

Arch 201 Intermediate Design

Credits:	5
Type of Course:	Required Studio
Class Meetings:	M/TH Times as noted below
Prerequisites:	Arch 101/ 102 or equivalent with at least a grade of "C"
Enrollment Capacity:	15
Instructor's Name	01 Jonas Coersmeier w/Onur Gun 2pm-6pm
and Location:	02 Jeremy Carvalho w/Onur Gun 2pm-6pm
	03 Kari Anderson 2pm-6pm
	04 Dragana Zoric 2pm-6pm
	05 Erika Hinrichs 2pm-6pm
	06 Alice Chun 9am-1pm
	07 Enrique Limon 2pm-6pm

Course Overview

The course offers an initiation for the beginning student of architecture to the critical role and correspondence that site, program, tectonics, structure and sentient experience offers in the design of a medium scale public building. Through a thorough analysis of preexisting site information, architectural precedents, and theoretical models of significance to the program, a critical conceptual approach will be articulated aimed at producing a comprehensive project. Building upon the syntactical, conceptual, representational and tectonic priorities of first year design, the second year sequence introduces a series of pragmatic, technological, social and cultural parameters that are essential at this moment in the sequence of the five year curriculum.

Learning Objectives

This studio focuses on a broader examination of architecture and design through an investigation of the physical and programmatic requirements of public buildings and their larger site implications. Programmatic strategies are developed through analysis of conceptual and programmatic issues. Appropriate interventional and transformational site strategies are explored. Spatial and tectonic configurations are then structured to mediate the external forces related to a semi-urban fabric, natural systems and the internal complexities of building program. The end product of this process of investigation will be the fully integrated design of a kindergarten sited in a semi-urban fabric.

Learning Objective Summary

- Gain the ability to comprehensively research, analyze and extract essential knowledge from significant architectural precedents.
- Gain the ability to comprehensively research, analyze and extract essential knowledge from a specific preexisting site context.
- Gain the ability to apply basic organizational, spatial, structural and constructional principals to the conception and development of interior and exterior spaces, building elements, and components.
- Gain the ability to identify and assume divergent roles that maximize individual talents, and to cooperate with other students when working as members of a design team and in other surroundings.
- Gain the ability to provide a coherent rationale for the programmatic and formal precedents employed in the conceptualization and development an architectural project.

Course Requirements & Grading Criteria

- Regular attendance at twice weekly studio session (3 unexcused absences will result in an F, an as will an unexcused absence from any Project Review)
- Timely completion of all projects and assignments.

- Critically sophisticated work completed with the highest standards of quality and craft.

Projects 01, 02 & 03 Review: Kindergarten Methodology, Site & Precedent Analysis (25% of final grade)

Projects 04 & 05 Review (Mid-review): Classroom Module & Kindergarten Program (25% of final grade)

Project 06 Review (Final review): Kindergarten Building (50% of final grade)

PROJECTS	01 Education Model Analysis	(kindergarten methodologies)
	02 Site Analysis	(site context)
	03 Precedent Analysis	(masterwork - school building)

Due Date: September 17th and 20th

01 Education Model - Analysis

The philosophical and ideological underpinning specific to any organization's mission is an essential priority that must be upheld. In the context of an academic institution and specifically the kindergarten, which has an illustrious history since the 19thc of adhering to a variety of schools of thought, we might consider how a specific childhood development theory could inform the production of the building. Offering the school as a didactic arena within which the dissemination of knowledge is an essential task, how might the organization of space, the regulation of program, and the narrative journey of the body in and out of the building be delineated to support a particular philosophical agenda?

Each student shall select a specific Kindergarten Methodology (from the list included below) as critical source material. In the spirit of the two earlier analytic topics a similar conceptual reading should be derived offering the student critical insight into the specific logic of this educational model.

01 Presentation Requirements

Drawings: (1-2) 22"x34" boards

All boards are to be comprised of the following representation material:

- 1 A selection of Key Terms specific to the conceptual findings in the project
- 2 Conceptual / Performative diagrams
- 3 Related Support Material (i.e. photos and diagrams of teaching instruments/tools)

01 Theories/Models of Child Development¹ - Models of Early-Childhood Education

An attempt to answer: how should cognitive change take place?

A. Behaviorist

Behaviorists focus on the way that the environment shapes an individual's behavior. Classical Conditioning creates an association between two different stimuli, so that the individual reacts in the same way to each stimulus.

Operant Conditioning uses reinforcement or punishment (associations on behavior) to shape or change the frequency of a behavior, and is frequently used in the classroom:

¹ http://amyglenn.com/Education/1311lectures.htm#PLANNING_&_ASSESSING

- Positive reinforcement provides a desirable response (i.e., a reward) to encourage the repetition of a desirable behavior.
- Negative reinforcement ends an undesirable situation as a way of rewarding behavioral change (e.g. allowing a child to return to the group when a disruptive behavior stops).
- Punishment provides an undesirable consequence to discourage the repetition of a behavior.
- Shaping behavior involves the use of operant conditioning to gradually change behavior through a series of incremental steps.

Because most Behaviorist approaches emphasize operant conditioning, the focus is on the environment. Direct Instruction, in which the teacher presents a stimulus or situation and then reinforces correct responses, is the preferred teaching technique. Characteristics of this approach are: fast pace, narrow focus on task, emphasis on rote verbal responses, continual feedback and heavy demands for attention.

