

B+C | A

Barnard and Columbia Architecture

Fall 2018

Architectural Representation: Abstraction

course #: ARCH UN3101-002 2018 3

critic: Madeline Schwartzman

room: Studio room 404

Diana Center, Barnard

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mks1@columbia.edu

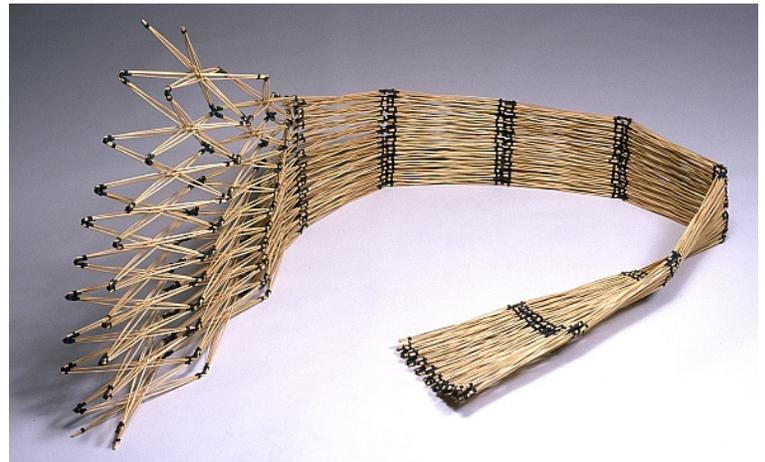
semester: Fall 2018 M/W 10:00-12:50pm

office: 232 LeFrak Center, Barnard Hall

office hours: available by appt, or after class

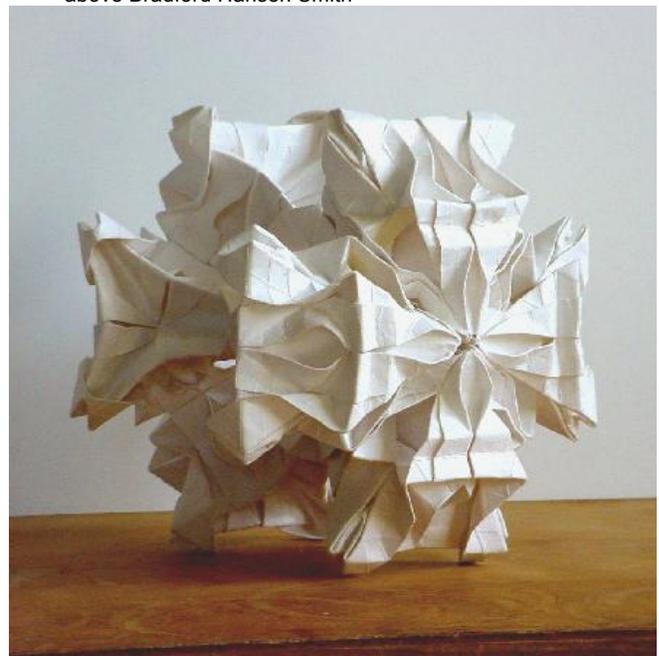
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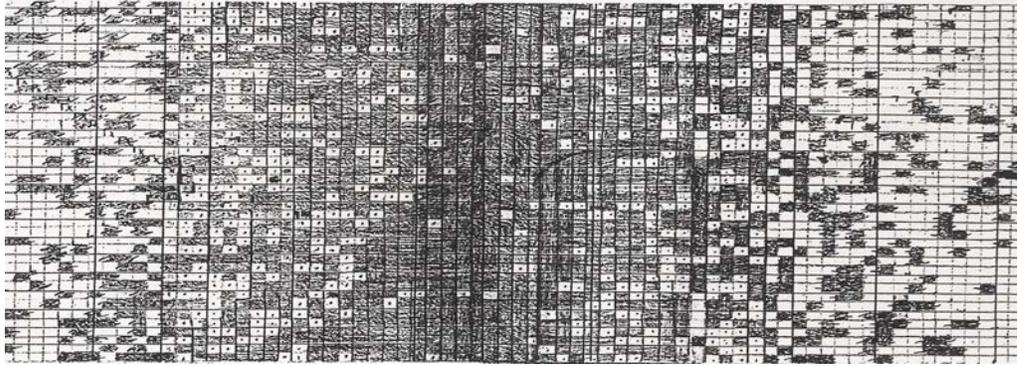
... Analysis is calculated speculation...

left: Pew House, Piercy and Company, right and above Bradford Hansen Smith



Course Description

This course explores the representational language of architecture—the conventions of the language—and the unconventional implications of working graphically and in “scale”. Both two-dimensional methods—orthographic projection (plan, section, elevation)—and three-dimensional elaborations—three-dimensional drawings (axonometric) and models—will be used to analyze space, and will be investigated for their ability to reveal and conceal relationships in space. Emphasis will be placed on the revelatory value and limitations of this abstract language, and how this language is both a concise method for abstracting architectural space—an analytical tool—and a generative method for speculating on design and sparking conceptual ignition (conceptual trajectory).



