

**SECTION 6:**

**ABRIDGED COURSE SYLLABI**  
CARNEGIE MELLON UNIVERSITY 2007 - 2011  
(reverse chronological order)

# STUDIO 48-205 / 2011

## Architecture Second Year Spring

Carnegie Mellon University

### Course Information

Coordinator: Jeremy Ficca jficca@cmu.edu  
Office hours: M/F 11:30-12:30 MMCH 301A (by appointment)

Instructors: Teresa Bucco tbucco@andrew.cmu.edu Jeff King jeff@edge-studio.com  
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*Practicing architecture is asking oneself questions, finding one's own answers with the help of the teacher, whittling down and finding solutions. Over and over again.*  
-Peter Zumthor

### Overview

While architecture principally exists within the physical realm and as such is bound by the laws of nature, the work of the architect is often removed from these realities. This inherent "distance" allows abstraction and affords opportunities to question convention but can also splinter architecture between ideas and matter. This split can be further compounded in the academic context, where the end result is not built form, but rather a collection of lessons, speculations and questions. Over time, the pendulum has swung between these two poles, pulled by economics, social agendas and technology, to mention but a few. While materiality and material processing serve as the centerpiece of much contemporary architecture, great architecture throughout history has relied upon forms of material reality to heighten ones awareness of their surrounding and transform the everyday into the spectacular.

As part of the core studio sequence, this studio builds upon the content of previous studios and seeks to impart students with a working methodology engaged in the material reality of architecture. As such, the lessons from previous studios related to conceptual, technical, urban and societal issues will be relied upon to promote a holistic understanding of the design process in which multiple factors are simultaneously in play and interdependent. This studio will explore design as a critical and reflective process of questioning, reasoning and testing.

### Considerations

- Move beyond self expressionism, make your work about more than you
- Resourcefulness > talent
- Allow the rich discourse of architecture to infect your work
- Don't ponder without activity
- Don't work without thinking
- Spatial complexity > Visual Complexity
- Allow conception (what) and implementation (how) to inform each other
- Know the current state of your project by knowing its past
- Respect your studio and recognize the impact your work environment has upon your process
- Recognize the instruments of process affect your understanding of your work – change them often
- Invent and adopt design strategies
- Record and know the evolution of your work

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## Course Content

### Projects and Assignments

Project 1: **Apertures (three elements of architecture)**  
Project 2: **Performative Component**  
Project 3: **Boston Research / Typology Research**  
Project 4: **Resonance**

### Design Process

As a young architect, it is essential to understand the evolution of your projects on a DAILY basis. This is particularly critical through the use of digital media, which can ironically; make a chronological documentation more difficult by privileging a constant state of the present. At issue is your ability to "know" your project and the past decisions that have led you to the current state of your project. You will be expected to concisely document your project on a daily basis. This should include all forms of relevant media (sketches, drawings, model photos, renderings, etc.) for where your project is at that point in time. Tabloid (11x17) sized paper will serve as the format.

### Lectures

A studio wide lecture series will typically occur on Mondays, 1:30 – 2:20 in MM 103. These lectures will address topics related to studio themes and serve as a basis to foster studio wide discussions. You are required to attend every lecture. Furthermore, you are also expected to attend the School of Architecture lecture series that brings an outstanding collection of diverse thinkers to campus.

### Readings

Various readings will be distributed over the semester. Your time is well spent not letting them collect dust. Invest in three-ring binder and keep the readings for future reference.

## Course Organization

### Desk Crits

During this time studio instructors will meet with each student individually, at their desk, to discuss their work. On average this will occur once a week, over the span of two days for about 15min. At the beginning of each week a sign-up sheet with blocks of time will be posted.

### Studio Discussions and Involvement

An important component of studio culture is lively discourse. Studio instructors will regularly meet as a studio to discuss historical and contemporary issues pertinent to work within studio. Everyone is expected to engage in these discussions and contribute material in support of their own interests.

### Reference Material

Books, articles and other reference material covered in studio are on reserve in the library. You are expected to become familiar with this material over the course of the semester. **Additionally, each student is expected to have a different relevant library book on his or her desk each week.**

### Studio Pin-Up Discussions

Each studio will regularly meet to discuss all of the work in the studio. Students are expected to explain the current status of their work and engage in discussion about the work. On average this will occur about once a week for a few hours.

### End of Project Final Review

At the completion of studio projects there will be a final review. Other faculty members from within the College of Design and guests from outside the University will act as critics. Students are expected to clearly and concisely present their work and

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respond to comments initiated by the critics. Take care to layout and plan your presentation. **Move beyond plotter limits and do not simply plot one sheet and hang it on the wall.**

## Field Trip

There is a studio wide field trip to Boston March 25 – 27. All students are strongly encouraged to attend. See attached document for additional information.

## Online Blog

There will be an online blog to assist with course instruction and foster inter-studio discussion. Specifics forthcoming.

## Studio Culture and Policy

Design studio is the core of architectural education and provides the venue through which students synthesize course work in the context of design problems. Studio based learning is increasingly recognized and adopted by other disciplines due to its effectiveness as a instrument of collaboration and hub of learning. Architectural education has long relied upon this educational model to foster discourse, create a vibrant learning environment and energize the collective identity of a school. While higher education continues to evolve in light of technological advancements, the existence of the studio remains as important as ever. It does not stand in opposition to an increasingly ever present online world, but rather has the potential to evolve, extend and take on more relevance through these tools. Our aim is to create a vibrant, experimental and respectful studio culture. All students are expected to uphold the highest standards of behavior and academic discipline.