This strategy is most successful for shaping behavior. These programs therefore focus on acquisition of specific, discrete facts and skills (rather than developing broad conceptual understanding). While focusing primarily on intellectual development, the goal of Behaviorist approaches is acquisition of specific facts and skills rather than generalized concepts. Content units are well defined and distinct (as compared with the broad integration seen in the Montessori program).

John B. Watson², B. F. Skinner, Edward Thorndike

B. Maturationist

Maturationism is an early childhood educational philosophy that sees the child as a growing organism and believes that the role of education is to passively support this growth rather than actively fill the child with information. The educator reacts to, and adjusts to the child.

Maturationists emphasize the innate limits and skills of each child recognizing that children at different ages have different kinds of learning experiences. The idea in maturationism is that genetic factors play a larger role in development than environmental ones, particularly in regard to language acquisition.

A Maturationist believes that development is largely predetermined, needing only time and minimal physical resources to unfold. This theory advocates testing to allow children of different abilities to be “matched” to appropriate programs.

A mix of maturationist and constructionist ideas supply the base theory for the Reggio Emilia approach.

Jean Jacques Rousseau, G. E. Ames, Andrew Ladenheim.

C. Constructivist

Constructivism is based on the proposition that the child is an active participant in constructing reality and not just a passive recorder of it. Children learn through constructing their own understanding. All knowledge is constructed through a process of reflective abstraction. Cognitive structures within the learner facilitate the process of learning. The cognitive structures in individuals are in a process of constant development.

Constructivist techniques emphasize children’s absolute freedom to experiment actively with materials in novel and personally meaningful ways.

The goal of Constructivist approaches is to foster conceptual development across all domains. The process of learning, particularly children’s active involvement and interest, is more important than the acquisition of specific facts and skills. Autonomy and self-direction are highly valued.

Because this approach emphasizes child autonomy and the match between child skills and the learning environment, instruction occurs primarily in small groups. Child interest plays a prominent role in determining activities.

² Watson views behavior as a matter of conditioned reflexes (reflexes are responses learned by classical conditioning). He denies instincts and that people are born with mental abilities or traits or predispositions. “What we are depends entirely on what we have learned.” Watson introduced the principles of frequency and recency. The principle of frequency states that the more frequently we have made a response to a specific stimulus, the more likely we are to make that response to that stimulus again. The principle of recency states that the more recently we have made a given response to a given stimulus, the more likely we are to make it again. Watson had a total lack of interest in reinforcement as causes of learning. He maintains that we learn a connection between a stimulus and a response simply because the two occur together, in contiguity.

Piaget³, Vygotsky⁴, Gardner⁵, Dewey⁶

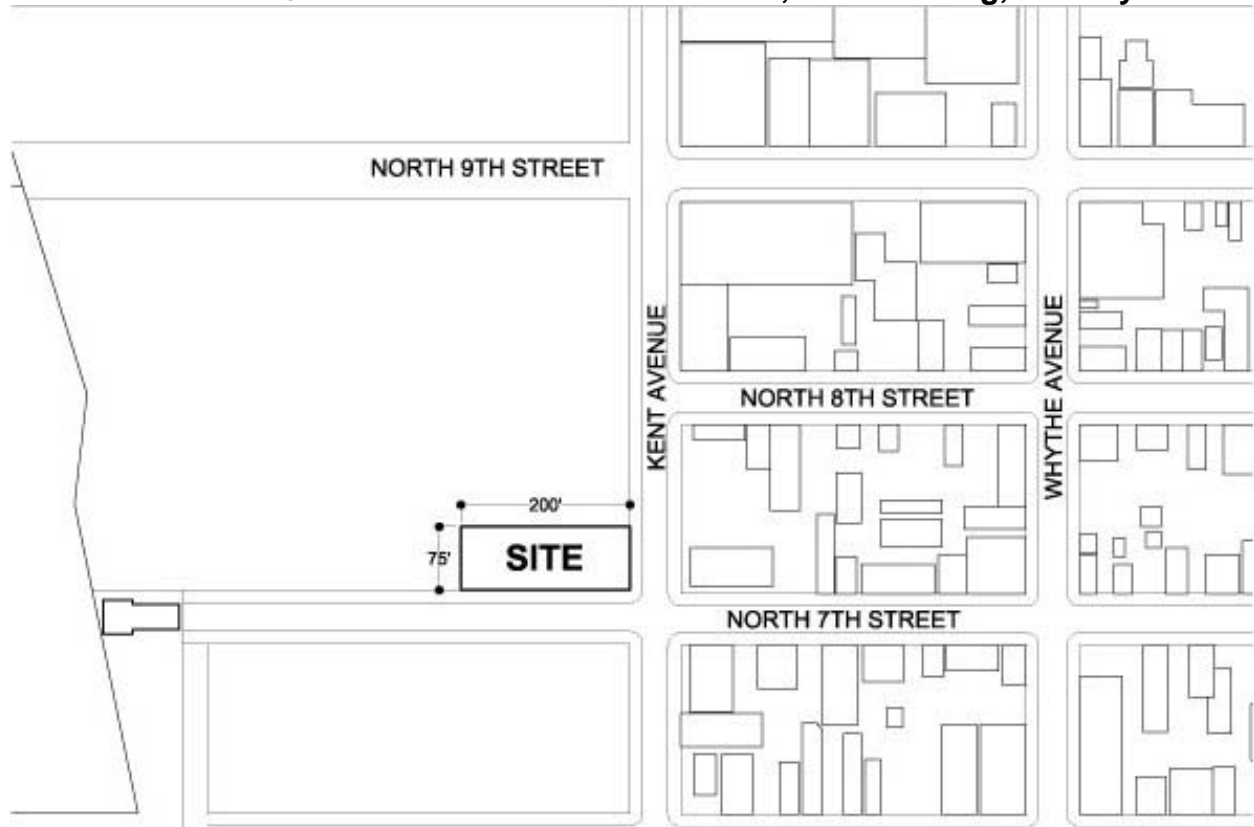
³ Piaget held that the growth of knowledge is a progressive construction of logically embedded structures superseding one another by a process of inclusion of lower, less powerful logical means into higher and more powerful ones up to adulthood. Therefore, children's logic and modes of thinking are initially entirely different from those of adults. Piaget held that children seek equilibrium through assimilation (fitting new information and experiences into existing mental structures) and through accommodation (changing mental structures to correspond to new information and experiences). Piaget referred to his view as "constructivism," because he believed that the acquisition of knowledge is a process of continuous self-construction.