Ellsworth Kelly: Seine Study

Course Methodology: The course is comprised of a series of projects that allow for the sequential development of technical skills, conceptual thinking and the design process. The first focus of the semester will be on the relationship between two and three dimensions. Our sources will be a book, and the abstract spatial connotations of a laminate system containing written narratives. We will also explore the New York City subway and the visual language of transportation. The project develops from writing and text to conceptual spatial modeling using modular units and mobile frame systems, with brainstorming and documentation relying on both manual and digital techniques. In this assignment we will experiment with the artful and conceptual use of the laser cutter (not the “lazy cutter”) and the digital tools that facilitate the transformation of flat materials. We will work on two-dimensional, orthographic representations of spatial models, and photographic layouts manipulated through Photoshop.

The course will then explore wearable architecture, simple machines, and the transformation of space via parts that move. We will begin with a study of the human body, and human potential for communication with another through complex systems that include visual, sonic and tactile means. We will then explore everyday simple machines and structures that can serve as inspiration for architecture, including window shades, the kitchen Lazy Susan, Japanese sliding panels called *shoji* and *fusuma* and more. We will explore the relationship between two individuals in space, considering wearable transformative architecture and the exchange of information through words and text.

The third project will explore collectives of humans and the iteration of form. We will study social issues pertinent to the spatial inhabitation of New York City, and make efforts to create experimental built environments that relate to human struggles and ultimately to human compassion. We will analyze this work through a sequence of processes—documentation, analysis and intervention—and end with a visionary experimental work of our own. All stages of this studio process require creative thinking and precise execution with refined craft in the service of ideas.

Course Format and Teaching Methodology:

This course is based on the studio method. Students are expected to work independently to develop their thinking/making, with regular critiques from a faculty member and teaching assistant. Class time will be divided into individual dialogues or critiques (*desk crits*) between student and critic, open discussions, student presentations, and/or informal lectures. Presentations of work will be public—either informal (*pin-up*) or formal (*review*).

In both, students are required to intelligently (visually and verbally) present their work in order to instigate a discussion/critique about ideas in their work. The culmination of each project is the Final Review in which students present their work for public evaluation by a group of Studio Critics and Visiting Critics.

Students will have an individual desk in 404 Diana. You must work in the studio after hours, employing your peers as critics. You will be expected to equip your desk with the necessary tools and materials for your projects (see below). No excuses for incomplete work should be made for lack of equipment. Each project will use different equipment. More specific purchases should be made at that time.

Students are required to maintain a sketchbook that will contain all drawings, sketches, notes, etc. This is an important supplement to the studio, and a place to begin to develop a consistent design process. It is also a great storehouse for drawings, when it comes time to make a portfolio of your work.

Prerequisites: This is an introductory course for students interested in thinking about space and architecture and is required for those majoring in architecture. **There are no prerequisites.** You are asked to arrive with a will to speculate and a passion for exploration and hard work. That is no small thing. This course is a work out for the brain. It turns all of your preconceptions about design upside down. You need to be ready to think and work hard. It is generally recommended for the sophomore year, and can be taken before or after Architectural Representation: Perception. Abstraction and Perception complement each other, with the former concentrating on conventions of architectural language, and principles of development that arise from systems and methods that do not necessarily require sensation as a starting point. Perception explores other methods and techniques of spatial representation that require sensation and movement through a space, including photography, time-based media, and sensorial speculations.

Students in Architectural Representation: Abstraction and Perception should be able, at an introductory level, to:

1. Visually communicate architectural concepts and design intent using discipline-specific techniques including:
 - orthographic projections (plans, elevations, sections),
 - paraline projections (axonometrics, isometrics),
 - physical models using various techniques and materials,
 - multiple media and/or combined representational strategies
2. Verbally communicate architectural research methods and spatial concepts
3. Demonstrate an understanding of precedent and site analysis
4. Demonstrate an understanding of design method as a step-by-step, iterative and incremental process of research, synthesis and feedback
5. Demonstrate an understanding of design thinking as responsive to and shaper of social and cultural context
6. Demonstrate the ability to work independently and collaboratively
7. Demonstrate an understanding of the historical and theoretical contexts for architectural representational conventions

8. Utilize a range of hand and digital techniques in the design process
9. Utilize digital fabrication technology in the design process
10. Demonstrate the ability to present their design work in a digital portfolio

Course Requirements:

Grading and Evaluation:

Projects are evaluated according to the student's success in fulfilling the objectives of the project with emphasis on creative problem solving, process, development, imagination and the rigor of individual interest and output. Assignments and verbal brainstorming will identify the key concepts and criteria for projects. Students should target these key issues when producing work. Progress in craft, creative exploration and personal growth should be visible through the duration of the exercise.

