

NJ School of Architecture / HCAD  
Spring 2025  
Cleve Harp, University Lecturer

Elective Course ARCH 317

## **ADVANCED ARCHITECTURAL GRAPHICS Drawing Media SYLLABUS**

### **Course Overview**

*In the Amateur Architectural Studio I run with my wife, Lu Wenyu, I am the only one who draws with pencil only. I consider freehand drawing a way of being closer to nature. . . . both of us agree on the special importance of freehand sketches for the studio's designs. . . . To us, times past and the memories associated with them can only be reawakened through real personal experience, and they can only be reflected in freehand drawing. From my point of view, the hand directly connects the feelings in my inner world and my body. . . . probing into a way of constructing the world that offers abundant diversity – the kind of diversity that is related especially with freehand drawing and handcraftsmanship.*

Wang Shu, IMAGINING THE HOUSE, Lars Muller Publishers, 2012

Digital media have swept many fields of visual discourse over the past two decades. Often left behind are the underpinnings of visual understanding, acuity (acuteness, keenness), and the capability required to create and produce design work of superior quality. 2012 Pritzker Prize winner Wang Shu has seen the ill effects of this technological phenomenon in the destruction of much of Chinese architectural heritage and its replacement by mediocre and nondescript building design which has nothing to do with the specificity of place and everything to do with the unceasing appetite for growth at any cost.

In this workshop, students will be exposed to pre- and post-digital underpinnings of visual and representational dialogues for architectural designers. The hope is that re-experiencing and re-considering the mindfulness in drawing by hand will re-connect to the deeper potentials and promise of Architecture in shaping the built environment of the future.

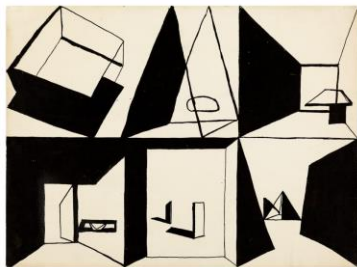
Topics will include the uses of perspective, geometry, light/lighting, shades and shadows, entourage, and graphic notation in the architectural production of sketches and drawings-by-hand. Sketching and drawing-by-hand will be applicable to design studio work and will offer documentation techniques for student portfolios. The course will focus on sketching and drawing exercises throughout each class session. This Drawing Workshop will be conducted inside and outside the studio – in both man-made and in natural conditions and environments.

*Only if you're able to draw in a traditional way can you also properly draw using a computer.*

Fernando Tavaro, University Professor, Faculty of Architecture, University of Porto, Portugal

### **Course Objectives**

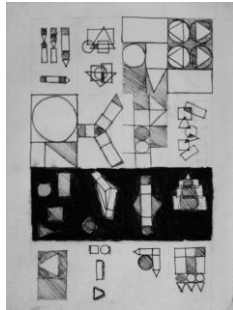
- ~ Improve skills in sketching and drawing-by-hand for architectural design students
- ~ Improve understanding of geometry, perspective, technique, light, and lighting in preparation of design studies (process) and design documentation (product)
- ~ Improve visual design vocabulary
- ~ Improve awareness and appreciation of mindfulness



Louis Kahn, Sketch of a Mural, What Matters is Light – Light is Matter

# ADVANCED ARCHITECTURE GRAPHICS Drawing Media SYLLABUS

2 of 7



student drawing, NJIT SoA SIENA PROGRAM Summer 2012,  
Cleve Harp Program Director

## Course Prerequisites

~ Completion of all second year required undergraduate courses

## Grading

Course grades will consider a student's semester-long development, class participation, and successful completion of all work conducted in the Workshop and in weekly assignments outside the Workshop sessions. A minimum of two hours effort per week outside the studio will be required to execute assignments. Outside assignments will typically be an extension of In-Workshop exercises. There will be no Midterm Exam and no Final Exam. There will be a Portfolio Review at Midterm and again at the conclusion of the semester.