## Room Assignments

The second year studios are located on the third floor of Margaret Morrison Carnegie Hall (MMCH). Each studio section will have pinup space and the main storage wall will act as a pinup / group discussion area. This space must be kept clear and uncluttered.

## Work Environment

The orderly appearance and functional effectiveness of the physical environment of the studio are essential to a pleasant and productive studio experience. Good circulation and working space should be available for all students. Isolated enclosures are not appropriate. **You can't effectively work if your desk and surrounding area are a mess.** You will need to equip yourself with proper drawing and model building tools, which should be in place by the second studio meeting. These would include, such things as: parallel bars, triangles, scales, drawing pencils, cutting bases, mat knives, and a straight edge for cutting mat board.

## Working in Studio

To benefit the most from our guidance, you should take the time to be organized and prepared for desk crits. Have a clean work surface; have the artifacts (models and drawings) you wish to discuss readily at hand; do not rely only on digital displays on a monitor to convey your design ideas. Prepare a list of questions or issues you would like to address; have a roll of trace, relevant scales, and any relevant references available. But most importantly, undertake your design process as one of constant making. **Architectural ideas only become real and available for exploration and discussion once they have become manifest. The production of artifacts that record your thought process IS the design process. If you are not producing drawings and models you are not designing.** This process requires continuity and repetition to be successful; therefore we expect to see substantial amounts of new work at each studio meeting. A student's work pace varies widely from one individual to the next; you know best how much time you need. However, in order to meet the goals of this studio each person should plan to devote a **minimum** of 20 hours per week in addition to required studio meeting times to the development of his or her studio work.

## Attendance

Scheduled studio time is critical. We expect that each student be in studio during the scheduled class time. Inherent to the nature of studio are impromptu meetings and discussions; therefore, students **must** plan on being in studio from 1:30pm – 4:20pm. A visit to the nurse or doctor is considered an absence. **MORE THAN THREE UNEXCUSED ATTENDANCES CAN RESULT IN AUTOMATIC FAILURE OF THE COURSE. EACH STUDENT IS REQUIRED TO PRESENT AT PROJECT FINAL REVIEWS. FAILURE TO DO SO WILL RESULT IN A FAILING GRADE FOR THAT PROJECT.** Attendance for the entire

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duration of all pin-ups and reviews is required unless excused by your instructors. This may occasionally run past 4:20pm. Your attention during classmates' presentations shows common courtesy to your peers and often yields fresh ideas and methods applicable to your own work. You are strongly encouraged to do all after-hours project work in the studio. It is well established that almost all students benefit from this practice. Esprit de corps is enhanced and much is gained from interactions with, and insights of, classmates. **Lastly, you should enjoy studio, look forward to our time together and appreciate the interaction with your colleagues, this is what you are going to school for.**

## Studio Rules

Use of cell phones, pagers and all other communication devices is prohibited during scheduled studio time. Overhearing other desk crits can be useful. However, if you must listen to music please respect those around you and wear headphones during scheduled studio time. Respect your collective studio space and refrain from using spray paint and spray adhesive in the studio.

## Personal Responsibility

Each instructor will see students on a weekly basis in the context of pin-ups, reviews, or through desk crits. However, it is your responsibility to ensure you are receiving the attention you need, and to bring to the attention of one of the instructors any specific problem or issue you wish to discuss.

## Work Ethic and Completion of Work

In addition to class time, each student is expected to devote at least 20 hours a week towards studio AT A MINIMUM. The amount of time put forth toward each project is most often directly related to the quality and thoughtfulness of that which is produced. Students should be prepared to discuss some facet of their work at any given time and are expected to regularly produce new work. Final reviews mark the formal endpoint for each project. They are the forums for students to develop presentation skills and engage in critical discourse. All students are expected to bring their work to a documented level of completion for final reviews.

## Coordinated Teaching

While each student will have a primary studio instructor, there will be a great deal of interaction amongst the studios. You will be asked to engage with faculty and students throughout the second year. Furthermore, the studio coordinator will regularly engage in each of the studio sections.

## School Wide Lectures and Events

Each student is expected to attend School of Architecture lectures and events. Attendance will be logged and factored into the 'studio participation' portion of your grade.

## Syllabus and Course Schedule

The nature of studio-based education at times requires adjustments to project scope and schedules. While every effort has been made to establish a semester schedule, the coordinator and instructors reserve the right to adjust as necessary.

## Communication

Students should use email to set appointments for discussion rather than as a forum to complain. In-person communication is preferable to email to discuss and resolve problems. You are an adult enrolled in a professional degree program. As such, we expect all students will conduct themselves professionally and think before speaking or writing emails. Concerns and problems regarding studio should be first addressed to your studio instructor and secondarily the coordinator.

## Special Needs

Students with any documented medical, psychological, or learning conditions that require special classroom accommodations should see the coordinator as soon as possible. If an emergency arises, please also contact the coordinator as soon as the situation allows.

## Code of Conduct

Students are responsible for familiarizing themselves with Carnegie Mellon's academic policies. Misconduct, dishonesty, plagiarism, and cheating will not be tolerated and will lead to failure of the course as well as reporting to the head of the department.

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## Evaluation and Grading

Grades will be assigned based on each student's comprehension, self-direction in response to criticism, commitment to imaginative exploration and problem solving, dedication to refinement and completion, and excellence in communication in terms of graphic, written, and verbal resolution.