Process work will serve an important role in the development of a successful concept and the final manifestation of an idea. As such, evidence of the development of a work will play a significant role in determining student's overall grade at mid-semester and at the end of the term. Students' analytical and critical abilities will be developed through critiques and written assignments in response to reading material or problems given in class. Development in these areas will also be factored into each student's evaluation and grade at the end of the semester. Attendance, group discussions and improvement throughout the semester are important factors as well. You will be given a midterm review of your work and a final grade. Individual reviews with your critic (written and in person) and both daily and at the midterm, will help you to guide your work and evaluate your strengths and weaknesses. There are no incompletes, regarding the submission of work. Work for each problem must be completed within the specified time frame allotted. Some work will be held for the end of the year exhibition.

Final Grade Calculation

- 15% Participation /Attendance
- 15% In class exercises sketches, digital studies
- 70% Projects (Project 1: 20%, Project 2: 25%, project 3: 25%)
- 100% TOTAL

Required materials and expected budget:

Supplies: Projects will use different equipment. More specific purchases should be made at that time. Consider this the equivalent of the book fees for the course. You can buy many of these supplies used, or new. I would hope that you would not spend more than 150 – 200 dollars. I have used my supplies over and over for years. They continue to be useful for those of you who will continue with a life in design. Price shop and be clever.

Basic Tools: (this is the basic list which should be purchased by the weekend a and on desks by next Wednesday. Your TA will be available to help over the weekend)

- you may draft with a T-square, or a parallel rule (36" or 42"). If you wish to purchase a desk that comes with a parallel rule, please look for a good one. Some of them simply do not work and cause a great deal of frustration.

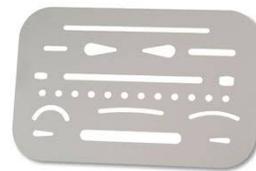


- 8" or 10" adjustable triangle and larger 30/60 (for long lines), plus miscellaneous other triangles may be helpful
- X-acto with #11 blades (suggest large pack), or Olfa knife with blades
- architect's scale (6 sided) plastic (NOT engineer's scale, which in Metric and not inches)
- 24" metal ruler with cork backing or t-square cutting edge
- swing arm light with base capable of being screwed to desk is highly recommended but not required (\$10-15.)
- scissors (Fiskars (orange handles) work well)



Basic Materials:

- plastic cutting board / matt (keeps blades from getting dull)
- 1/16" chip board 30"x 40" for model making
- vinyl board cover (must be larger than parallel rule) or 1/16" white board 30"x40" for drawing board surface) (must be cleaned from time to time)
- Elmer's glue
 - masking tape and Drafting Dots (sticky dots for the paper corner)
- Scotch tape / clear tape
- lead pointer (special sharpener for leads)
- lead holder
- leads (H, 2H, B) – come in a box
- pencils (H - 6B) and thin/fat Sharpie
- white pencil eraser - Staedtler Mars (used w/ pencil and ink. Yellow ink erasers mar drawing surfaces)
- erasing shield
- 18" role white tracing paper, larger role may be required, one per assigned group
- sketchbook (should be at least 8x10 or larger, good paper), preferably spiral bind



as needed:

- desk brush (natural hairs are better than plastic)
- chopsticks or stirrers
- basswood cutter
- inexpensive dremel
- compass (look for attachments - ink for example)
- French curves (come in a set)
- external hard drive
- fine quality prints on occasion



- at a later date, students may need to purchase Bristol Board, double sided Mylar and other papers and model making materials
- misc. modeling materials, including roll of plaster cast-forming material

Supply Purchasing

See the materials and vendors list provided by department on our website:

Janoff's Office and Art Supplies

Located on Broadway between 111th and 112th Streets, Janoff's is the closet art supply store to campus.

Blick Art Materials

Blick Art Materials has several locations, including one in Harlem and one in downtown Manhattan, offering a large range of art supplies, tools, and materials.

Canal Plastics Center

Canal Plastics Center offers plastics and fabrication services and sells acrylics in hard to find colors and sizes. They also offer a student discount.

