

Course Syllabus

Arch 101, Studio 1a - Fall Term 2009

M, W, F, 2 - 5 pm, 3201 Arch, First Year Studio

Judith Bing, Instructor, 2 + 4 Option Coordinator

Lauren Karwoski-Magee, Instructor

University Course Catalogue Description: ARCH 101

Introduces basic architectural design principles. Elementary concepts of space, surface, and form will be explored in two- and three-dimensional abstract exercises.

Incorporates observational analysis and graphic skills.

(2 hours lecture / 5 hours lab. / 4.5 credits)

Required course for all *Two + Four Option* Architecture majors.

INTRODUCTION to the DESIGN STUDIO SEQUENCE

Studio 1a is the first in a sequence of design studio courses that form the backbone of Drexel's architecture program. As with architecture schools throughout the world, we at Drexel position the design studio at the center of the curriculum. This course carries more credits, and demands more of your involvement, than any other class you will be required to take. We give this emphasis to the studio course because design encompasses the essential capabilities that characterize architects, from the basics of manipulating form and space to the complexities of creating large building projects.

We live in a world that is almost entirely influenced by man's designs. Most of the places you have experienced in your lifetime are essentially man-made (or altered by man), apart from the most remote spaces of nature. Even our climate appears to have become a product of man's intervention. Design, in its largest sense, is about our interventions in the spaces and situations that surround us. In that sense everyone is a designer, whether consciously or not. However, architects assume an active responsibility for the built forms that constitute our habitable environment. Our concerns include not only a building's form and functions, but also the experiences buildings offer which contribute to our social context and artistic culture.

Our profession is historically rooted in construction. The first architects were building craftsmen, inventors and engineers as much as artists. They designed fortifications and bridges as well as palaces and temples. Other early architects, forgotten by history, built locally for their own needs out of available resources, and created modest buildings of exceptional beauty, which we admire without knowing their designers' names. In former times, each generation of architects learned slowly, through apprenticeship to master builders. Only in modern times have we formed schools that attempt to compress the learning process into a few short years. The challenge of the design studio today is to establish a living connection for each student with an architectural culture that has endured for millennia, and to renew that culture as we look ahead to the challenges of the twenty-first century.

Within the studio, understanding of design principles and processes combines with knowledge from other realms to fuel ideas, experimentation and creativity, and ultimately, to generate proposals for new compositions, forms and spaces. A continuous process of investigation, proposal, testing, and revision, is the best system we know for bringing forth successful designs. The design studio is a laboratory for experiment, and the hours spent there are intended to be questioning and open-ended. Design does not involve right or wrong answers, rather alternatives and variations that can be considered more or less successful from several points of view.

Outside the studio, the city and region offer a treasury of examples of designed environments that illuminate and enrich design projects. A solid introduction to design principles benefits from critical observation and analysis of existing designs. Good new design evolves out of intelligent engagement with the ideas and accomplishments of previous generations.

When Vitruvius, an architect and engineer of ancient Rome, wrote his influential treatise on architecture, he identified three criteria that he considered essential to good design: *firmitas*, *utilitas*, *venustas* (strength, usefulness, beauty). In our design studios we will explore the nature of these criteria, which combine the practical and artistic intentions that distinguish architecture.

STUDIO 1a within the *TWO + FOUR OPTION*

Studio 1a is the first in a sequence of six studios that form the two-year daytime design component of the *Two + Four Option*. Our sequence of three pairs of studio courses corresponds with the first three years of the Evening Program, since students from both programs join together in the level four evening studio to complete the Bachelor of Architecture course sequence at Drexel.

Studio 1a (fall) is paired with Studio 1b (winter) to introduce Basic Design Principles. In the spring, Studio 2a initiates Introductory Architectural Design, which continues in the fall of the next academic year in Studio 2b. Then, during the winter and spring terms of second year, Studios 3a and 3b form a course in Intermediate Architectural Design, which completes the daytime studio sequence and prepares students to work full time and continue the study of architecture in Drexel's Evening Program.

COURSE OBJECTIVES for STUDIO 1a: *BASIC DESIGN PRINCIPLES*

As a foundation for the study of architecture, the purpose of this course is to introduce the principles of design. Our method is twofold, involving both reflection (thinking) and action (making). Critical analysis of existing designs, along with course readings, will constitute the primary contexts for observation. Students will take notes and record observations in sketchbooks, compiling an Illustrated Dictionary of basic design terms and concepts. A sequence of Design Projects will challenge students to explore these principles through making – experimentation and fabrication – of primarily abstract compositions. These activities will make use of a variety of materials and techniques to build a solid base of skills. All projects will be issued and discussed in detail in class; only an outline Course Schedule is attached to this Syllabus. Individual critiques and class discussions will provide opportunities for interpretation, exchange of ideas, and integration of the term's diverse activities.