### Grading Considerations

#### Design Rigor

- Have the range of design issues appropriate to the level of the studio and project duration effectively been addressed?
- Do the project and the student's defense of the project show the results of a rigorous design process?
- Did the student tap into and reference the discourse of architecture through their work?

#### Presentation

- Did the student recognize and communicate the essential aspects of their project?
- Is the presentation consistent? Is it clear and understandable?
- Can the drawings be read from 10 feet away? Is the amount of detail appropriate for the scale?
- Were media used effectively?
- Does the presentation convey the experiential aspects of the project?
- Does the presentation challenge conventions of representation?

#### Effort

- Did the student work to his/her potential?
- Did the student take initiative to seek out resources, images and ideas?
- Was the student willing to challenge stereotypes and consider fresh alternatives?
- Was the student ambitious with the design, reaching far and grasping a solution?
- Did the student contribute to class discussions, class activities, and the general studio environment?
- Did the student engage in discussion on course readings?

#### Quality

- The final **product** is also very important. It represents your insight, your judgment, your commitment, and your craft. It also represents your ability to make decisions and bring things to closure. No architect can function without the ability to document high quality concepts through high quality artifacts.

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## Grading Standards

- A** Superior design process and product. Student has far exceeded requirements and expectations for the studio. Self-motivation, breadth of knowledge relating to architectural design issues, and ability to create inspired design solutions is clearly evident. Contribution to the studio environment is in a leadership capacity. Ability to present ideas through drawing, modeling, and verbal means exhibit the highest level of achievement commensurate with a final project. The hallmark of an A student is the passion to question and critique him or herself and to pursue new ideas and/or technical skills. Given the emphasis in this studio, excellence regarding conceptual rigor and design strategies must be evident.
- B** Better than satisfactory design process and product. Student has met the requirements and expectations of the studio with distinction. Drawing and modeling skills are highly developed. Student is a positive and active member in the studio environment.
- C** Adequate competence relative to design process and product. Satisfactorily meets the stated requirements of the course; all work is complete and on time. This grade represents the average solution.
- D** Marginally meets the stated requirements of the project or course; work is incomplete and/or late. Work fails to sufficiently demonstrate understanding and execution of the concepts and skills required for the studio.
- R** Work is unsatisfactory and fails to meet stated requirements of the project or studio.

## Grading Distribution

According to departmental policy, your studio instructor is responsible for assigning the majority of your grade, and will be focused on the "process" (this includes sketchbooks, exercises, class participation, willingness to explore, your enthusiasm and passion for the subject), but will also be asked to assign a final "product" grade. The coordinator, who is responsible for the pedagogy of the entire studio, will assign a grade that includes both process and product, and will seek the advice of the other instructors, other School faculty, as well as outside critics with respect to the grade.

The final grade will be weighted as follows:

	Instructor	Coordinator	Total
Project 1	15%	5%	20%
Project 2	15%	10%	25%
Project 3	5%	5%	10%
Project 4	30%	15%	45%
<b>Total</b>	<b>70%</b>	<b>30%</b>	<b>100%</b>

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### PROJECT 1 – Apertures (the three elements of architecture)

By nature of its physical existence, every piece of architecture establishes relationships with the earth and the sky. Within this newly formed spatial realm, an occupant's understanding of these relationships is heightened or suppressed through breaks within the constructed elements of plinth, wall and roof. These become the most fundamental elements for the creation of space. Throughout the history of architecture one can decipher design strategies based upon these elements and informed by material use and technology.

This first project will explore the relationships between materiality, form and experience and must consider how architecture relates to ground, sky and context through strategies of plinth, roof and opening. Particular attention will be directed on the spatial, structural and sensual performance of materials. We will interrogate and explore architecture's materiality, ultimately establishing and expressing material relationships revealed through fundamental architectonic conditions.

#### Project:

Amidst the extensive raw beauty of the New Hampshire White Mountains you are charged with programming and developing a space for physical and mental relaxation, a sequence of spaces that foster singular and collective experiences connected with the surrounding natural environment. A portion of the program must operate as a therapeutic spa that principally involves water.

#### Program Requirements:

- Total constructed floor area should not be greater than 2000 sf.
- Must be an all season structure, siting should take into account significant snow-depth
- Capable of housing up to 20 people at any given time
- Must meet ADA requirements for grade and level change
- Need not be entirely conditioned, however, the pool must be heated
- Entry must be securable to prevent vandalism
- Must require little maintenance and take into account material weathering

#### Material Limits:

The palate of materials should be restrained with, one acting as a primary material.  
Available materials are: Concrete / Stone, Wood, Metal, Glass

**Site:** North bank of Saco Lake situated within Crawford Notch amidst the White Mountains of New Hampshire

#### Process: models, models, models

Methods for design, evaluation and communication will principally be models

#### Schedule:

Jan 12	Project distributed
Jan 19	Pinup of 3 clear design strategies, including the following for each strategy: 1/16" model renderings / collages that communicate the material quality / phenomena, in relationship to the site
Jan 24	mid-project review, including the following: ¼" shaded horizontal section ¼" section perspective
Jan 31	Pinup – everything underway
Feb 7	Review

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#### Deliverables:

##### 1/8" scale model

You will best understand and communicate this project through physical model. The model is THE primary artifact for your review and must be of an exceptional level of craft. Careful consideration should be given to the representation of fundamental material characteristics such as mass, texture, reflectivity and color. This model MUST reveal how your project operates at the material, building and site scale. As such, site information must be included.

