesis is a formidable and perpetual challenge. A direct effect of globalization is an inevitable and challenging discrepancy between life as various cultures have previously defined and imagined it to be and life as various cultures presently experience it to be. This is a

direct consequence of the proximity and the inevitable dialogue that are the immediate legacies of globalization and its reliance on information technologies.

Another major catalyst for change is the cross and/or inter-cultural nature of architectural practice in a global economy. Wholesale importation of architectural and urban-forms produced in very different cultural contexts, coupled with rapid and phenomenal transformation in such familiar examples as Singapore, Shanghais and Dubai, and to a lesser degree in numerous other locals are fundamentally changing the world as the local cultures experience them.

However, it is not only the local experience that is changing, but also that experience now encompasses and/or overlaps a far wider geography and more life-styles than it ever has. In the age of globalization and information technologies, one's experience of the world extends far beyond one's immediate environment in real time.

What is certain in the face of globalization is cultural change. What is essential in the face of change is constant analytical examination and thorough re-evaluation of change with an eye toward creative solutions that directly and critically address the change. Falling back on ready-made formulas, indigenous or imported, without close scrutiny is at best unproductive.

The Pedagogical Consequences

The ramifications for and the specific demand on architecture pedagogy in the age of globalization are the effective education of a new generation of architects who, practicing within a global economy and faced with multiplicity and diversity of cultures, will not blindly facilitate the dominion of their own (sub)culture, or what is not absolutely different reduce cultural and ideological differences to facile and stereotypical imagery in the name of regional identity. What is required more so than ever from architecture pedagogy in the age of globalization is instilling a heightened understanding of the complex dialogue between architecture and culture and along with that a spirit of exploration, experimentation, critical engagement, creative thought and innovation.

The broader implication of globalization for not only architecture education, but higher education in general is a necessary shift away from the traditional emphasis on the acquisition of bodies of knowledge to a greater emphasis on the development of analytical, critical, and creative abilities that are essential to engaging and effectively addressing diverse bodies of knowledge.

Given the speed and changing modalities of global communication and cross-cultural exchange, bodies of knowledge, in their cultural specificity, face obsolescence with increased pace. In addition, the sphere of professional practice far exceeds the bounds of any one culture. In the global market place what is essential is not the extent of one's knowledge that is as such culture specific, rather it is the ability to engage, analyze, organize and manipulate diverse bodies of knowledge. What is essential is creative problem solving skills rather than ready-made answers. For these skills analytical and critical thinking are essential prerequisites.

These are the skills higher education has to emphasize if it is to respond effectively to globalization and the information age.

Specifically with regard to architecture education, the above entails and requires a shift in emphasis in the familiar areas of study within the discipline of architecture, i.e., history, technology, representational, cultural, professional, and design studies, etc.. It entails treating these areas not as bodies of information per se, but also and primarily as disciplines with distinct methodologies for collecting, analyzing and organizing information. History, for instance, should primarily be understood and taught as a unique mode of inquiry with particular methodologies for analyzing, organizing, categorizing and delivering information about the built environment. Understanding and learning to apply these methodologies analytically and critically should be the skills the students acquire and take away from each class rather than the information alone. It is these skills that will enable the students to become effective practitioners in a multi-cultural environment, rather than their specific knowledge of a particular period in a particular culture. This is not to say that the latter is not important, rather that it should be seen as a means to an end and not an end in itself.

To emphasize education over training, i.e., the ability to analyze and manipulate various bodies of knowledge in place of their mere amassment., the curriculum may be organized around areas of study as opposed to bodies of knowledge. These may be:

I. Design Studies

II. Representational Studies

III. Historical Studies

IV. Technological Studies

V. Cultural Studies

VI, Professional Studies

The distinction between the proposed areas of study is based on both methodology and content. Specific courses will fall into one or another area of study based on emphasis and specific method of investigation. This should help clarify the pedagogical mission of each course and prevent duplication and undue overlap. The proposed areas of study are not finite; nor are they autonomous. The same subject matter may be examined in two area courses using two different methodologies. The areas introduced are meant to ensure basic coverage and academic competence.