⁴ Vygotsky viewed children as active learners, but his theory suggested a more active role for adults and other "experts". He distinguished the Zone of Proximal Development (ZPD) as the area between a child's current abilities (what the child can do on his/her own) and the child's potential (his/her ability with the assistance of an experienced adult). Vygotsky differentiates spontaneous knowledge (which children discover through interaction with the environment) and scientific knowledge (acquired in school), but emphasizes that these two sources interact and can relate to the same underlying concept.

⁵ Gardner identified nine different types of intelligence in order to identify children's learning strengths (and to further provide learning experiences that promote child development in all areas):
Linguistic intelligence is the capacity to use language to communicate.
Logical-mathematical intelligence reflects the ability to understand causal and numerical systems.
Spatial intelligence is the ability to create mental representations of external spatial relationships.
Bodily-kinesthetic intelligence is the capacity to use one's body to solve problems and to control one's movements.
Musical intelligence is the capacity to recognize and remember sound patterns.
Interpersonal intelligence is the understanding of other people (e.g. empathy, perspective taking)
Intrapersonal intelligence is the understanding of one's self.
Naturalist intelligence is the ability to discriminate among living things and be sensitive to aspects of the natural world.
Existentialist intelligence is a focus on fundamental questions about the meaningful life. This is the aspect of intelligence most recently recognized by the theory.

⁶ Darwin's approach to the study of the human organism largely influenced Dewey's scientific views. According to Dewey learning was driven by the learner's sense of disequilibrium (cognitive dissonance) when confronted with new experiences and ideas rather than by reinforcement. If real growth was to occur, the learner must want to learn and be active in the learning process. Dewey believed that traditional reinforcement of information only led to superficial learning. The educator is responsible for creating learning events in which the learner is presented with problematic situations, which he/she would be motivated to solve by learning.

Site: State Park @ Kent Avenue & North 7th Street, Williamsburg, Brooklyn



02 Site Analysis

A thorough analysis of the existing context should uncover a range of performative structures specific to this unique area in Brooklyn. Through an assessment of these relational systems using the kindergarten methodology guiding criteria (a manifesto), each student should be able to effectively strategize a series of design considerations and evaluation techniques as a critical response. These privileged topic/s as delineated in the newly constructed analytical drawings represent collectively essential foundational material as we move forward into a future design development phase.

02 Primary Analytical Themes

- 1 General Context (historical, cultural, political, social, etc.)
- 2 Spatial Organizational Logic (site geometry underlying material and immaterial systems)
- 3 Typological Analysis (assessment of existing building types)
- 4 Ecological Systems (coastline weather patterns, seashore erosion, tidal wave schedule)
- 5 Commerce Network (assessment of capitalist attractors throughout the neighborhood)

02 Potential Issues of Consideration Across Themes

- In the midst of globalization, how do we extract out the significant data of the given site? What is local or global?
- How do leisure sites function as cultural attractors?
- What are the terms of a negotiated relationship that combines commerce of this type and a residential neighborhood?
- What is defined as nature in a site like this? What is natural vs. artificial?
- How does various information related to the material infrastructure or rules and regulations that govern this space offer specific clues to the site (i.e. geography, environmental factors, property ownership, setback requirements, air rights, zoning restrictions, private property vs. public space, neighborhood / regional history)? How can the site be read from a perceptual or psychological perspective based upon the variety of constructed theaters dispersed across the site.