##### ¼" section perspective

This is your opportunity to document the play of light within your project.

##### > 3 Collages

The strategy of apertures and the resultant relationship to the landscape must be made evident.

##### ¼" shaded horizontal section

Material characteristics must be evident.

##### Wild card

You get to choose an additional artifact to communicate your project. The only requirement is that it must include site context.

#### Reading 1 – Elements of Architecture

in Constructing Architecture, Materials Processes and Structures  
Andrea Deplazes (ed.)  
pgs. 153-170

#### Reading 2 – For and against the long window

in Constructing Architecture, Materials Processes and Structures  
Bruno Reichlin  
pgs. 233-250

#### Reading 3 – A way of looking at things

in Thinking Architecture  
Peter Zumthor  
pgs. 9-26

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### PROJECT 2 – Event Space / Performative Component [Media / Information Center at Harvard Square]

#### Context:

Harvard Square is the historic center of Cambridge Massachusetts and has long served as a cultural epicenter serving the surrounding locale of west Cambridge. It is a point of convergence between diverse groups of residents, students, academics, tourists, street performers and urban nomads. While the area referred to as Harvard Square has grown to encompass the surrounding urban fabric, the transit stop located at the convergence of Massachusetts Ave, Brattle Street and JFK Street served as a primary force in establishing the current site. Initially a transit island for an MTA Trolley Stop, the site later transformed with the establishment of the underground Red Line 'T' subway. The kiosk, originally built in 1928, served as the entry point to the underground platform. The expansion of the of the subway stop in the mid 1980's led to the growth of the current pedestrian "square" and relocation of the subway entrance from the historic kiosk to an open air covered stair and escalator. A long-standing fixture of the square has been the Out of Town News stand, which has for decades provided print media from across the globe to locals. Originally housed in a humble structure adjacent to the MTA kiosk, Out of Town News moved to the National Historic Landmark kiosk with the reorganization of the subway entrance in 1985. Within the past decade, the ease of online information access and general decline of print media has had a devastating impact upon sales and calls into question the traditional business model. On the verge of bankruptcy in 2008, Out of Town News has, for the time-being been preserved through new ownership in 2009.

#### Project:

The city of Cambridge in conjunction with the MBTA has concluded the current site programming is outdated and does not leverage available media trends. Furthermore, the site structures and paving are deteriorating and in need of replacement. The historic MTA kiosk will be permanently relocated off site to allow for more extensive site redesign. You are charged with creating a space to serve as an interactive media visitor / information center while also addressing pedestrian flow patterns through the redesign of the ground plane, subway entrance canopy and elevator. Additionally, you are challenged to design a single building element that investigates a performative use of pre-cast cementitious materials. Performative parameters can focus on, but are not limited to design objectives such as structural capacity, natural and artificial light flow, thermal mass, water collection and the interaction of the body with urban fabric / architecture.

#### Program Requirements:

- Interactive media visitor / information center 1000 sq. ft. of conditioned space – open 9am - dusk
  - o Includes:
    - Information kiosk / desk staffed by 1 volunteer
    - 1 Private restroom, 30 sq. ft.
    - Server Room / Electrical Closet / Mechanical Room, 120 sq. ft.
    - Area of low light for 10' x 20' interactive media table
    - Space for (4) 60" wide LCD screens arranged horizontally, edge to edge
    - Sitting surface of at least 10 ft. in length, positioned for viewing of LCD screens
- Subway entrance canopy
  - o Meeting the following criteria
    - At least 25 ft. x 25 ft.
    - Fully covering existing stair / escalator
    - Lockable threshold to prevent access while MBTA is closed
- Subway station elevator
  - o Meeting the following criteria
    - 8' x 8' elevator shaft footprint in existing location
    - Top of elevator shaft is 14' above adjacent grade
- Lumen Eclipse exterior public media video arts surface
  - o Meeting the following criteria
    - Aspect ratio of 16:9 horizontal orientation
    - No taller than 8'
    - Operating from dusk to 2AM

#### Site Requirements:

- Current site boundary shall not be changed. Crosswalk locations and curb cuts must be preserved
- While the current ground treatment will be replaced, the grade change from street to subway entrance must be resolved. Reference site drawing for benchmark elevations.
- The current artificial lighting fixtures on the site can be removed. A site lighting strategy must be developed to ensure adequate and safe artificial light levels
- The taxi pickup / drop-off on the northeastern portion of the site must be preserved

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<b>Schedule:</b>	Feb 9	Project Introduction / groups formed
	Feb 11	TAKTL field trip
		CNC workshop 1 (5:15pm – 6:00pm)
	Feb 14	Pinup site analysis / Project positioning / Site & program strategies
		Deliverables: Four site strategies taking into consideration all project requirements modeled at 1/16" : 1'-0" including adjacent streets and building context
		Plan diagrams of circulation flow, events and program during the day and evening
		CNC workshop 2 (4:30pm – 5:15pm)
		CNC workshop 3 (5:15pm – 5:50pm)
	Feb 16	Meet as project groups with instructor
		CNC workshop 4 (4:30pm – 5:15pm)
		CNC workshop 5 (5:15pm – 6:00pm)
	Feb 18	Interim Review –PreMill Prototype
	Feb 23	Interim Review – Prototypes and building scale implementation strategy
	Feb 25	Meet as project groups with instructor
	Mar 2	Project Final Review