At the completion of the term, students should achieve understanding and ability in the following areas of design:

- Design Principles: understanding of Form, Order and Composition
- Design Thinking: ability to observe and evaluate work created by others
- Design Communication: ability to use words and images to communicate project concepts as well as ideas and observations about the work of others
- Design Process: understanding of the developmental stages of design – concept, development, critique, transformation, refinement, resolution
- Design Skills: ability to apply a variety of media for drawing and modeling purposes

COURSE FORMAT

The studio meets three times a week, for three hours each meeting. The term's work will be organized to combine in-studio design projects with field trip-based observation exercises.

Assignments will vary in length and complexity, involving work during class as well as substantial “homework,” requiring many additional hours during the week and weekends. All assignments will be discussed verbally and issued in written form, to clarify project objectives, requirements and due dates. Studio class sessions are varied, most often spent discussing and working on design projects. An outline Course Schedule is attached to this Syllabus.

The course syllabus (this document) will be available online through the Drexel BbVista site for this course. Course readings outside the required texts will be available on the Hagerty Library website, under Electronic Course Reserves (under ARCH 101/Bing).

COURSE TEXTS and BIBLIOGRAPHY

Over the summer, we recommended books for you to read. These are required for Studio 1a, along with others. Copies of the books required for this course may be purchased at the Drexel Bookstore.

Required Reading / Purchase:

Experiencing Architecture, by Steen Eiler Rasmussen, 2nd edition (Cambridge: The MIT Press, 1964)

Architecture: Form, Space and Order, by Francis D. K. Ching, 3rd edition (Hoboken: John Wiley & Sons, 2007)

Design Drawing, by Francis D. K. Ching (Hoboken: John Wiley & Sons, 1997)

Architect? A Candid Guide to the Profession, by Roger K. Lewis, revised edition (Cambridge: The MIT Press, 1998)

A Course Bibliography lists books of special value to beginning architecture students, and applies to this course as well as to Studios 1b and 2a. These books are available at Hagerty Library, and many are also available at architectural bookstores in Philadelphia.

COURSE MATERIALS and EQUIPMENT

You must keep all printed course handouts for reference, and will need a loose-leaf binder for this purpose. Bring this binder of information with you to every class.

Computers: You are expected to use your own laptop computer in the studio, where you are connected with the University network and to our own lab facility. We recommend use of a computer cable lock for security.

Attached to this syllabus is a List of Course Materials and Equipment. All the tools and supplies on this list are required for this course or for Architectural Drawing I (ARCH 151). These supplies have been purchased in bulk for you at a cut-rate price, with a membership option for AIAS, Drexel’s AIA student organization. You have been asked by advance mailing to bring a check to cover the cost for your portion. A few specialty items and shared materials must be acquired separately, and will be discussed in class.

Later in the term you will need to acquire additional supplies as projects become more complex, but the tools in this kit will last for many years. Basic materials are available in limited selection at the Drexel Bookstore, but the best selection is available at the local art stores indicated on the materials list, where student discount cards are available (with Drexel ID).

You are expected to have the required project tools and supplies available for every class meeting.

ATTENDANCE POLICY

Attendance is mandatory for all class meetings. If you exceed a total of three *unexcused absences* your term grade will be lowered by one grade increment. It is your responsibility to keep track of your absence status. Roll will be taken at the beginning of class. Unexcused lateness to or early departure from class will be recorded as lateness, and two lateness marks will add up to one unexcused absence. *Excused absences* are allowed for severe illness and emergencies, and must be documented in writing by your dormitory resident, sports coach, parent, or doctor. This note must be presented prior to the absence, or on the first day of your return.

In the event that you do miss class(es), please be aware that we expect you to stay informed of assignments and any special activities or tools/materials you might need, on the day you return. It is furthermore expected that you will always attend class with all required tools and materials. If you do not have the required supplies you may be marked absent for that class.

ASSIGNMENT SUBMISSION POLICY

You must identify all assignments with your name, inconspicuously located.

Late assignments are accepted when an excused absence has occurred. Other late submissions (unrelated to excused absence) will automatically receive a lowered grade. You must make a clear agreement with your instructor regarding a schedule for making up late work. Assignments not submitted will ultimately be given a failing grade.

All completed work must be kept in the studio for the duration of the term.