02 Presentation Requirements

Drawings: (2-4) 22"x34" boards

All boards are to be comprised of the following representation material:

- 1 A selection of Key Terms specific to the conceptual findings in the project
- 2 Conceptual / Performative diagrams
- 3 Measured analytical projections (plans, sections, elevations and/or isometrics and perspectives)

Note: 1 All diagrams and drawings should acquire a selection of key terms clarifying the essential conceptual value of the material.
2 Digital renderings are optional

Models: (3-4) 12"sq min. Analytic / Conceptual models

- 1 Identify a set of primary performative systems that can be modeled in 3-D
- 2 Select the appropriate material (w/ the guidance of your Instructor) capable of receiving these intentions as a spatial / relief drawing of the site.
- 3 Target an area of the site of significant importance, assign a scale to the model and build your conceptual site as a measured abstraction.

4 Consider the corresponding relation between the series of models as an archive of ideas.

02 Site History – Williamsburg, Brooklyn⁷

In 1638, the Dutch West India Company first purchased the area's land from the local Native Americans. In 1661, the company chartered the Town of Boswijck, including land that would later become Williamsburg. After the English takeover of New Netherland in 1664, the town's name was anglicized to Bushwick. During colonial times, villagers called the area "Bushwick Shore." This name lasted for about 140 years. Bushwick Shore was cut off from the other villages in Bushwick by Bushwick Creek to the north and by Cripplebush, a region of thick, boggy shrubland extending from Wallabout Creek to Newtown Creek, to the south and east. Bushwick residents called Bushwick Shore "the Strand(ed)." Farmers and gardeners from the other Bushwick villages sent their goods to Bushwick Shore to be ferried to New York City for sale via a market at present day Grand St. Bushwick Shore's favorable location close to New York City led to the creation of several farming developments. In 1802, real estate speculator Richard M. Woodhull acquired 13 acres (53,000 m²) near what would become Metropolitan Avenue, then North 2nd Street. He had Colonel Jonathan Williams, a U.S. Engineer, survey the property, and named it Williamsburgh (with an h at the end) in his honor. Originally a 13-acre development within Bushwick Shore, Williamsburgh rapidly expanded during the first half of the nineteenth century and eventually seceded from Bushwick and formed its own independent city.

Williamsburgh was incorporated as the Village of Williamsburgh within the Town of Bushwick in 1827. In two years it had a fire company, a post office and a population of over 1,000. The deep drafts along the East River encouraged industrialists, many from Germany, to build shipyards around Williamsburgh. Raw material was shipped in, and finished products were sent out of many factories straight to the docks. Several sugar barons built processing refineries. Now all are gone except the now-defunct Domino Sugar (formerly Havemeyer & Elder). Other important industries including shipbuilding and brewing.

Reflecting its increasing urbanization, Williamsburgh separated from Bushwick as the Town of Williamsburgh in 1840. It became the City of Williamsburgh in 1852, which was organized into three wards. The old First Ward roughly coincides with the South Side and the Second Ward with the North Side, with the modern boundary at Grand Street. The Third Ward was to the east of these, beginning to approach modern Eastern Williamsburg.

Brooklyn Union Gas in the early 20th century consolidated its producer gas production to Williamsburg at 370 Vandervoort Avenue, closing the Gowanus Canal gasworks. In the late 1970s an energy crisis led the company to build a syngas factory. Late in the century, facilities were built to import liquefied natural gas from overseas.

In 1855, the City of Williamsburgh, along with the adjoining Town of Bushwick, were annexed into the City of Brooklyn as the so-called Eastern District. The First Ward of Williamsburgh became Brooklyn's 13th Ward, the Second Ward Brooklyn's 14th Ward, and the Third Ward Brooklyn's 15th and 16th Wards.

In modern times the conception of Williamsburg (which lost its h with the Brooklyn merger) has expanded to cover areas not historically a part of the City of Williamsburgh. Much of what has later come to be understood as the heart of Williamsburg, the area south of Division Avenue in the west and Broadway in the east, was actually originally the Wallabout section of the City of Brooklyn. Also, much of what is today called East Williamsburg was originally organized as Brooklyn's 18th Ward from the Bushwick annexation, exclusive of the 27th and 28th Wards encompassing what is today called Bushwick, which were split off in 1892.

During its period as part of Brooklyn's Eastern District, the area achieved remarkable industrial, cultural, and economic growth, and local businesses thrived. Wealthy New Yorkers such as Cornelius Vanderbilt and railroad magnate Jim Fisk built shore-side mansions. Charles Pratt and his family founded the Pratt Institute, and the Astral Oil Works, which later became part of Standard Oil. Corning Glass Works was founded here before moving upstate to Corning, New York. Chemist Charles Pfizer founded Pfizer Pharmaceutical in Williamsburgh, and the company still maintains an industrial plant in the neighborhood, although its headquarters was moved to Manhattan in the 1960s. In 2008, it plans to close the plant, on a Flushing Avenue site it has used since 1849. Brooklyn's Broadway street, ending in the ferry to Manhattan, became the area's lifeline. At one point in the 19th century Williamsburg possessed 10% of the wealth of the United States and was the engine of American growth.

The Kings County Savings Institution was chartered on April 10, 1860. It conducted business in a building called Washington Hall until it purchased the lot on the corner of Bedford Avenue and Broadway and erected its permanent home, the Kings County Savings Bank building. This was the bank used by the wealthiest men in America. It remains to this day probably the most historically important landmark in Williamsburg, representing a time of conspicuous wealth and the industrial and financial strength of the American phenomenon.