#### Reading 1 - Spatial Sequence and Event:

Architecture and Disjunction  
Bernard Tschumi  
pgs. 153-170

#### Reading 2 – Programming the Urban Surface:

Recovering Landscape, Essays in Contemporary Landscape Architecture  
James Corner  
pgs. 233-250

#### Reading 3 - Spectacle, Vision and Perception:

Martin Jay, Scopic Regimes of Modernity, in Vision and Visuality,  
Hal Foster editor  
pgs. 3-27

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## PROJECT 3 – Dance School and Performance Center

*An art process is not essentially a natural process; it is an invented one. It can take actions of organization from the way nature functions, but essentially man invents the process. And from or for that process he derives a discipline to make and keep the process functioning. That discipline too is not a natural process. The daily discipline, the continued keeping of the elasticity of the muscles, the continued control of the mind over the body's actions, the constant hoped-for flow of the spirit into physical movement, both new and renewed, is not a natural way. It is unnatural in its demands on all the sources of energy. But the final synthesis can be a natural one, natural in the sense that the mind, body and spirit function as one.*  
-Merce Cunningham

### Project Positioning:

Theater, film, dance and architecture have long been intertwined; each mobilizes spatial and temporal modes of perception while articulating lived space. While music has traditionally been seen as architecture's most allied art, one can argue visual performance and dance has had the most significant impact upon contemporary discourse as is made evident in the work of contemporary architects such as Bernard Tschumi, Rem Koolhaas and Jean Nouvel. Here, the contemporary dialog surrounding conditions of event; simultaneity and superimposition are influenced by spatial / time-based forms of media.

### Program Positioning:

Traditionally, most performance venues are not associated with a particular theater or dance company, allowing a great deal of flexibility and profitability due to a broad range of event types. An unfortunate consequence of many performance venues is the disproportioned lack of use due to a singular focused activity, performance. The hybrid program you are asked to address, Dance School and Performance Center seeks to operate as an active hub for education, training and performance. As such it should encourage a reassessment of the distinctions between spaces of education and spaces for performance.

### Site Positioning:

While condensed in area, the theatre district in downtown Boston is home to the majority of the theatrical performance venues in Boston. This once neglected and "seedy" district (referred to as the Combat Zone) has transformed dramatically over the past 30 years as rising property values, scarcity of buildable land and political pressure has forever changed the social and physical makeup of the district.

The site, located mid-block on the west side of Tremont Street, sits directly adjacent to the Shubert Theatre and currently consists of a series of local businesses. You are to assume the existing building, to the party walls of the Shubert Theater will be demolished. While the historic façade and lobby of the Shubert Theater should remain, strong arguments for its removal will be entertained. The alleys on either side of the theater site must remain active.

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## Program Requirements:

- **Teaching / Rehearsing [4000 sq. ft. total]**
- Lecture / meeting room
- Studios: (4)
- Changing Areas with showers:
  - male students
  - female students
  - male faculty
  - female faculty
- Lounge
- Stretching / Exercise
- **Exhibition / Performance Spaces [6000 sq. ft. total]**
- Lobby
- Gallery
- Flex performance space
- Seating 100 people
- Restrooms
- Dressing Rooms
- Private restrooms
- Ticketing
- Storage
- **Administration Spaces [3000 sq. ft.]**
- Offices
- Restrooms
- Storage
- **Support Spaces [3750 sq. ft.]**
- Circulation 20% total area +/-
- Mechanical 10% total area +/-

### Reading 1 – Spaces, Events and Limits

Architecture and Disjunction  
Bernard Tschumi  
pgs. 25-81, 141-152

### Reading 2 – On Theatrics and Trace

Privacy and Publicity - Interior  
Beatrice Colomina  
pgs. 233-282

### Reading 3 - Spectacle, Vision and Perception:

Martin Jay, Scopic Regimes of Modernity, in Vision and Visuality,  
Hal Foster editor  
pgs. 3-27

### Reading 4 - Lessons:

Lessons to Students in Architecture  
Herman Hertzberger  
All of it!

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### PROJECT 2 – Performative Component

#### [A Visitor Center / Gate House for the Farnsworth House]

*“Living in this house I have gradually become aware of a very special phenomenon: the man made environment and the natural environment are here permitted to respond to, and to interact with each other. While this may derive from the dogma of Rousseau or the writings of Thoreau, the effect is essentially the same: that of being at one with Nature, in its broadest sense, and with oneself.”*

– Peter Palumbo

*“Architecture depends on facts, but its real field of activity lies in the realm of significance.”*

– Mies van der Rohe

The Farnsworth house stands as arguably one of the most potent examples of international style high modernism. A machine for experiencing nature, this modestly scaled residence embodies the ideals of Mies van der Rohe's work and the relationships between man and nature and architecture and landscape. It is the culmination of a refined tectonic language that simultaneously distances and collapses the connection between person and landscape. Ironically, the natural context that so charges one's experience of the house, increasingly threatens its very existence through seasonal flooding and erosion.

#### Project:

You are charged with reconsidering the current information center and the subsequent arrival experience for tourists visiting the home. This new visitor center / gate-house will replace the current 'barn' structure and also include modest living quarters. Additionally, you are challenged to design a single building element that investigates an innovative use of cement-based materials to achieve sustainable solutions to real-world environmental challenges. This allows for the design of a single element, component, or methodology of a project using cement-based products. Design concepts can focus on, but are not limited to, such sustainable design objectives as durability; recyclability; reduced site disturbance; water management; optimized energy performance.

