

B+C | A

Barnard and Columbia Architecture

Fall 2017

**Architectural Representation: Abstraction**

course #: ARCH V3101.02

critics: Madeline Schwartzman

room: Studio room 404

Diana Center, Barnard

messages: 212 854-8430 (dept.)

email: mswart@barnard.edu

mks1@columbia.edu

semester: Fall 2017 M/W 10:00-12:50pm

office: 500H The Diana Center

office hours: available by appointment

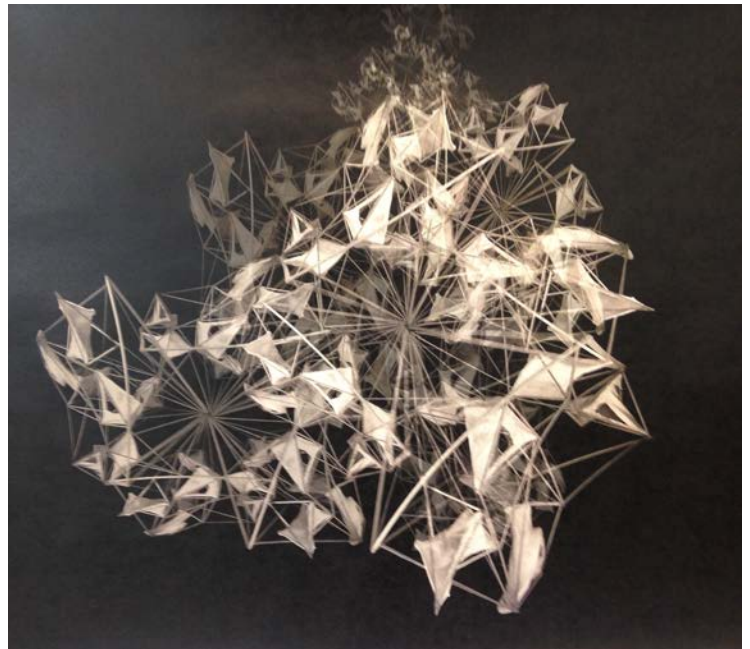
assistant: Min Chen

email: mxc2101@columbia.edu



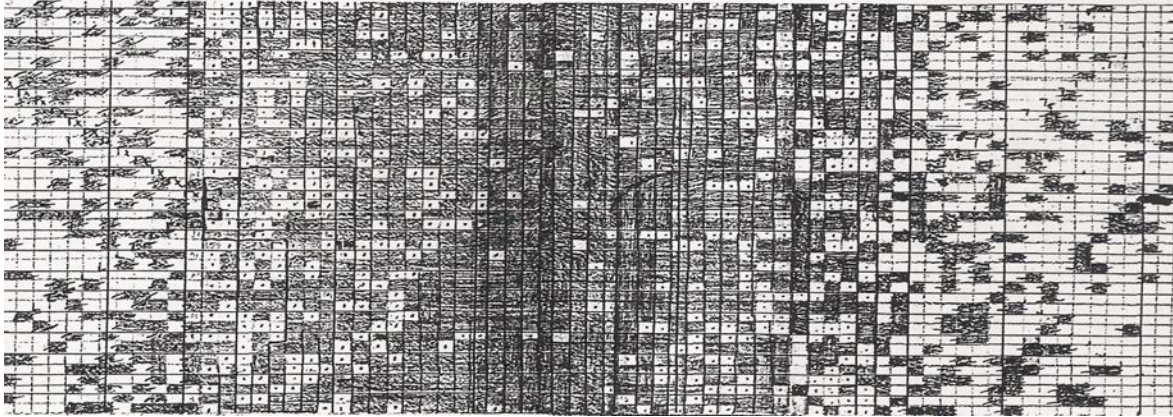
*..analysis is calculated speculation...*

left: Pew House, Piercy and Company, right  
student Photoshop of model, Tenlie Mourning



**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

**Methodology:** The course is comprised of a series of projects that allow for the sequential development of technical skills, conceptual thinking and design process. The first focus of the semester will be on the relationship between two and three dimensions through a conceptual problem that moves from writing and conceptual modeling, analysis and mapping to a spatial model, using both manual and digital techniques. We will work on two-dimensional, orthographic representations of the spatial models, and photographic layouts manipulated through Photoshop. The course will then explore the language of lines, three-dimensional units (tessellations) and aggregates, and how they move and create space at multiple scales. In this assignment we will experiment with artful, conceptual uses of the laser cutter (not the “lazy cutter”) and the digital tools that facilitate the transformation of board materials. We will explore the relationship between two individuals in space, and collectives of humans, making efforts to create experimental built environments that relate human struggles and ultimately to 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.