⁷ http://en.wikipedia.org/wiki/Williamsburg,_Brooklyn

The intersection of Broadway, Flushing Avenue, and Graham Avenue was a cross-roads for many "inter-urbans", prior to World War I. The inter-urbans were light rail trollies, and ran from Long Island to Williamsburg. Bannerman's Department Store, the Macy's of its day, was on the site now occupied by Woodhull Hospital. the population was heavily German but many Jews from the Lower East side of Manhattan came to the area when the Williamsburgh Bridge was completed. Katz Drug Store, founded in 1898, remains on Graham Avenue and is still in business. Williamsburgh was a financial hub rivaling Wall Street for a time. The area around Peter Luger's Steak House was a major banking hub until the City of Brooklyn united with New York City.

In 1898 Brooklyn itself became one of five boroughs within the City of Greater New York, and its Williamsburg neighborhood was opened to closer connections with the rest of the new city. Just five years later, the opening of the Williamsburg Bridge in 1903 marked the real turning point in the area's history. The community was then opened up to thousands of upwardly mobile immigrants and second-generation Americans fleeing the overcrowded slum tenements of Manhattan's Lower East Side. Williamsburg itself soon became the most densely populated neighborhood in the United States.

After World War II, the economy sagged. Refugees from war-torn Europe began to stream into Brooklyn, including the Hasidim whose populations had been devastated in the Holocaust. The area south of Division Avenue is home to a large population of adherents to the Satmar Hasidic sect. Hispanics from Puerto Rico and the Dominican Republic also began to settle in Williamsburg. But with the decline of industry and the increase of population and poverty, crime and illegal drugs, Williamsburg became a cauldron of pent-up energies. Those who were able to move out did, and the area became known for its crime and other social ills.

From the mid-1930s to the 1960s, public housing projects replaced thousands of decaying buildings. In 1957, the building of the Brooklyn-Queens Expressway cut through the Williamsburg (as well as Red Hook and Greenpoint) community, destroying huge numbers of low-income, single and two-family homes.

The first artists moved to Williamsburg in the 1970s, drawn by the low rents, large spaces available and convenient transportation, one subway stop from Manhattan. This continued through the 1980s and increased significantly in the 1990s as earlier destinations such as SoHo and the East Village became gentrified. The community was small at first, but by 1996 Williamsburg had accumulated an artist population of about 3,000.

On May 11, 2005, the New York City Council passed a large-scale rezoning of the North Side and Greenpoint waterfront. Most of the neighborhood is now zoned for high density residential uses and mixed use in addition to the required public waterfront open space.

02 Bibliography – Williamsburg, Brooklyn

Department of City Planning: Greenpoint-Williamsburg Rezoning:
<http://www.nyc.gov/html/dcp/html/greenpointwill/greenoverview.shtml>
Reiss, Marcia; Williamsburg Neighborhood History Guide; Brooklyn Historical Society
Lederer, Victor; Williamsburg (NY) (Images of America); Arcadia Publishing; 2005
Mittelbach, Margaret & Crewdson Michael; Wild New York; Three Rivers Press; 1998
White Willensky, Elliot & White Willensky, Norval; American Institute of Architect's Guide to New York City; Harcourt; 1989
Caro, Robert A.; The Power Broker: Robert Moses and the Fall of New York; Vintage; 1975
Jacobs, Jane; The Death and Life of Great American Cities; Random House; 2002
White, E.B.; Here is New York; Little Bookroom; 2000
Potok, Chaim; The Chosen, Chelsea House Publications; 2004
Smith, Betty; A Tree Grows in Brooklyn; Harper Perennial Modern Classics; 2006

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02 Bibliography – Analysis

Allen, Stan. Points and Lines: diagrams and projects for the city, 1999
Cache, Bernard. Earth Moves, 1995
Barthes, Roland. The Responsibility of Forms: critical essays on music, art and representation, 1991
Ching, Francis. Architecture, Form, Space & Order, 1996
Thompson, D'arcy. On Growth and Form, 1942
Evans, Robin. The Projective Cast, Translations from Drawing to Building and Other Essays, 1995
Galluzzi, Paolo. Mechanical Marvels: Invention in the Age of Leonardo, 1987
Giedion, Sigfried. Mechanization Takes Command, 1969
Koolhaas, Rem. SMLXL, 1995
Libeskind, Daniel. Chamber Works, Micromegas
Salazar, Jaime (ed.). MVRDV at VPRO, 1999
Rowe, Colin. Mathematics of the Ideal Villa, 1976
Tufte, Edward. Envisioning Information, 1991

02 Bibliography – Field Conditions

Allen, Stan, Practice: architecture, technique and representation, G+B Arts International 2000
Branzi, Andrea, "No-Stop City" in Michael Hays, ed., Architecture Theory Since 1968, New York: Columbia Books of Architecture, 1998
Burns, Carol, "On Site", from ed. Andrea Kahn, Building Drawing Text. Essays in Architecture Theory, New York: Princeton Architectural Press, 1991
Corner, James, Recovering Landscape: Essays in Contemporary Landscape Architecture, Princeton Architectural Press, Nov 1999
Krauss, Rosalind, "Grids", from The Originality of the Avant-garde and other Modernists Myths, Cambridge, Mass: MIT Press, 1985, 8-22.
Wood, Denis, The Power of Maps, Guilford Press, October 1992

03 Architectural Precedent Research

In the context of enabling the student to discover and apply a range of conceptual and architectural propositions intrinsic to a range of precedent buildings within their respective projects, each student will be required to analyze one of the buildings provided on our selected list using the kindergarten methodology selected as guiding criteria, a manifesto. Students should be prepared to identify a range of performative principles underlying the logic of each of these significant buildings. Significant effort should be made to assess how any/or all of these ideas can be utilized analogically to develop a design proposal in the upcoming stages of the project.