GRADING POLICY

Term grading will follow the standards published in the Drexel University Student Handbook. Design projects will be discussed during class critiques, and evaluated in writing at the end of each project sequence. The project grading system we use will be detailed further in class.

Consideration will be given for the quality and breadth of design thinking, communication of ideas, class participation, exploration and resolution of design projects, and project craftsmanship. Overall course participation in discussions and class events will be factored into the final term grade.

STUDIO CONDUCT

It is expected that you will do studio course work within the design studio, and the facilities have been designed to accommodate your needs generously. It is your responsibility to keep this space tidy and secure. Each student will have studio key, to carry and use at all times, so that the room can be kept locked when not in use. You are required to sign a Studio Agreement to ensure care of studio facilities. Professional demeanor and respect for our facilities and for building security are required of everyone in the class. *Our program's Two + Four Studio Policies will be issued and discussed during the first class of the term.*

As with all Drexel buildings, no smoking is permitted. Listening to music and playing computer games are not permitted during class; outside of class time headsets must be used to limit noise. Food and drink are permitted only with thorough clean-up, and never in the computer lab. No cutting is permitted for any purpose on drafting board surfaces. Special cutting surfaces are part of the supply list, and must be used at all times. No aerosol sprays may be used within the classroom except within the designated paint booth. You are responsible to keep your desk area reasonably clean. *Anything left on the floor risks being thrown out by the cleaning staff.*

NAAB (NATIONAL ARCHITECTURAL ACCREDITATION BOARD) CONDITIONS FOR ACCREDITATION & STUDENT PERFORMANCE CRITERIA

Studio 1a course content addresses student performance criteria required for professional accreditation of our architecture program. These criteria consist of specified abilities and understandings that graduating students must demonstrate. The following criteria are covered in this course:

Abilities: 1. Speaking and Writing Skill, 2. Critical Thinking Skill, 3. Graphic Skill, 5. Fundamental Design Skill, 6. Collaborative Skill

Understandings: 7. Western Traditions, 8. Non-Western Traditions, 9. National and Regional Traditions

The *2009 NAAB Conditions for Accreditation* can be found on the NAAB website at http://www.naab.org/accreditation/Resources_Students.aspx. Descriptions of the *Student Performance Criteria* can be found in this document.

STUDIO CULTURE POLICY

The Department of Architecture has instituted a *Studio Culture Policy* to reinforce a positive and respectful learning environment through the encouragement of the fundamental values of optimism, respect, sharing, engagement, and innovation between and among the members of its faculty, student body, administration, and staff. The *Studio Culture Policy* is posted at http://www.drexel.edu/westphal/academics/undergraduate/architecture/studio_culture_policy05-06.asp, on the department's website. Paper copies of this document are available at the Department of Architecture office at 3201 Arch Street.

STUDENT ADVISING and FACULTY OFFICE HOURS

Professor Bing is your official advisor as a first year architecture student, and can assist you regarding the *2 + 4 Option* and other University issues. Both Professors Bing and Karwoski-Magee are available outside of class time for individual questions and advising related to this course. It is best to make an appointment in advance, during the office hours they provide. You are also encouraged to use Email to ask questions and to check for our messages to you. Please use your drexel.edu address.

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COURSE SCHEDULE, ARCH 101, fall 2009

Wk/day	Date	Activities:	Assignments:
1 M W F	9/21 9/23 9/25	Course Introduction Project 1: Rittenhouse Square Slide Lecture: Cities & Design	(Note: Detailed daily assignments will issued in project handouts; only final due dates are listed here.)
2 M W F	9/28 9/30 10/02	<u>Review Project 1</u> Project 2: An Egg Container Group reviews, version 1	Project 1 due
3 M W F	10/05 10/07 10/09	<u>Review Project 2</u> Project 2 Group Analysis Project 3: Figure/Ground Transformations	Project 2 due
4 M W F	10/12 10/14 10/16	<i>Columbus Day holiday - no class</i> Review Proj. 3, Part I Review Proj. 3, Part II	
5 M W F	10/19 10/21 10/23	Review Proj. 3, Part III Individual crits, Part IV <u>Review Project 3, Parts I - IV</u>	Project 3 due
6 M W F	10/26 10/28 10/30	Project 4: The Cube Review 4" Cube Design crits, 6" cube	Mid-Term Sketchbook Review
7 M W F	11/02 11/04 11/06	Review 6" cube Review revisions, 6" cube Review layout drawings	
8 M W F	11/09 11/11 11/13	<u>Review Project 4, cubes & drawings</u> Project 5: Corridor Transformation Site selection / form teams / lecture Prepare design models	Project 4 due
9 M W F	11/16 11/18 11/20	Team crits Individual crits Interim Review, Corridor Transform.	
10 M W+F	11/23 11/25+27	Team crits <i>Thanksgiving holiday - no classes</i>	
11 M W F	11/30 12/02 12/04	Team Crits, Discuss Final Review Sketchbooks due Corridor installation / crit Corridor installation / crit	Sketchbooks due
12 M	12/06	FINAL REVIEW: Project 5	Project 5 due