POLICIES AND STATEMENTS

Honor Code:

The Barnard Honor Code applies to all students in this class regardless of academic affiliation. Approved by the student body in 1912 and updated in 2016, the Code states: We, the students of Barnard College, resolve to uphold the honor of the College by engaging with integrity in all of our academic pursuits. We affirm that academic integrity is the honorable creation and presentation of our own work. We acknowledge that it is our responsibility to seek clarification of proper forms of collaboration and use of academic resources in all assignments or exams. We consider academic integrity to include the proper use and care for all print, electronic, or other academic resources. We will respect the rights of others to engage in pursuit of learning in order to uphold our commitment to honor. We pledge to do all that is in our power to create a spirit of honesty and honor for its own sake.

The Columbia College Honor Code and the Columbia College Faculty Statement on Academic Integrity can be viewed here:

<https://www.college.columbia.edu/honorcode>

<https://www.college.columbia.edu/faculty/resourcesforinstructors/academicintegrity/statement>

Class Attendance, Late Arrivals, and Absences Policy:

Attendance is mandatory at all scheduled classes, field trips, and reviews. Studio is held Monday and Wednesday beginning promptly at 9:00 AM. Any student arriving after 9:05 AM will be considered late and anyone that arrives after 10:00 AM will be marked absent.

Absences due to acute illness, a personal crisis (e.g. a death in the family), religious observance, or for other reasons of comparable gravity may be excused. In all such cases, students must promptly email their instructor to communicate the reason for their absence and to arrange an opportunity to review any important information they may have missed.

Students who know they will miss a scheduled class due to religious holidays should email their instructor (CC our TA) during the first week of classes with a list of dates for their anticipated absences.

Unexcused absences, late arrivals, or early departures from class will reduce your course grade. Two non-consecutive absences will result in a grade reduction by one-third (1/3) of one letter grade (e.g., A- to B+). Three consecutive absences or four nonconsecutive absences will be considered grounds for failing the course. Two late arrivals (after five minutes) to class or missing a group review will lower your grade by one third of a letter grade as well. You may not leave class early (i.e. after a desk crit), and you should always plan to use the hours you spend in class productively.

Our teaching assistant will schedule visits to the studio, usually during the weekend, for extras critiques, workshops etc. Attendance at these sessions is mandatory, however some may be missed for weekends away. Our TA will schedule individual appointments as necessary or recommended by faculty.

Academic Accommodations Statement:

"If you are a student with a documented disability and require academic accommodations in this course, you must register with the Office of Disability Services (ODS) for assistance. Students requesting accommodations will need to first meet with an ODS staff member. Once registered, students are required to request accommodation letters each semester to notify faculty. Accommodations are not retroactive, so it is best to contact ODS early each semester to access your accommodations. If you are registered with ODS, please see me to schedule a meeting outside of class in which you can bring me your faculty notification letter and we can discuss your accommodations for this course. Students are not eligible to use their accommodations in this course until they have met with me. ODS is located in Milbank Hall, Room 009/008. Columbia ODS is located in Wien Hall, Suite 108A."

Affordable Access to Course Texts Statement:

"All students deserve to be able to access course texts. The high costs of textbooks and other course materials prohibit access and perpetuate inequity, and Barnard librarians are partnering with students, faculty, and staff to increase access. By the first day of advance registration for each term, you should be able to view on Canvas information provided by your faculty about required texts (including ISBN or author, title, publisher and copyright date) and their prices. Once you have selected your classes, here are some cost-free methods for accessing course texts, recommended by the Barnard Library: find out if your faculty has placed the texts on reserve at Barnard Library or another Columbia library, and look for course texts using CLIO (library catalog), Borrow Direct (request books from partner libraries), Interlibrary Loan (request book chapters from any library), and NYPL. Students with financial need or insecurity can check items out from the FLIP lending libraries in the Barnard Library and Butler Library and can consult with the Dean of Studies and the Financial Aid Office about additional affordable alternatives for getting access to course texts. Talk with your librarian and visit the Barnard Library Textbook Affordability guide (library.barnard.edu/textbook-affordability) for more details."