A written midterm grade will be given; in some cases a written warning will indicate that a student's current performance threatens his/her obtaining credit for the course. A written Midterm Warning will be given to a student whose current grade is C or lower.

A	superior
B+	excellent
B	very good
C+	good
C	acceptable
D	minimum
F	failing

A grade of Incomplete is granted only in the event of a documented and notified medical or family emergency, approved by the Office of the Dean of Students, and must be arranged with and approved by the course Instructor.

## Grade Breakdown

In-class exercises	60%
Outside-class assignments	30%
Participation (actively present, engaged, alert, mindful)	10%

## Policy

Attendance is required at all class meetings for the full 80-minute class sessions. The Drawing Workshop will meet twice weekly: Tuesday and Friday, 1:00-2:20 pm. HCAD may offer a locked storage space where you can leave equipment.

Sign-in is required to corroborate class attendance; failure to sign-in indicates an absence.

Excused absences are permitted only with the approval of the Office of the Dean of Students. DOS@NJIT.EDU

For a three credit hours course, three unexcused absences are permitted during the semester. Beginning with a fourth unexcused absence, the course grade will drop one-half letter grade for each unexcused absence. Completion of outside-class assignments is required despite any absences, excused or unexcused.

## ADVANCED ARCHITECTURAL GRAPHICS Drawing Media SYLLABUS

3 of 7

### Protocols

No frequent or extended phone calls are permitted in the drawing workshop. Students are expected to go outside the workshop for any necessary call, email, or text.

No music or headphone use is permitted during class.

**ALL drawings** are required to show the student's printed name and drawing date on the back of the drawing.

### Methodology

The Drawing Workshop will focus on developing hand-drawing skills to enhance the student's architectural design process, from concept through documentation and presentation. The term *workshop* indicates a range of hands-on activities which call for steady participation, awareness, and focus.

A series of exercises will be given in each class session. Exercises of varying lengths will involve a variety of media using a variety of drawing surfaces (see list of **Required Equipment**). Exercises will be conducted inside and outside the drawing workshop space.

Types of exercises will include:

- Quick, timed sketches
- Drawings of extended duration
- Translations and scale manipulation of drawings by accomplished draughtsmen of the past (IE, Piranesi et al)
- Invoking Imagination
- Advancing design studio process skills

Recommended reading sources may be seen in the list below of **READING AND REFERENCE RSOURCES** in Littman Library. These books may be used only in Littman Library so that they are available for the use of any student throughout the semester. (Most titles are also available as used books on amazon.com)



Steven Holl, watercolor sketch, WRITTEN IN WATER, Lars Muller Publishers

*Drawings are an outlet for intuition. Eye and hand are accomplices. They translate and visualize thoughts with unique, inimitable immediacy.*

STEVEN HOLL - SCALE: AN ARCHITECT'S SKETCH BOOK, Lars Muller Publisher

## ADVANCED ARCHITECTURAL GRAPHICS Drawing Media SYLLABUS

4 of 7

### Reading and Reference Resources / LITTMAN LIBRARY, text and/or online access

Architectural Drawing (Portfolio Skills: Architecture), David Dernie, Laurence King Publishing, 2010

Architectural Drawing: A Visual Compendium of Types & Methods, Rendow Yee, John Wiley & Sons, 2012

Canaletto Drawings: 47 Works, Dover Pub, 1991

Design Drawing, Francis D Ching, John Wiley & Sons, 2010

Design Drawing, William Kirby Lockard, Norton & Co, 2000

Design Drawing Experiences, William Kirby Lockard, Norton & Co, 2000

Drawing and Perceiving, Douglas Cooper & Raymond Mall, Van Nostrand Reinhold, 1992

Drawing by Seeing, John Torreano, Abrams, 2007

Drawing on the Right Side of the Brain, Betty Edwards, Tarcher, 1979

"Drawing: The Creative Link", Architectural Record, Vol 190, No 1, pp 64-67, January 2002