Major

The proposed curriculum is for a B.A./B.S. degree with a major in architecture. Admission to the architecture major in the freshmen year will be selective and limited to a number determined by the number of full-time

faculty and available resources. Admission will be based on GPA, SAT, and a portfolio evidencing creative aptitude.

Admission to sophomore year of the architecture major will require application and submission of a portfolio. All freshmen may apply.

Required credits for a B.A./B.S. in Architecture

Total	120	credits
Department	75	credits
University	45	credits

Proposed Credit Distribution

Required Visual Studies	12	credits
Required Arch. Design Studies	36	credits
Required Arch. Historical Studies	6	credits
Required Arch. Technological Studies	12	credits
Architecture Electives	9	credits
University Core and Electives	45	credits
Total	120	credits

B.A. and B.S. Degree Distinction

B.A. candidates complete a higher % of their general studies in the Humanities. % to be determined.

B.S. candidates complete a higher % of their general studies in the Sciences. % to be determined.

University Core Curriculum (34 to 36 credits)

Intellectual Competencies: English Composition (Two Courses), Mathematics (One Course). Knowledge Areas: Arts And Humanities (Two Courses), Behavioral And Social Sciences (Two Courses), Biological And Physical Sciences, Mathematics (Two Courses). International Perspectives (One Course). Cultural Diversity (One Course).

Architecture Major

Freshmen Year	Fall		Spring
Design Studio I (Visual Studies)	6	Design Studio II (Visual Studies)	6
University Core (Arts and Humanities)	3	University Core (Biological Sciences)	3
University Core (Mathematics)	3	University Core (Behavioural Sciences)	3
General Studies (English Composition)	3	General Studies (English Composition)	3
	15		15

Sophomore Year	Fall		Spring
Design Studio III	6	Design Studio IV	6
History of Architecture I	3	History of Architecture II	3
University Core (Arts and Humanities)	3	University Core (Cultural Diversity)	3
University Core (Biological Sciences)	3	University Core (Behavioural Sciences)	3
	15		15

Junior Year	Fall		Spring
Design Studio V	6	Design Studio VI	6
Second Language*	3	Second Language*	3
Arch Elective	3	Arch Elective	3
Environmental Systems I	3	Environmental Systems II	3
	15		15

Senior Year	Fall		Spring
Design Studio VII	6	Design Studio VIII	6
Arch Elective	3	University Core (International Persp.)	3
University Elective	3	University Elective	3
Structures I	3	Structures II	3
	15		15

* required for B.A. degree, optional for B.S. degree

The Design Studies Sequence

The primary objective of the studio pedagogy is to promote a heightened understanding of the complex dialogue between architecture and culture, and along with that a spirit of exploration, experimentation, critical engagement, creative thought and innovation. To this end, the sequence of studios may be divided into three broad categories: elemental studios, analytical studios, and critical studios.

Elemental Studios:

In Aside from focusing on the development of a common formal vocabulary and the skills needed to communicate mechanically and digitally, the pedagogical goals of these studios may be summarized as learning:

1. The language of architecture, its formal elements and their expressive potential
2. Learning how to speak this language wilfully and effectively.

To this end, one may proceed from the exploration of the expressive potential of the more abstract elements of architecture, e.g., solids and voids, planes and lines, to their more concrete expressions, e.g., columns, walls, stairs, windows, corners, etc., to their assemblages into paths and places, rooms and passages. In turn, one may also proceed from detail, to building, to site, to city over the extended time frame of the curriculum.

At the outset, it is important to analyze and understand the dual nature of each architectural element as both a function and an expression, i.e., in terms of what each does and what each says or is capable of expressing. Subsequently, it is important to distinguish and explore how architecture communicates both statically and dynamically, in space and in time, i.e., passive and active reception. One may start with passive communication (in place, looking at) and elements that readily lend themselves to this form of communication, i.e., elements that can make a statement without requiring time and movement (columns, walls, windows) and then introduce elements that reveal their message with time and movement as requisite components of the expression, e.g., a staircase, a room, etc. In this latter context organizational principles such as axis, layers, etc., can be introduced and explored. In this same vain, it is important to distinguish between experiencing architecture, which is accumulative, and viewing it, which is totalizing as a mode of reception.