**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 analog and digital techniques in the design process
9. Utilize digital fabrication technology in the design process

**Requirements:**

**Attendance:** 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 9:20 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 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.

**Sketchbook/journal/notebook:** 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.

#### **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

## 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.

## Required materials and expected budget:

**Supplies:** Each 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)

- parallel rule (36" or 42" - armor metal edge (for cutting) is highly recommended).  
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) (this will need cleaning from time to time)
  - Elmer's glue
  - masking tape, Drafting Dots preferred
  - Scotch tape / clear tape
  - lead pointer (special sharpener for leads)
  - lead holder
  - leads (H, 2H, B) – come in a box
  - pencils (H - 6B)
  - desk brush (natural hairs are better than plastic)
  - 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:**
- compass (look for attachments - ink for example)
  - French curves (come in a set)
  - external hard drive
  - printing good printer paper: studio printer may not be good enough quality
  - at a later date, students will 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:  
<https://architecture.barnard.edu/node/59931>.

**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 in downtown Manhattan, offering a large choice of art supplies, tools, and materials. **Canal Plastics Center**

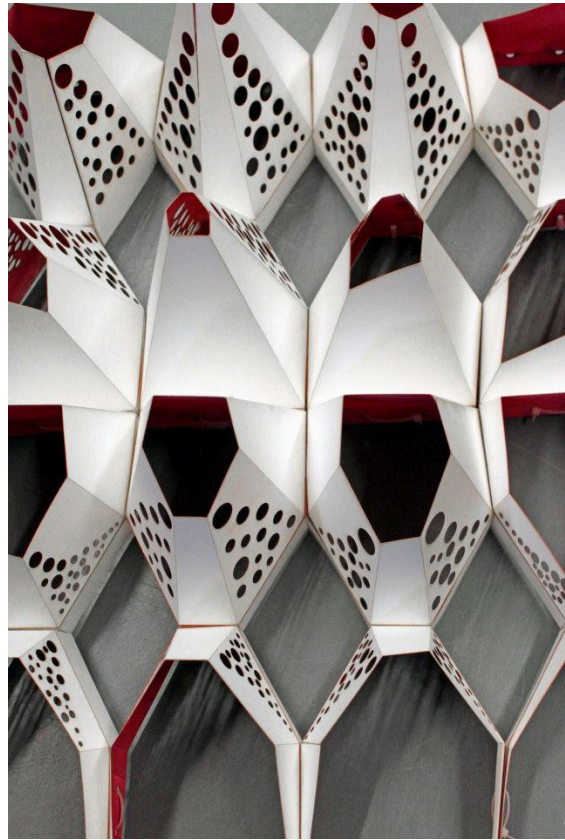
Canal Plastics Center offers plastics and fabrication services and sells acrylics in hard to find colors and sizes. They also offer a student discount.

**Artist & Craftsman Supply**

Artist & Craftsman is located on 126th St and Adam Clayton Powell Blvd. They offer a student discount (with student ID).

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

- pencils
- black Sharpee
- eraser
- sketch paper, sketchbook
- trace paper
- scissors
- tape
- straight edge