03 Potential Issues of Consideration

Programmatic Affiliations

Play / Work / Rest Zones	(classrooms, athletic facilities, library)
Inside / Outside	(school building vs. outdoor playing fields)
Student / Teacher / Administration	(hierarchical systems of authority)
Program Sequence and Adjacency Logic	

Building Site Strategy

North / south orientation (direct vs. indirect sunlight)
Inside / outside correspondence
Orientation to street and neighborhood (accessibility and views)

Geometric / Morphological Strategy of the Building

- Proportional Systems
- Solid / Void Relationship
- Typological References

Circulation

- Strategy related to Programmatic Linkages (promoting specific affiliations)
- Hyper efficiency vs. Purposeful Delay (time based techniques)
- Inside / Outside Connections
- Public vs. Private Zones (primary vs. secondary systems)

Structure + Enclosure

- Building Assembly Systems (i.e. steel frame, truss, masonry, precast concrete, etc)
- Modular Structural Bay (i.e. free plan organization logic)
- Fenestration (i.e. cutout windows, glazed curtain wall)

Lighting

- Artificial vs. Natural
- Ambient / Theatrical Techniques
- Sequence of light to dark

03 Presentation Requirements

Drawings: (2-4) 22"x34" boards

All boards are to be comprised of the following representation material:

- 1 A selection of Key Terms specific to the conceptual findings in the project
- 2 Conceptual / Performative diagrams
- 3 Measured analytical projections (plans, sections, elevations and/or isometrics and perspectives)
- 4 Related Support Material (i.e. building photos at various scales)

Note: 1 All diagrams and drawings should acquire a selection of key terms clarifying the essential conceptual value of the material.
2 Digital renderings are optional.

03 School Precedents for Analysis (partial list)

Darmstadt School Project, Darmstadt, Germany, Hans Sharoun, 1951
Geschwister Scholl School, Lunen, Germany, Hans Sharoun, 1958-62
School at Marl-Drewer, Westphalia, Germany, Hans Sharoun, 1960-71
Corning Child Development Center, Corning, NY, Scogin Elam Bray. *Architecture Magazine*, July 1994
Diamond Ranch High School, Diamond Bar, CA, Morphosis. *Architecture Magazine*, Jan 1997
Strawberry Vale Elementary School, Victoria, BC, Patkau Architects. *Architecture Magazine*, Feb 1997
Altamira School, Santiago, Chile, Mathias Klotz. *Architecture Magazine*, July 2001
Milwaukee Montessori School, Milwaukee, WI, Studio Works. *Architecture Magazine*, April 1998
Amsterdam's Children Home, Aldo Van Eyck, 1955-60
Head Start School Competition, Reiser Umemoto, 1994
Elementary School, Fagnano Olana, Italy, Aldo Rossi, 1972-76
Secondary School. Broni, Italy, Aldo Rossi, 1979
Apollo Schools, Amsterdam, Herman Hertzberger 1981-83
Montessori School, Delft, Herman Hertzberger 1960-66
Petersschule, Basel, H. Meyer & Wittwer, 1926
KOL AMI Center, Will Bruder, (late 1990's)

Shiroishi Municipal No.2 Elementary School, Taro Ashihara & Ko Kitayamad, 1996
Long Beach International Elementary School, Morphosis + Thomas Blurock, 2002
Munkegaards Eshool, Arne Jacobsen, 1957

03 Bibliography – Schools

Brosterman, Norman. Inventing Kindergarten. New York; Abrams, 1997.
Dudek, Mark. Architecture of Schools, The New Learning Environments. Architectural Press, 2000.
Dudek, Mark. Kindergarten Architecture, Space for the Imagination. New York; Spon Press, 2000.
Educational Facilities, New Concepts in Architecture & Design. Meisei Publications, 1998.
Jones, Peter Blundel. Hans Sharoun. London; Phaidon, 1997'

PROJECTS 04 Classroom Module 05 Kindergarten Program

Due Date: October 22nd and 25th

04 Classroom Module

The purpose of this phase is to apply the performative logic identified in the previous analytic material into a concise spatial and syntactical assembly of architectural components. Committed to ideas as primary generative material, a variety of architectural expressions should emerge as evidence of the capacity of architecture to perform analogically as it moves forward from one stage to the next. Extracting out the single classroom as the smallest incremental module for learning the student will be challenged to consider a variety of conceptual and design strategies at a scale where the body is paramount. This attempt at a hyper-specificity intrinsic to the interiority of building is an invaluable lesson for the beginning student as they continuously move between bottom up and top down approaches.