#### Positioning:

Given the historical significance of the Farnsworth House, your projects must address the house on some level. This is irrespective of the physical distance of your project from the existing structure and does not necessitate the deployment of a similar tectonic strategy. The very nature of the materiality of this investigation presents a distinctly different set of tectonic issues.

#### Program Requirements:

- Gift Shop: 400 sq. ft.
- 2 Unisex Restrooms: (2) @ 60 sq. ft.
- Auditorium for 50 people
- Storage / Mechanical Room: 120 sq. ft.
- Live / Work Studio for one individual (including sleeping and eating): As required
- Conservation facility / shop for house

#### Sites:

While you are free to consider multiple locations within the Farnsworth grounds, you must be aware of the dialogue established by building in close proximity to the existing house.

#### Schedule:

Feb 12	Project Introduction / groups formed
Feb 15	Pinup site analysis / conceptual development CNC workshop 1 (4:30pm – 6pm)
Feb 17	CNC workshop 2 (4:30pm – 6pm)
Feb 19	Interim Review –PreMill CNC workshop 3 (4:30pm – 6pm)
Feb 22	Pinup – site and program strategy
Feb 26	Interim Review – Prototypes and building scale implementation strategy
Mar 5	Milling Complete
Mar 15	Final Project Review



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### PROJECT 4 – The Institute at the Chicago Symphony Orchestra

*"By creating enriching opportunities in which young people may thrive not only in their own communities, but throughout Chicago and beyond, and by promoting lifelong musical citizenship through active participation in music, The Institute for Learning, Access and Training will provide a solid foundation for individuals to grow as musicians, as human beings, as citizens, as lovers of great music and as future arts patrons."*

-Judith McCue, board chair of The Institute for Learning, Access and Training

#### Project Positioning:

Situated on Michigan Avenue in close proximity to the Art Institute and Grant Park, The Chicago Symphony Orchestra is one of the cultural pillars of the city of Chicago and holds a place among top North American Orchestras. Orchestra Hall, completed by Daniel Burnham in 1904 codifies the urban and cultural identity of the organization to the city of Chicago through its urban presence.

In 2008 the CSO established the Institute for Learning, Access and Training as the formal outreach arm of the CSO. The primary charge of the Institute is to use music experience and education to "ignite a curiosity about music that leads to transformative experiences." The Institute offers a range of programs designed for youth and families; schools and teachers; young musicians and a civic orchestra. Through this broad range of offerings, the CSO intends to extend its relevancy and influence beyond the traditional performer / spectator relationship embodied in the orchestra hall. As such the Institute requires an identity to support its emerging position within the cultural fabric of the city and programmatic flexibility to foster its evolving offerings. While the Institute's viability is reliant upon the musicians and staff of the CSO, its mission and scale of interaction is distinct.

#### Program Positioning:

The program offerings of the Institute are classified as: Learning, Access and Training and involve interaction with CSO performance programming as well as tailored activities for age groups and families. The Institute programming and spatial arrangement should provide connection to the existing CSO building while allowing independent operation from the existing CSO spaces. The largest program component of the Institute is a highly flexible performance space to support musical and visual performances of CSO musicians, performance artists and Institute participants. This highly adaptable space is intended to supplement existing CSO performance spaces by offering unique audience / performer spatial and visual relationships.

#### Site Positioning:

The site, located on the Northwest corner of Wabash and Adams is directly adjacent to existing CSO organization spaces that include offices, restaurant / café and a circulation atrium. The buildable lot lines extend to the masonry party wall of the existing building and the sidewalk edge of Wabash and Adams. While the current restaurant dining room located on the site will be removed, the program component and access to the restaurant beyond the party wall must remain, although need not be a street level. The L stop directly adjacent to the site must remain untouched.

# STUDIO 48-205 / 2010

## Program Requirements:

- **Public Spaces [9500 sq. ft. total]**
- Lobby: 2000 sq. ft.
- Gallery / Meeting room: 1000 sq. ft.
- Restaurant dining room: 3000 sq. ft.
- Garden: 3000 sq. ft.
- Restrooms: (2) @ 250 sq. ft.
- **Education Spaces [4000 sq. ft. total]**
- Resource Center: 1500 sq. ft.
- Classrooms: (4) @ 500 sq. ft.
- Storage: 500 sq. ft.
- **Performance Spaces [6000 sq. ft. total]**
- Flex performance space [musical and visual]: 4000 sq. ft.
- Seating 100 – 200 people
- Minimum 20' ceiling height
- Cross-over / catwalk system
- Dressing Rooms: (2) @ 250 sq. ft.
- Private restrooms: (2) @ 100 sq. ft.
- Ticketing: 100 sq. ft.
- Storage: 1200 sq. ft.
- **Organization Spaces [3250 sq. ft.]**
- Institute offices: 3000 sq. ft.
- Restrooms: (2) @ 50 sq. ft.
- Storage: 150 sq. ft.
- **Support Spaces [6500 sq. ft.]**
- Circulation 20% total area: 4500 sq. ft. +/-
- Mechanical 10% total area: 2000 sq. ft. +/-