*Barnard + Columbia Colleges Architecture Program*

**Architectural Representation: Abstraction**

*ARCH V3101.02*

*critic: Madeline Schwartzman*

*Fall 2017*

*assistant: Min Chen*

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

week	date	class
1	Wed. 6 Sept.	Introduction – <b>project 1.1</b> assigned: Manhattan Transformation journey
2	Mon. 11 Sept. Wed. 13 Sept.	research, analysis, text studies due <b>project 1.1</b> due <b>1.2 assigned: model series</b> begin experimental study models
3	Mon. 18 Sept. Wed. 20 Sept.	<b>project 1.2 experimental models due</b> continue class modeling, <b>assign project 1.2 refined models</b> in class modeling
4	Mon. 25 Sept. Wed. 27 Sept.	modeling, desk critiques <b>project 1.2 refined models due</b> <b>assign project 1.3 orthographic drawing</b>
5	Mon. 02 Oct. Wed. 04 Oct.	workshop: orthographic drawing, movement in drawing, Photoshop workshop and techniques orthographic drawing, desk critiques, continued Photoshop
6	Mon. 09 Oct. Wed. 11 Oct.	<b>project 1.3 orthographic drawing due</b> <b>project 2.1: tessellation.</b> in class work in class work, desk critiques: laser cutter tutorial
7	Mon. 16 Oct. Wed. 18 Oct. (mid)	continued tessellation exploration <b>project 2.1: expanded tessellation due</b> In class scale exercise <b>Begin project 2.2: tessellation scale</b>
8	Mon. 23 Oct. Wed. 25 Oct.	tessellation at three scales tessellation at three scales



9	Mon. 30 Oct, Wed. 01 Nov.	<b>project 2.2 due</b> <b>assign project 3.1: social structure / mega structure</b> exploration of social themes and architectural structure
10	Mon. 06 Nov. Wed. 08 Nov.	Academic Holiday <b>3.1 due</b> modeling of pods for two <b>assign 3.2:</b> pod replication via drawing and collage
11	Mon. 13 Nov. Wed. 15 Nov.	continued drawing and modeling <b>3.2 due: assign 3.3: megastructure construction</b>
12	Mon. 20 Nov. Wed. 22 Nov.	megastructure modeling and <b>assign 3.4 axonometric drawing:</b> drawing workshop academic holiday
13	Mon. 27 Nov. Wed. 29 Nov.	axonometric drawing <b>assign 3.5 exploration of site and megastructure location</b> continued drawing and modeling
14	Mon. 04 Dec. Wed. 06 Dec.	final Photoshop presentation final Photoshop presentation
15	Mon. 11 Dec. Tues. 12 Dec.	<b>final critique</b> alternate final critique day (first reading day)



**Disabilities Statement:**

Students with disabilities who will be taking this course and may need disability-related accommodations are encouraged to register in advance with the Barnard College Office of Disability Services (ODS) in 8 Milbank or the Columbia College Disability Services in Suite 108A, Wien Hall.

**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: <http://barnard.edu/primarycare>, <http://barnard.edu/counseling>, <http://barnard.edu/wellwoman/about>, <http://health.columbia.edu/>.

**Statement on the Expectation of Academic Honesty**

The intellectual venture in which we are all engaged requires of faculty and students alike the highest level of personal and academic integrity. As members of an academic community, each one of us bears the responsibility to participate in scholarly discourse and research in a manner characterized by intellectual honesty and scholarly integrity.

Scholarship, by its very nature, is an iterative process, with ideas and insights building one upon the other. Collaborative scholarship requires the study of other scholars' work, the free discussion of such work, and the explicit acknowledgement of those ideas in any work that inform our own. This exchange of ideas relies upon a mutual trust that sources, opinions, facts, and insights will be properly noted and carefully credited.

In practical terms, this means that, as students, you must be responsible for the full citations of others' ideas in all of your research papers and projects; you must be scrupulously honest when taking your examinations; you must always submit your own work and not that of another student, scholar, or internet agent.

Any breach of this intellectual responsibility is a breach of faith with the rest of our academic community. It undermines our shared intellectual culture, and it cannot be tolerated. Students failing to meet these responsibilities should anticipate being asked to leave Columbia.

It is your responsibility to fully understand what constitutes a violation of the honor code. Below are links to the Barnard and Columbia Colleges honor codes along with pages that summarize what the colleges consider to be academic dishonesty.

Barnard:

<http://barnard.edu/dos/honorcode>  
<https://barnard.edu/honor-code/faq>

Columbia:

<https://www.college.columbia.edu/honorcode>  
<http://www.college.columbia.edu/academics/academicdishonesty>

If an instructor believes you to have acted dishonestly, you will be referred to the formal process of Dean's Discipline. Overseen by [Student Conduct and Community Standards](#), the Dean's Discipline process is an educational one that determines your responsibility using the principle of "preponderance of evidence." If found responsible, and depending on the nature of the dishonesty and whether or not you have a disciplinary record, you could face one of several sanctions.

Parents and guardians may be informed, faculty committees awarding honors will be notified, and the case may remain on your permanent record meaning that employers and graduate schools may also be informed. These sanctions are in addition to whatever determination the instructor makes on how your final grade in the class will be affected.