Envisioning Architecture: An Analysis of Drawing, Ian Fraser & Rod Henmi, John Wiley & Sons, 1994

Freehand Sketching: An Introduction, Paul Laseau, Norton & Co, 2004

Le Corbusier Sketchbooks, Le Corbusier, MIT, 1982

Louis Kahn The Importance of Drawing, Michael Merrill, Editor, 2021

Light Is the Theme: Louis I Kahn and the Kimbell Art Museum, Kimbell Art Assoc, Fort Worth, 1975

Precedents in Architecture, Roger H Clark & Michael Pause, John Wiley & Sons, 3<sup>rd</sup> Ed, 2005

Sketch Houses: How Architects Conceive Residential Architecture, Alejandro Bahamon, Loft Pub, 2007

Sketch Plan Build, Alejandro Bahamon, Collins Design, 2005

Sketch Public Buildings: How Architects Conceive Public Buildings, Cristina Parades, Loft Pub, 2008

Sketching for Architecture + Interior Design, Stephanie Travis, Laurence King Publishing, 2015

Steven Holl Scale, Steven Holl, Lars Muller Publishers, 2012

Writings, Lectures & Interviews, Louis Kahn, 1991, "The Value and Aim of Sketching," 1931

Visual Notes for Architects and Designers, Norman Crowe & Paul Laseau, John Wiley & Sons, 1986

Visual Thinking, Rudolf Arnheim, U CA Press, 1971

Why Architects Still Draw, Paolo Belardi, The MIT Press, 2014

### Sketches & Drawings by Selected Architects & Artists

*Tadao Ando*

*Kenneth Browne*

*Leonardo da Vinci*

*Charles Rennie Mackintosh*

*Canaletto*

*Hugh Casson*

*Frank Gehry*

*Norman Foster*

*Carlo Scarpa*

*Renzo Piano*

*Le Corbusier*

*Gordon Cullen*

*Louis Kahn*

*Steven Holl*

*Wang Shu*

*Alvaro Siza*

*Leon Krier*

*Frank Lloyd Wright*

## ADVANCED ARCHITECTURAL GRAPHICS Drawing Media SYLLABUS

5 of 7

### Equipment Suppliers

Blick Art Materials	<a href="https://www.dickblick.com/stores/new-jersey/paramus/">https://www.dickblick.com/stores/new-jersey/paramus/</a>
Jerry's Artist Outlet	<a href="https://www.jerrysartistoutlet.com/new_store/">https://www.jerrysartistoutlet.com/new_store/</a> West Orange, NJ
NJIT Campus Bookstore	<a href="https://www.bkstr.com/njitstore/search/keyword/art%2520supplies">https://www.bkstr.com/njitstore/search/keyword/art%2520supplies</a>

### Equipment Requirements (any items available only in quantity may be co-purchased and shared between classmates)

Art/craft/tool equipment storage box

Workable matte spray fixative (prevents drawings from smearing)

Masking tape

Push pins

Pencil sharpener

Art gum eraser

White plastic eraser

Pink pearl eraser

Kneaded rubber eraser

Metal erasing shield

Pencils: (2) each: F, HB, B, 2B, 4B, 6B (FABER-CASTELL, DERWENT, or equal)

DESIGN EBONY graphite layout pencil

Felt-tip markers: black, medium, with broad tip

SHARPIE water-based marker: black, broad tip

Charcoal: vine charcoal (dark gray) and/or willow charcoal (black), (WINSOR & NEWTON, or equal)

Compressed charcoal, hard and soft, (CONTE, PRISMACOLOR, or equal)

Charcoal pencils: black (hard), (PRANG, DERWENT, or equal)

Newsprint pad, rough surface, 32 lb, 18 x 24

Sketch pad, perforated or tape-bound, 50 lb paper, 9 x 12

Large format drawing pad, 70-100 lb white paper, 18 x 24

Sketch book, spiral-bound, removable sheets: (1) 3-1/2 x 5-1/2 (pocket-size)

Roll white tracing paper, 18"