#### Reading 1 - Spatial Sequence and Event:

Architecture and Disjunction  
Bernard Tschumi  
pgs. 153-170

#### Reading 2 – Programming the Urban Surface:

Recovering Landscape, Essays in Contemporary Landscape Architecture  
James Corner  
pgs. 233-250

#### Reading 3 - Spectacle, Vision and Perception:

Martin Jay, Scopic Regimes of Modernity, in *Vision and Visuality*,  
Hal Foster editor  
pgs. 3-27

# STUDIO 48-205 / 2009

## Architecture Second Year Spring Carnegie Mellon University

### PROJECT 1 – Light Catcher(s)

*“You can say the light, the giver of all presences, is the maker of a material, and the material was made to cast a shadow, and the shadow belongs to the light” – Louis Kahn*

*“Architecture is the learned game, correct and magnificent, of forms assembled in the light” - LeCorbusier*

One could say light is the ultimate material. A form of meta-material or immaterial, ever present, yet ever changing – its intensity and coloration affected by atmosphere and earth. Like gravity, it is a given in any architectural investigation. Yet, its potential to elevate architectural experience is often ignored or denied. Perhaps like other things familiar and immediate, we are at times numb to its full presence.

This project is positioned by the quotes of Kahn and LeCorbusier above and seeks to provide a venue through which one's understanding of light is elevated through the manipulation of matter and the creation of space. Like light itself, one's engagement of the venue must not be static – experience should not be one-dimensional. The Light Catcher is not a camera obscura or other type of machine for the capturing of light, but rather a choreographed architectural experience reliant upon natural light.

#### Project:

You are charged with developing a light catcher to be located on one of three predetermined sites in the city of Pittsburgh. These venues should be understood as urban intervention and charged containers of experience. As such they must engage context on some level and move beyond strictly hermetic envelopes.

The light catchers should be principally constructed off-site and transported to their final location. As a result the building 'chunks' must meet transit size regulations (listed below). The number and type of chunks may vary widely. As is ideally the case with prefabrication, one should assume that onsite construction and assembly is as minimal as possible, but will likely require the use of cranes, etc. As a result of this construction type, careful consideration must be given to a construction logic and material palate consistent with the challenges and opportunities associated with prefabrication.

#### Program Requirements:

- Total constructed floor area must not be greater than 2000 sf
- Must act as transitional space for pedestrian traffic
- Capable of housing at least 15 people at any given time
- Must meet ADA requirements for grade and level change without elevator
- Will not be conditioned space (active heating / cooling)
- Entry must be securable to prevent vandalism
- Must require little maintenance and take into account material weathering

**Sites:** three downtown at the point. Initially you will develop proposals for all three then develop a project for one site.

**Process:** models, models, models

You need to test your ideas with models and light

#### Schedule:

Jan 16	Project distributed
Jan 21	Pinup of AT LEAST 3 schemes on all three sites
Jan 30	Pinup – everything underway
Feb 3	Project due 9pm
Feb 4,6	Review

**Deliverables:** see attached document

# STUDIO 48-205 / 2009

## Architecture Second Year Spring Carnegie Mellon University

### PROJECT 4 – Chicago 2016, a hub to inform, interact and observe

#### 9:00AM, 5 days into the Olympics:

*John and Dorothy are excited to pickup rental bicycles for a ride along the lake. They are impressed by Chicago's initiative to encourage bicycle transit during and after the Olympic games. The rowing venue glistens as the sun rises on a warm August morning.*

*Lucia and her two daughters have temporarily stored their picnic in one of a sea of lockers. The range of languages overheard as they pass through the communal spaces embodies the spirit of the Olympic games.*

*Hubert welcomes the opportunity to relax and communicate with family in Tokyo. The volume of users limits his computer time to 5 minutes.*

*Donna is astonished by the ecological imperatives embodied throughout the Olympic venues. She passes John and Dorothy as she searches for a guiding view of the lake.*

*Richard and the other Polish cuisine-cooking competitors begin unpacking and preparing for a hungry crowd of 10,000.*

*Jamie, Michael and Barry decide to sign up for a mid-morning game of bocce. They all agree the ice rink functions well as a collection of bocce courts.*

*Madeline pauses in the shadow of the Cloud Gate sculpture and slowly surveys the urban edge along Michigan Avenue.*

#### 4:00PM, 6 months following the Olympics:

*In her first time back since the Olympics, Dorothy settles in for a warm and relaxing view of the park. She recalls the buzz of Olympic activity as snow builds on the top of the Cloud Gate.*

*Tom and his family send a quick video message back to their extended family in Portland.*

*Natalie strolls through the various communal spaces in an attempt to calm her nerves before her book reading.*

*Melissa feels like a kid again, as she ice skates for the first time in 15 years.*

#### Brief

We will use Chicago and it's potential hosting of the 2016 Olympic games as the testing ground for an architectural investigation of mobility, leisure and spectacle. You are charged with designing a **Hub to inform, interact and observe;** a hub that is programmatically integrated. This hub must ultimately fold the Olympic games into Chicago's urban fabric and allow the spectacle of the games to superimpose itself into the spectacle of the city. This is a device to introduce the ordinary to the extraordinary; the permanent to the temporary; the local to the visitor.

Building upon the lessons of natural lighting, architectural thresholds and building components found in the first two projects, you are expected to convincingly resolve a project of complex content (program) and context. This project will require both Olympic and post-Olympic programming scenarios and must take into account the varying volume of visitors and seasonal uses of the park. Lastly, you are expected to address the ecological imperatives of the city of Chicago.