Wellness Statement:

"It is important for undergraduates to recognize and identify the different pressures, burdens, and stressors you may be facing, whether personal, emotional, physical, financial, mental, or academic. We as a community urge you to make yourself—your own health, sanity, and wellness—your priority throughout this term and your career here. Sleep, exercise, and eating well can all be a part of a healthy regimen to cope with stress. Resources exist to support you in several sectors of your life, and we encourage you to make use of them. Should you have any questions about navigating these resources, please visit these sites:

- Barnard Students: <https://barnard.edu/wellwoman/about>
- Columbia Students: <http://www.college.columbia.edu/resources> Click on Health-Wellness
- Columbia GS Students: <https://gs.columbia.edu/health-and-wellness>
- Columbia SEAS Students: <http://gradengineering.columbia.edu/campus-resources>"

Room Rules and Security:

After the first week of classes, students will be granted 24-hour access to the studio and DAL through your school ID. It is crucial that the doors to these spaces remain closed and locked at all times for your personal safety and your belongings' security. Please do not prop open the door and do not leave any valuables unattended at your desk. The studio and the DAL are open to all students in approved courses; please respect other critics and students that are using the space. Barnard and Columbia Security officers do periodically check the studio but security is a responsibility that we all share; please help us maintain a safe and productive environment.

If your personal belongings are stolen (or go missing) please notify your instructor and Barnard Public Safety (for room 404 Diana) or Columbia Public Safety (for 116 Lewisohn).

1. Provide your own lock for the locker.
2. Studio door should be locked at all time.
3. No spray painting or fixative are permitted in the studio. Use the spray hood in the model building room for spray paint or fixative.
4. Use headphones for listening to music.
5. You are responsible for keeping your desk and your storage area clean and organized. If you are using an empty desk adjacent to your assigned seat, it is also your responsibility to keep this area free of debris.
6. 100% of the work surface of your desk space should be covered with 3-ply chipboard or vinyl board cover. Do not cut, carve, glue or otherwise destroy the plywood desktop.
7. Please help us recycle and reuse extra materials by donating anything you don't need to our recycling locations in the studios.
8. Work kept under your desk should be placed in a box and labeled, "Do not throw out." Blades should be wrapped up before being discarded. After class hours negotiate music choices, and be sensitive to others.

For next class you will need the following materials, in order to work on the current project:

- pencils
- black Sharpie
- eraser
- sketch paper, sketchbook
- trace paper
- scissors
- tape



Student plaster sheet and corrugated cardboard, below student Tenlie Mourning



Barnard + Columbia Colleges Architecture Program

Architectural Representation: Abstraction

ARCH V3101.02

critic: Madeline Schwartzman

Fall 2018

assistant: TBA

Course Schedule for Fall Semester ^{***}(subject to change - see assignments for final dates)

<u>week</u>	<u>date</u>	<u>class</u>
1	Wed 5 Sept.	Introduction – project 1.1 assigned: Artifact: The Modular Book
2	Mon. 10 Sept. Wed. 12 Sept.	poetry, research, analysis, sketches due project 1.1 due 1.2 assigned: model series begin experimental study models
3	Mon. 17 Sept. Wed. 19 Sept.	project 1.2 study models due in class modeling, assign project 1.2 refined model in class modeling, desk critiques
4	Mon. 24 Sept. Wed. 26 Sept.	modeling, desk critiques project 1.2 Artifact: the Modular Book due project 1.3 assign orthographic drawing
5	Mon. 01 Oct. Wed. 03 Oct.	workshop: orthographic drawing, movement in drawing, Photoshop workshop and techniques orthographic drawing, desk critiques, continued Photoshop
6	Mon. 08 Oct. Wed. 10 Oct.	project 1.3 orthographic drawing due project 2.1: assign Mobility: Body and Machine. in class work in class work, desk critiques
7	Mon. 15 Oct. Wed. 17 Oct.(mid)	continued experimentation and modeling project 2.1: Mobility due project 2.2: assign Wearable Installation: Mobile interaction – The Literacy Car In class measurements and field work

8	Mon. 22 Oct.	Three study models due Assign full scale mock up
	Wed. 24 Oct.	Study models due
9	Mon. 29 Oct, Wed. 31 Oct.	full scale mock up due assign final installation: The Literacy Car project 2.2 Wearable Installation: The Literacy Car Due project 3.1 assigned: The Social Aggregate assign modeling of social pods
10	Mon. 05 Nov. Wed. 07 Nov.	Academic Holiday continued modeling of social pods
11	Mon. 12 Nov. Wed. 14 Nov.	continued drawing and modeling project 3.1 social pod due 3.2 assigned: The Temporary Megastructure
12	Mon. 19 Nov. Wed. 21 Nov.	megastructure modeling and axonometric drawing academic holiday
13	Mon. 26 Nov. Wed. 28 Nov.	modeling and axonometric drawing assign site visit continued drawing and modeling
14	Mon. 03 Dec. Wed. 05 Dec.	continued drawing and modeling final Photoshop presentation
15	Mon. 10 Dec. Tues. 11 Dec.	final critique: 3.2 The Temporary Megastructure alternate final critique day (first reading day)