While exploring the expressive potential of architectural elements, it is important for the students to realize that, on the one hand, what an element says and what it is are two separate issues, e.g., being solid is not the equivalent of expressing solidity and that the former is not an acceptable substitute for the latter. On the other hand it is also important for them to realize that the expressive potential of each element is conditioned by what it does, e.g., support, define, lead, connect, etc. (later the question of program will have to be explored in the same vain).

As a matter of strategy, addressing the above issues, one may formulate assignments that require students to contradict in expression the overt function of the elements they are to analyze and design, e.g., design a column that appears to defy weight, design a stair that resists its destination, design a transparent opaque wall, design an infinite room, etc. On the one hand, this type of exercise forces to surface assumptions and

presuppositions about the element, and on the other hand, it forces students to distinguish between what the element does and what it can say (they cannot depend on the element to make the statement for them, insofar as the expression is meant to contradict the function).

In learning how to express ideas through form, it is important to begin with architectural or formal concepts, e.g., finite, infinite; static, dynamic; transparent, opaque; etc., and having mastered them, move on to explore how non-architectural ideas can be translated and transformed into an architectural concept and communicated formally. Throughout this process it is important for the students to develop a clear understanding of reading (as distinguished from the metaphysical term meaning) being context dependent (present or assumed). This latter is, of course, a major theme that should lead to the realization that architectural expression is a question of relational composition at every scale, that no element, in itself, communicates anything. Also, architectural expressions are fundamentally experiential and evanescent and not concrete or verbal.

In the end, Students should have a clear understanding that to design means forming an idea in relation to the specifics of the problem at hand and then struggle to realize and express that idea in architectonic form through deliberate and successive assemblage or composition of parts. This implies the realization that function (as distinct from program) has no form, e.g., there are endless possibilities for transferring a given load from point A to B, the form of which is determined by one's design agenda and expressive intent.

On another general note, students should come away with a clear understanding of the crucial interplay between analysis and design as two complementary processes. They should understand analysis as a process of moving from realization to abstraction (e.g., from form to principle, to intent) and design as a process of going from abstraction to realization (e.g., from intent to form).

Formally, students should be able to conceive and construe a wilful and detailed architectural composition that incorporates structure, light, and material as expressive elements of an experiential composition.

Analytical Studios:

Assuming students come to these studios with an understanding of the formal elements of architecture and their expressive potential, as well as the ability to speak this language wilfully and effectively, the pedagogical goals of the analytical studios may be defined as developing a thorough understanding of architecture as the spatial dimension of culture, and buildings as ideological constructs. This entails learning how to design in deference to specific ideologies or world-views. The latter, of course, requires the ability to analyze and decipher the complex relationship between architectural form, function, and ideology.

Focusing on small-scale buildings with varying degrees of contextual complexity, in this segment of the curriculum students should learn how culture appropriates architecture through program and aesthetics. They should develop an understanding of program as a cultural interpretation of function (e.g., sleeping is natural or instinctive, where and under what conditions we sleep is cultural) and aesthetics as a mode of cultural appropriation of form, in keeping with specific cultural agendas, presuppositions, or world-views. They should

understand that "design ideas" are not merely random opinions, but analytical constructs reflecting specific cultural agendas. They embody and reflect cultural values, beliefs and ideals. "Partis" are cultural blueprints.

To develop an appreciation for architecture as the spatial dimension of culture (as distinct from its motivated perception as a cultural artefact), it is important to assign design problems that require the students to become aware and eventually learn to operate outside the confines of their own cultural or sub-cultural presuppositions and in the process develop an understanding and an appreciation for their own presuppositions, as such. It is important to ask students to design for the peculiarities of world-views that are different (as a matter of degree) from their own.

By way of furthering the understanding of the operational link between analysis and design, as well as exploring the link between form(ation) and culture, students may be asked to begin with a text (in any of its numerous guises) that articulates a particular point of view, go through the exercise of deciphering that point of view, translating and transforming it into a series of formal ideas and experiential strategies, and proceed to realization. Each exercise should require analytical rigor and the expansion and adaptation of one's formal vocabulary to the exigencies of the problem at hand. The key is to understand the way world-views are translated into rituals (courses of action and behaviour) and how rituals demand specific settings and formal experiences.