While you are not provided with program area requirements, you must convincingly establish a program brief commensurate with the use of the spaces and identity of the Olympic games.

# STUDIO 48-400 / 2007

## Architecture Fourth Year: Occupancy Carnegie Mellon University

### SEMESTER PROJECT – [Atmospheres] A Wellness Center along the Allegheny River

*"The taste of the apple... lies in the contact of the fruit with the palate, not in the fruit itself"*  
-Jorge Luis Borges

This semester, the theme of atmosphere will facilitate design inquiries that question the privileged roll of vision through the design and subsequent experience of architecture. In this context atmosphere should be understood beyond forms of theatrics that are reliant upon the creation of superficial effects. For the purposes of our investigations, we will approach the studio theme with a more comprehensive understanding of specific material and spatial conditions as they relate to the body. This studio seeks to reconcile the quantifiable, often arms length process, inherent to projects of significant scale and scope with a close, focused awareness of the work as a generator of distinct and evocative conditions. As such, this studio will explore the potential of an architecture that is conceived as the agglomeration of these conditions rather than a singular dominant concept. This studio will operate with the understanding that there is an inherent distance between the architect's instruments of representation, vis-a-vis models, drawings, etc. and the completed work of architecture. While this studio will utilize conventions of representation, particular attention will be devoted to the development and utilization of alternative methods for design and assessment. This studio will operate with the understanding that limits are an inevitable and necessary, yet freeing device within the practice of architecture. They provide a framework to operate within, pushup against and at times, break with conviction. Attention will be devoted to the relationships between design strategies and project limits.

#### Project:

The vehicle for these explorations will be a health and wellness center located in downtown Pittsburgh. This facility will serve two agendas; cater to the increasing number of under-50 working professionals living downtown and promote a lifestyle of wellness and healthy living as an effective form of preventative medicine. Positioned as a wellness center, rather than a traditional fitness gym or sporting center, the facility will supplement traditional programs associated with a fitness center with activities that support a holistic approach to lifestyle wellbeing. To this end, the facility seeks to move beyond the hermetic envelope often associated with this project type towards more integration of spaces that are conditioned and unconditioned; natural and artificial; introverted and extroverted.

The studio will begin to directly address the various spatial requirements of the wellness center program and the potential implementations on the site. Your initial massing model investigations and diagrams will serve as a point of departure, an early manifestation of ideas related to the various 'atmospheres' throughout your project. This phase of the project requires the development of a stance towards the distribution of the program across the site and through the building. Spatial adjacencies should be explored as they relate to program, experience and context. Certain pieces of the program are drawn together, forming logical adjacencies, while others are best kept apart. You are encouraged to explore alternatives and closely examine the various pieces of the program while establishing qualitative characteristics for each. The combination of the program pieces and their relationship to the building mass should be inseparable.

This is an inherently iterative process and demands the production of numerous models, and diagrams that together, form a set of alternatives and build a context for discussion.

#### Artifacts:

Physical modeling and diagramming will be necessary for this phase of the project. Particular attention should be taken to ensure these are complementary rather than redundant.

#### Representational Considerations:

The instruments of representation (drawings, models, etc.) must convey the rigor of your design process. Your project is embodied within these objects. There must be a level of excellence that reflects this.

# STUDIO 48-400 / 2007

## Projects

1. Conceptual and Experiential Artist Research  
Students, in groups of three, will each research two artists from the list below. This process is intended to familiarize you with a collection of artistic work that actively engages the human body. This will culminate in a presentation by each group that will serve to familiarize the studio with each artist's work, process and influences.

Artists:

Michael Heizer  
Robert Irwin  
Donald Judd  
Anish Kapoor  
Fred Sandback  
Richard Serra  
James Turrell  
Rachel Whiteread

2. Wellness Center

The architectural vehicle for the explorations stated at the beginning of this document will be a health and wellness center located in downtown Pittsburgh. This facility will serve two agendas; cater to the increasing number of under-50 working professionals living downtown and promote a lifestyle of wellness and healthy living as an effective form of preventative medicine. Positioned as a wellness center, rather than a traditional fitness gym or sporting center, the facility will supplement traditional programs associated with a fitness center with activities that support a holistic approach to lifestyle wellbeing. To this end, the facility seeks to move beyond the hermetic envelope often associated with this project type towards more integration of spaces which are conditioned and unconditioned; natural and artificial; introverted and extroverted.

## Procedure

During the first few weeks of the semester, faculty and students will meet once a week to discuss the scope and significance of occupancy for architecture and the curriculum of the School.

Following this, the coordinator of the studio, with the help and participation of the studio faculty, will deliver a series of lectures that illuminate the subject of Occupancy. These lectures will include, but will not be limited to:

1. *Occupancy, what does it mean for architects and other constituents of architecture? (architects' letters)*
2. *The 'hidden' code of objects in space: what do Design Patterns conceal from the eye? (Alexander)*
3. *Architectural Programming: most neglected core functionality in design. (Pena, Problem Seeking)*
4. *How can we interpret Occupancy standards? (Dreyfus and the arrangement of objects in space)*
5. *Building Codes what are they for: Egress and Structure?*
6. *Building Codes what are they for: Context and Systems?*
7. *ADA is it a necessary evil or the ultimate accountability of the architect? (9/11 revealing architects' Achilles Heel)*
8. *Devil's advocacy: what's Occupancy good for? (a cultural critique -- Bourdieu)*