Metal straight-edge ruler

Lightweight portfolio, 24-1/2 x 27-1/2 (can hold up to 18 x 24 pads and drawings)

Pencil case

Paper towels

## ADVANCED ARCHITECTURAL GRAPHICS Drawing Media SYLLABUS

6 of 7

### Additional Equipment Requirements ~ *After Midterm*

White gesso, 8 oz jar

Palette/painting knife

Water color natural-hair round brushes (one small, one medium, one larger, and one mop for washes)

Water color wash & mop brushes (one Round Small and one Round Large)

Water color paint tubes WINSOR & NEWTON - or equal - (one each: Cadmium Red, Cobalt Blue, Burnt Umber, Payne's Gray)

Water color pads with bound, glued edges

Plastic palette tray

Small plastic or glass water containers, with lids (three minimum)



Gordon Cullen, sketches, THE CONCISE TOWNSCAPE

## ADVANCED ARCHITECTURAL GRAPHICS Drawing Media SYLLABUS

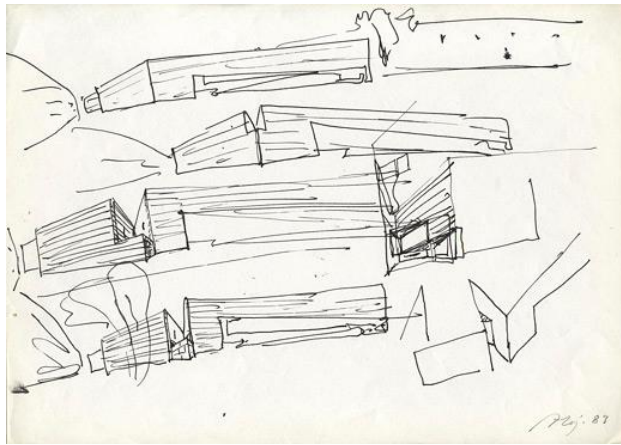
7 of 7

*Computers arrived too late for me. I don't believe I can use them to their potential. It's a personal problem.*

*The computer pushes for a rigour that is hard to include in research development; it can't accommodate the doubts that are necessary, and this can be difficult for creativity. I see the computer as another instrument, complementary to sketches, models, reading and so on – not as an exclusive way of working.*

Alvaro Siza, RIBA Royal Gold Medal winner 2009, Pritzker Prize winner 1992

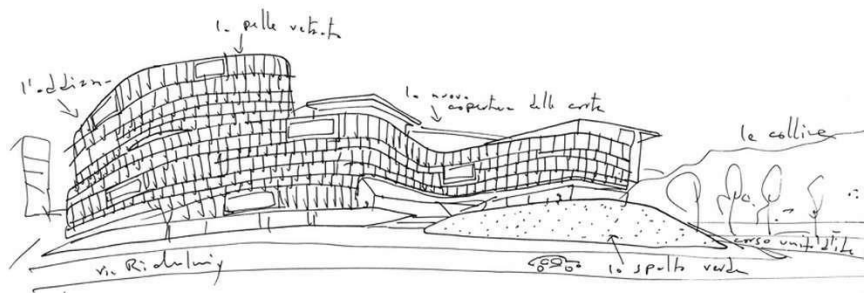
**Alvaro Siza: Interview**, Architectural Review, 2009



Alvaro Siza, design sketches, "All cities are my city" exhibition

*Drawing by hand is still very different from drawing by computer: the hand that traces a line on a piece of paper, working in unison with the eye that controls it and send neuronal waves to its muscles, has very sophisticated "feedback" mechanisms which are still lacking in the electronic version. . . . A game has rules but also a goal, and a professional study is like a rock band trying to play together to transfigure technique into an aural body - or a physical one - which has consistency, character, grace.*

Cino Zucchi, INSPIRATION AND PROCESS IN ARCHITECTURE, published by Moleskine srl



Cino Zucchi, design sketch, National Automobile Museum, Turin