Examples that readily come to mind are domestic or public settings that embody a particular point of view or a particular experience such as exile which forces questions of place and placement, of grounding and occupation, etc., both mental and formal.

Formally, the focus of analytical studios should be on developing greater appreciation for compositional hierarchies leading to detail, i.e., understanding the role of primary, secondary and tertiary elements of the composition and clarification of intent in each subsequent layer of the hierarchy, i.e., how what is intended in one layer is clarified by the secondary layer of articulation, and so on down the line. The focus should also be on developing greater appreciation for experiential progression and the significance of relationships. Culture, it is important for the students to realize, primarily communicates through architecture experientially and not merely statically (it is not the icons of the church so much as the congregational or processional experience of its space and form that convey its message, to say nothing here of its mediated relationship to the outside as the space of the profane or else the spacing of the outside as profane). Sacred is not an idea that is communicated as such, but an experience that is imparted.

Students should complete this sequence of studios with a clear understanding of how design ideas are formed through the analysis of the program as a cultural recipe for action and perception and how to transform those ideas into formal strategies and specific architectural experiences.

Critical Studios:

These studios should follow in much the same vain as the analytical studios, focusing on small-scale institutional buildings in various contexts. These studios will differ primarily in assuming a critical stance as opposed to the

affirmative stand of the analytical studios. The assignments should require students to engage programmatic issues or rather cultural presuppositions critically and explore the ways in which architecture can play a critical as well as an affirmative role within the broader cultural context.

These studios should focus on institutional building types, e.g., libraries, museum, theatres, etc. and the cultural institutions they serve in order to explore the link between form, function, and ideology. The intent would be to probe and demonstrate that edifices, intended or not, are ideological constructs, that they express ideas (theses) and as such reaffirm and reinforce or else critically engage the values, beliefs, ideas and the ideals of the culture they serve. How theses are formed and given architectonic form and what specific role buildings do or can play within the wider cultural context are some of the issues that would be explored in these studios.

Exploring the ways in which culture is promoted and sustained by a host of institutions such as libraries, museums, cinemas, etc., these studios should probe the history of the chosen institutional building type, identifying its formal continuities and discontinuities in time. The stylistic discontinuities should be accounted for in relation to the ever-shifting cultural context. The continuities in functional distribution and spatial organization should be analyzed in turn as the attributes of specific institutional demands and requirements whose purpose is the promotion and sustenance of a set of cultural presuppositions.

A critical re-evaluation of these presuppositions should in turn form the parameters of a new context for design. A context, within which the link between the formal/architectural properties of the building type and the institutional/cultural presuppositions in question could neither be acknowledged nor ignored, neither reinforced nor discarded. A context within which there could be no intuitive and/or positive re-formulation of the building type in affirmation of the link, but only a critical de-formulation of the type in recognition of the link.

The pedagogical intent of these design exercises is twofold. The goal is to foster and further develop the type of analytical skills essential to deciphering the complex relationship between architecture and the culture industry it perpetually serves, i.e., the skills essential to the formation and evaluation of design ideas and programs. It is also the goal of these exercises to promote a conscious re-evaluation of all the subconscious assumptions regarding spatial organization, the relationship of parts to whole, the inside to the outside, the particulars of volume and mass, solid and void, path and place, structure and material, ornamentation, proportion, scale, and others. This is with the intention of designing a building that in the end is all too familiar and yet all too alien, one that is neither a copy nor strictly an original. A building that speaks silently of the designer's ability to wilfully manipulate the language of architecture as opposed to faithfully re-produce its various speech acts.

Graduate Program

The studio sequence in a 3.5-year M.Arch. program may be closely modelled on the undergraduate studio sequence.

The studio sequence in a 4+2 option would build on the undergraduate studio sequence and culminate in a year-long thesis project that would include a comprehensive thesis proposal. Thesis may be an option for advanced students in the 3.5-year program.

Architecture Thesis

A thesis is, by definition, a proposition based on investigation and observation. It is a theorem or a hypothesis regarding the nature of the phenomenon under investigation.

However, as constructive as the above definition has proven to be in many fields of study, it cannot be readily used to structure investigation in the field of architecture. The definition requires modification or in the least greater specification.