04 Potential Issues of Consideration

- 1 How does a room negotiate its relational value to both the larger building /urban context beyond as well as the specificity of the human body?
- 2 What constitutes an architecture receptive to ergonomics?
- 3 How can one integrate the common rituals of the body (i.e. playing, resting, reclining, and walking) into the development of the surfaces and the section of the classroom module?
- 4 How does one define a 'module', and based on what criteria would this particular designed prototype initiate a family of corresponding siblings as proposed throughout the building complex?

05 Kindergarten Program

Students will be required to develop an organizational strategy for the distribution of events and activities that underlie a unique building dedicated to early childhood education. Conceptualizing program as a dynamic and fluid network of continuously changing relational structures the imperative to impose a regulating logic is an irrefutable necessity.

05 Potential Issues of Consideration

- 1 Do places of learning only reside within the classrooms in the school?
- 2 How does the regulation of program reinforce or inhibit natural tendencies (i.e authority, equality, etc.)

- 3 How does one utilize adjacency and sequence with respect to the distribution of program as critical forms of affiliation?
- 4 How will the organizational strategy that you conceive for your program address the educational priorities of the specific early kindergarten model you selected?

04/5 Presentation Requirements

Drawings: (2-4) 22"x34" boards

All boards are to be comprised of the following representation material:

- 1 A selection of Key Terms specific to the conceptual findings in the project
- 2 Conceptual / Performative diagrams
- 3 Measured analytical projections (plans, sections, elevations, isometrics and perspectives of the classroom module)
- 4 Digital renderings are optional.

Models: (3-4) 12"sq min. Analytic / Conceptual models

(2-3) 1/2"= 1"-0" Models of Classroom Module

Note: Model should be able to be disassembled in order to see full breadth of interior space and structural assembly.

(1) 1/2' =1"-0" Detail Model (of Classroom module)

Note: This model should highlight a significant detailed area in the classroom assembly that represents a significant spatial directive in anticipation in the development of the future building.

06 Kindergarten Building

Due Date: December 3 and 4

Project to be divided into phases: building concept (1 week), building schematic (2 weeks) and final building design (3 weeks) with pin-ups at each milestone/phase.

06 Introduction

One of the most critical issues this society continually faces is the education of our children. In the typical learning environment, child development may be understood as an actual process traditionally structured and facilitated by parents, teachers and administrators. This studio project will serve to communicate how this process of child development may also be facilitated and expressed through the designed environment. The architecture of schools in a consciously designed educational environment can connect with children in a way that encourages their own independent process of self development and critical inquiry.

06 Conceptual Framework

All studios are required to select a kindergarten methodology/child development philosophy to base their kindergarten tectonic upon. The study of this analogical system as related to a school precedent was studied in Project 02. Additionally, expand upon the structural and modular systems generated in Project 04 to formulate an articulated solution for a 10,000 sf kindergarten in the Williamsburg.

Provide a design that takes maximum advantage of the site and its layered history. The emergence of relevant urban form is the consequence of multiple layered coincidental and/or contradictory logics: old, new, popular, generic, specific, high, low, political, ideal, defective, practical, theoretical, pragmatic, dense, sparse... Relevant urban form embodies and retains at least one major contradiction within.

06 Child Development

- How does space-the interior and exterior of architecture contribute to and support the individual and group needs of childhood intellectual and emotional development?
- To what degree does it provide security and stimulation?
- To what degree does it allow for and support flexibility in curriculum activities?
- How does the architecture of the Kindergarten contribute to the 3-dimensional, material, structural and sensorial awareness and growth of the child?

06 Architectural Language

- How does one judge spaces for a new educational facility (what is the criteria)?
- What is the necessary degree of specificity for space to respond to the school typology?
- How do spatial and architectural assemblies start to address specific educational scenarios?
- What is the role of the studied precedent in the evolution of the specific kindergarten design?
- How does architecture respond to the educational philosophy and the related operations of the facility?
- How does it help to form the basis of sensorial memory?
- How is the important role of scale addressed in the physicality of the environment?
- How do ergonomics play a part?

06 Program

- What are the adjacency requirements?
- Which program elements need to be linked? Separated?
- What is the sequence of spaces from entry to classroom?
- What is the connection between inside and outside activities?

06 Site Context

- What is the relationship of the building to the site?
- What programmatic elements desire view and/or natural light?
- What elements require enclosure and/or intimate relation to the exterior?
- What topographical or contextual influences exist or should be taken into account?
- What is the relationship to the street and neighborhood?

06 Circulation System (stairs, ramps and corridors)

- How do various users, in particular children, approach and enter the school?
- Do the various users have different needs in regards to movement within and around the building and between various levels of site and building?
- In what way is the children's dismissal and exit different from their arrival?
- How are the various facilities serviced in an efficient way that does not interfere in the circulation?

06 Structural System (light frame steel, wood and concrete foundation system)

- How does the structural system respond to, and integrate with: program, site, building envelope?
- Are there any important roles for the structure to play as an integral part of the educational environment beyond simple pragmatic ones?

06 Enclosure System (panels, siding, cavity wall including fenestration)

- What types of enclosure systems are used?
- How are enclosure systems implemented to support a larger pedagogical idea?
- How is natural light modulated through the building and for what purpose?
- In what way is natural and artificial light manipulation a creative factor in the environment?
- How does fresh air enter the various spaces?