COURSE BIBLIOGRAPHY

Arch 101-103, Studios 1a - 2b

The following books are recommended reading for all beginning architecture students. All of these books are available at Hagerty Library, and many are also available for purchase online, or at local architectural bookstores.

BASIC DESIGN PRINCIPLES / INTRODUCTION TO ARCHITECTURE

Ching, Francis D.K. **Architecture: Form, Space and Order** (3rd edition). John Wiley & Sons, 2007

Martinez, Benjamin and Jacqueline Block. **Visual Forces, an introduction to design.** Prentice Hall, 1988 (2nd edition, 1995).

Moore, Charles and Gerald Allen. **Dimensions: Space, Shape and Scale in Architecture.** Architectural Record Books, 1976.

Rasmussen, Steen Eiler. **Experiencing Architecture.** The M.I.T. Press, 1959.

Von Meiss, Pierre. **Elements of Architecture.** Van Nostrand Reinhold (Int'l.), 1989.

ARCHITECTURAL DRAWING: VISUALIZATION, ANALYSIS and REPRESENTATION

Ching, Frank. **Architectural Graphics.** Van Nostrand Reinhold, 1996 (third edition).

Ching, Francis D. K. **Design Drawing.** Van Nostrand Reinhold, 1998.

Crowe, Norman, and Paul Laseau. **Visual Notes for Architects and Designers.** Van Nostrand Reinhold, 1984.

Ramsay/Sleeper. **Architectural Graphic Standards.** Student Edition. John Wiley & Sons, 1989.

ARCHITECTURE, SOCIETY and THE CITY

Bacon, Edmund N., **Design of Cities.** Penguin Books, revised edition, 1974.

Cullen, Gordon. **The Concise Townscape.** Van Nostrand Reinhold, 1961.

Jacobs, Allan B., **Great Streets.** The MIT Press, 1993.

Jacobs, Jane. **The Death and Life of Great American Cities.** Random House, 1961.

Kostof, Spiro. **A History of Architecture: Settings and Rituals.** Oxford Univ. Press.

Lynch, Kevin. **The Image of the City.** The MIT Press, 1960.

Moore, Charles, Gerald Allen and Donlyn Lyndon. **The Place of Houses.** Holt, Rinehart and Winston, 1974.

ARCHITECTURAL TECHNOLOGY & CONSTRUCTION

Allen, Edward. **How Buildings Work, The Natural Order of Architecture.** Oxford Univ. Press, 1980.

Ching, Frank. **Building Construction Illustrated** (2nd edition). Van Nostrand Reinhold, 1991.

Salvadori, Mario. **Why Buildings Stand Up: the strength of architecture.** Norton, 1980.

THE ARCHITECTURAL PROFESSION

Lewis, Roger K. **Architect? A Candid Guide to the Profession** (revised edition). The MIT Press, 1998.

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ARCHITECTURAL BOOKSTORES in PHILADELPHIA

AIA Bookstore, 1218 Arch Street

Borders, 1 South Broad Street

Joseph Fox Book Shop, 1724 Sansom Street

Penn Bookstore, 3601 Walnut Street

COURSE MATERIALS and EQUIPMENT / Basic Start-up Supplies
ARCH 101 (Studio 1a) and ARCH 151 (Architectural Drawing I), Fall 2009