The required modification is in recognition of the fact that whatever is subject to investigation in the field of architecture is, by virtue of being a cultural artefact, always an elaborate construct already, i.e., the formal expression/embodiment of a theory. The subject of investigation in this particular case is itself a theorem or a hypothesis.

Intended or not, architecture is always a theoretical construct, a form of speech, or a cultural "myth" in the making. Every edifice inevitably speaks of a thesis regarding itself specifically (including the cultural conditions of its conception and production) and architecture broadly (including the cultural conditions of architecture's conception and definition). This is to say that, adhering to the general definition of thesis, an architectural thesis would have to be a theorem about a theorem, or a hypothesis regarding a hypothesis.

This seemingly problematic definition does not have to imply that an architectural thesis is necessarily an exercise in tautology. It could imply instead - and this is the required modification - that an architectural thesis differs from a generic thesis insofar as it is not so much a hypothesis regarding the nature of the phenomenon under investigation, as it is a posture assumed or a stance taken on the theorem that is the phenomenon under investigation. It is different insofar as it seeks to understand not so much a thing, as a theorem, with respect to which it must then position itself: affirmatively or otherwise. An architectural thesis is different insofar as it must first analyze in order to understand, and understand in order to construct again: in affirmation or not.

This brings us to another difference, namely, an architectural thesis is in final count not a single, but a double construct: an intellectual construct and a formal construct (the two are, of course, intertwined in that every intellectual construct assumes prior formal constructs and every formal construct assumes a prior intellectual construct). An Architectural thesis must be written twice, i.e., written and translated (the full force of both terms assumed).

With these sketchy reflections in mind, how, we may ask, does one begin an architectural thesis, knowing that in the end one must assume a specific posture with respect to the subject of investigation?

One may chose one of two intersecting paths. One may begin with a set of assumption or preconceptions, the investigation into which requires the identification of an appropriate building type as the vehicle of investigation, and in the end, of expression.

Alternatively, one may begin with the building-type that is the subject and the projected end product of the investigation. In either case, the question to ask at the outset is not what patent 'theory' should the proposed building speak of, but what arcane theory does its type historically hide under the rubrics of "function" or "practical" requirements? What myth, in other words, does the type refuse to acknowledge as theory in the name of practicality?

To find an answer one must reconstruct the genealogy of the building type under investigation - the genealogy of forms inseparable from the genealogy of the institution served. One must decipher the formal/architectural framing process by which the given institution turns its theory/ideology into myths and passes them on as functional and practical givens. One must analyze and critically evaluate the historic role the type plays in establishing and effecting a given institutional/social order as the natural, and practical order of things.

The aim of such an investigation is neither to simply accept and promote a given theorem/myth nor to necessarily assume the luxury of rejecting it in favour of a different theorem/myth. Though one may choose to follow either route, it is essential to first understand what it is that one is opting to defend or supplant. From a pedagogical standpoint, the defence in either case cannot be or rather should not be blind, i.e., conducted expeditiously and unknowingly under the guise of functionality and/or practicality.

Before any question of choice, it is essential to decipher and understand the mechanics of the particular and complex dialogue between form, function and ideology in the subject of study. It is only with this understanding that one may knowingly opt and then successfully pursue either of the two routes that lead, albeit differently, to a constructive or affirmative proclamation. It is also with this understanding and only with this understanding that one may also choose an alternate route: not the affirmative (pro or con), but the analytic.

One may choose not to promote a given institutional myth, i.e., cease to frame and present the myth as a natural given, or what is not fundamentally different, supplant the myth with another presented in the same guise. One may choose not to affirm but question, not to engage but to disarm. One may choose not to pose but to expose. The choice, nonetheless, it is important to note, is only afforded the investigator.

Neither choice, it is also important to note, enjoys a privileged position. An affirmative position is not a repetition given the inevitable contextual variations. A counter position does not fundamentally differ from the position it seeks to supplant, in that it must rely on the same critical strategies as its other to exact the needed authority to supplant it. The analytic position differs from the other two only in that it seeks to expose what the other two must veil as the condition of an authoritative assertion. This position, however, can no more distance itself from the other two, as the other two can out distance each other.