06 Programmatic Requirements

kindergarten building size: 10,000 sf with 4,000 sf outdoor area

<u>academic</u>	<u>6,300 sf</u>
- 5 classrooms* @ 25x30 each	3,750 sf
- cafeteria/multi-purpose room	1,300 sf
- music/arts room	1,250 sf
<u>administrative</u>	<u>1,000 sf</u>
- lobby	200 sf
- 3 offices @ 150 sf each	450 sf
- conference	250 sf
- 2 lavatories	100 sf
<u>service</u>	<u>1,700 sf</u>
- mep space	200 sf
- 2 lavatories for each classroom	500 sf
- Circulation	1,000 sf
<u>outdoor garden and play area</u>	<u>4,000 sf</u>
- 50% hardscape, 50% softscape	
- Open defined play surfaces	

*Classroom program areas

- Reading area with bookshelves
- Stage/play area
- Work tables - seating for 6 children each
- Teacher work area with 2 desks
- Clothing cubbies with changing area -1 for each child
- Display surfaces for display both vertical and horizontal
- Storage closets for materials

06 Presentation Requirements

Consistently formatted for all studio projects.

All materials produced to date during the semester, in addition to:

Design Statement	1 page typed
Plans (2)	1/8"=1'-0"
Cross Sections (3)	1/8"=1'-0"
Long Sections (3)	1/8"=1'-0"

Studio Site model ⁸	1/8"=1'-0"
Study Models (2)	1/8"=1'-0"
Final Model	1/8"=1'-0"

Related diagrams (3)
Perspective/axonometric/
isometric views/composites (2)

Additional presentation deliverables at individual instructor's discretion.

⁸ See attached instruction sheet for site model size, materials and fabrication method.

Semester Schedule

Consecutive & interrelated phases of a design process guide a coherent design development of the kindergarten.

Week One

August 27	Monday	Studio Selection Day, Project #1 Issued
August 30	Thursday	In Class Review

Week Two

September 3	Monday	Labor Day (No Classes)
September 7	Thursday	In Class Review

Week Three

September 10	Monday	In Class Review
September 13	Thursday	In Class Review

Week Four

September 17	Monday	Projects 01, 02, 03 Review, Projects 04, 05 Issued
September 20	Thursday	Projects 01, 02, 03 Review, Projects 04, 05 Issued

Studio	Day	Time	Guest critic
Jonas Coersmeier w/Onur Gun	Mon 9/17	2-6	E. Hinrichs
Jeremy Carvalho w/Onur Gun	Mon 9/17	2-6	D. Zoric
Kari Anderson	Mon 9/17	2-6	A. Chun
Dragana Zoric	Mon 9/17	2-6	E. Limon
Erika Hinrichs	Thu 9/20	2-6	J. Coersmeier
Alice Chun	Thu 9/20	9-1	K. Anderson
Enrique Limon	Thu 9/20	2-6	J. Carvalho

Week Five

September 24	Monday	In Class Review
September 27	Thursday	In Class Review

Week Six

October 1	Monday	In Class Review
October 4	Thursday	In Class Review

Week Seven

October 8	Monday	In Class Review
October 11	Thursday	In Class Review

Week Eight

October 14	Monday	In Class Review
October 18	Thursday	In Class Review

Week Nine

October 22 Monday
 October 25 Thursday

Projects 03, 04, 05 Review - Midterm Review, Project 06 Issued
Projects 03, 04, 05 Review - Midterm Review, Project 06 Issued

Studio	Day	Time	Guest critic
Jonas Coersmeier w/Onur Gun	Mon 10/22	2-6	D. Zoric
Jeremy Carvalho w/Onur Gun	Mon 10/22	2-6	A. Chun
Kari Anderson	Thu 10/25	2-6	E. Limon
Dragana Zoric	Thu 10/25	2-6	J. Coersmeier
Erika Hinrichs	Thu 10/25	2-6	J. Carvalho
Alice Chun	Mon 10/22	9-1	E. Hinrichs
Enrique Limon	Mon 10/22	2-6	K. Anderson

Week Ten

October 29 Monday
 November 1 Thursday

In Class Review
 In Class Review

Week Eleven

November 5 Monday
 November 8 Thursday

In Class Review
 In Class Review

Week Twelve

November 12 Monday
 November 15 Thursday

In Class Review
 In Class Review

Week Thirteen

November 19 Monday
 November 22 Thursday

In Class Review
 Thanksgiving Day – No Classes

Week Fourteen

November 26 Monday
 November 29 Thursday

In Class Review
 In Class Review

Week Fifteen

December 3 Monday
 December 4 Tuesday

Final Review - Project 06
Final Review - Project 06

Studio	Day	Time	Guest critic
Jonas Coersmeier w/Onur Gun	Mon 12/3	2-6	J. Carvalho
Jeremy Carvalho w/Onur Gun	Tue 12/4	2-6	J. Coersmeier
Kari Anderson	Mon 12/3	2-6	D. Zoric
Dragana Zoric	Tue 12/4	2-6	K. Anderson
Erika Hinrichs	Tue 12/4	2-6	A. Chun
Alice Chun	Mon 12/3	9-1	E. Limon
Enrique Limon	Mon 12/4	2-6	E. Hinrichs