11" x 14" sketchbook, spiral-bound (Strathmore or Canson "Sketch," 60# min., 100 pages)
5 ½" x 8 ½" sketchbook, spiral-bound (Strathmore or Canson "Sketch," 60# min., 100 pages, recycled paper)
18" x 24" tablet of newsprint, Rough (100 sheets)
12"x18" white construction paper (50 sheets)
12"x18" black construction paper (50 sheets)
30" x 5-yd roll of Clearprint Design Vellum (16lb)
14" x 50-yd white tracing paper roll (Beifang or equivalent, 7.5lb)
14" x 50-yd canary yellow tracing paper roll (Beifang or equivalent, 7.5lb)
19" x 25" white drawing paper (Canson Mietentes #335)
24" x 36" white foamcore, 3/16" thick
22" x 30" white Strathmore Bristol board, 3-ply, hot press (white core, smooth finish)
30" x 40" chipboard, 1/16" thick
1/4" x 1/4" x 24" basswood sections, 20 strips
1/8" x 1/8" x 24" basswood sections, 20 strips
1/16" x ½" x 24" basswood sections, 20 strips
1" x 1" x 24" basswood sections, 2 strips
3/32" x 3" x 24" basswood sections, 6 sheets
.060" x 12" x 24" Plexiglas, 2 sheets
2-lb. block modeling clay, Roma "Plastilina" No. 2 (medium, beige)
Hardwood clay modeling tool, style # 12 (break packs to fill)
Wood-cased drawing pencils, 6B (Derwent or equivalent), x 2
Wood-cased drawing pencils, 2B (Derwent or equivalent), x 2
Wood-cased drawing pencils, 2H (Derwent or equivalent), x 2
#314 black "Draughting" pencils (General Pencil), x 2
Koh-I-Noor 5616 Adapto Lead Holder with metal barrel and knurled finger grip lead-holder
Rotary lead pointer (Alvin)
12-count box of 2mm HB leads (Sanford "Turquoise")
12-count box of 2mm 2H leads (Sanford "Turquoise")
Prismacolor Premier Color Pencil pencils, basic 24-color boxed set
Pencil sharpener (Faber-Castell "Trio", with 3 sharpener hole sizes and container for erasures)
½" x 60-yd roll of drafting tape (Scotch)
White plastic eraser (Staedtler Mars)
Kneaded rubber eraser
Metal erasing shield (Alvin or C-Thru)
set of six Pigma "Micron" drawing pens, with black India ink (005, 01, 02, 03, 05, 08)
Sharpie Ultra-Fine Point Markers (black), x 2
2 Sharpie Fine Point Markers (black), x 2
4 Pilot Precise V5 Liquid Ink Rollerball Pens (0.5mm, black), x 4
10" acrylic 45/90 inking triangle (Alvin or Koh-i-noor)
10" acrylic 30/60/90 inking triangle (Alvin or Koh-i-noor)
4" acrylic 30/60/90 inking triangle (Alvin or Koh-i-noor)
10" acrylic adjustable triangle (Alvin or Koh-i-noor)
Large bow compass with center wheel adjustment (Alvin 13.75" max. diameter)
Circle template (Berol or equivalent, plastic, with circles up to 1-1/2")
Drafting brush, 14" horsehair (Alvin)
3-piece inking French curve set (Alvin or equivalent)
Container of 3/8" push pins (100 pins, clear only, Moore or equivalent)
Container of 5/8" push pins (100 pins, aluminum head only)
24" x 36" self-healing polypropylene cutting mat, gridded (Alvin)
24" stainless steel flexible non-slip cork backed ruler with etched-on imperial and metric rule
X-Acto #1 Precision Knife
Replacement #11 blades for X-Acto #1 Knife (in 15-pack/dispenser)
6" Retractable Utility (matte) Knife (with metal exterior case, not plastic)
5 Replacement Blades for Utility Knife
Mitre box set with saw and handle (X-Acto)
12" Architect's triangular Scale Rule with engraved gradations (Alvin student or equivalent)

12" Engineering triangular Scale Rule with engraved gradations (Alvin student or equivalent)
8 oz. container white glue (Elmers)
Can of Rubber cement (with brush)
Rubber cement pick-up
23" x 31" Black portfolio drawing case with ties and interior protective flaps
25-foot x 1" Tape Measure with imperial and metric units
11" x 14" sketchbook,
spiral-bound (Strathmore or Canson "Sketch," 60# min., 100 pages)

FOR INDIVIDUAL or GROUP PURCHASE:

a personal footlocker(storage bin) with padlock, minimum 32" long x 18" deep x 14" tall
additional course supplies to be defined in class: construction paper, corrugated cardboard, white string,
aluminum mesh screen, wire, plain wood toothpicks, straight pins , and possible others

Stores in Philadelphia where art/architecture supplies can be purchased:

Utrecht Art Supply - 2020 Chestnut Street, 215 546-7798
Blick Art Materials – 1330 Chestnut Street, 215 545-3214
Pearl Arts & Craft Discount Center - 417 South Street (at 4th Street) , 215 238-1900
Taws - 1527 Walnut Street (between 15th and 16th Streets), 215 563-8742
Merion Art & Repro Center – 17 w. Lancaster Ave., Ardmore, PA, 610 896-6161