

Course Descriptions and Outlines

Department of Architectural Technology

ARCH 1110 ARCHITECTURAL DESIGN I: FOUNDATIONS

6 lab/studio hours, 3 credits

Course Description: Architectural Design I: Foundations is the first course in the one-year foundation sequence which increases the student's ability to perceive visual cues, create visual design, formulate concepts, and render ideas in two or three dimensions. Students will use a combination of hand and digital skills to aid in the creation and interpretation of three dimensional objects and space, and the delineation of the same using standard projection systems.

Course context: This course is a required first step in the Design Studio sequence.

Prerequisites: None

Co-requisites: ARCH 1191 Visual Studies I

Required Text:

In the form of a reader:

1. Hannah, Gail Greet. Elements of Design: Rowena Reed Kostellow and the Structure of Visual Relationships, pp.44-57.
2. Elam, Kimberly. Geometry of Design. Pages 44-75.
3. Durer, Albrecht. Of the Just Shaping of Letters.
Web URL, PDF: <<http://sean.gleeson.us/2006/03/08/durers-crazy-idea>>
4. Benedict, William. ARCH 121 SYLLABUS. Pages 29-40.

Recommended texts:

Benedict, William. Base, 121, 122, 123 Syllabi, Drawing Form, Creating Relationships. San Luis Obispo, CA: El Corral Publications, 2007. PDF. <www.williambenedict.com>

Ching, Francis D.K. Architecture: Form, Space, and Order (latest edition). New York, NY: John Wiley & Sons, Inc., 1996 (or most recent). Print.

Elam, Kimberly. Geometry of Design: Studies in Proportion and Composition. New York, NY: Princeton Architectural Press, 2001. Print.

Hannah, Gail Greet. Elements of Design: Rowena Reed Kostellow and the Structures of Visual Relationships. New York, NY: Princeton Architectural Press, 2002. Print.

Required Tools:

1. Lead Holder
2. Lead Holder Sharpener
3. Leads: 2H, HB, H, 2B
4. 12" and 3" 30°/60° Triangle
5. 12" and 3" 45° Triangle
6. White Eraser
7. Erasing Shield
8. 12" Architect's Scale
9. Prismacolor Color Pencils: Black, 20%, 50%, 70% Gray, White
10. Micron Permanent Black Ink Pens: 005, 01, 03 Weights
11. Faber-Castell Permanent Black Ink Pens: S, F, M Weights
12. 9"x12" Self-Healing Cutting Mat
13. 12" Alvin Rolling Ruler
14. Alvin Adjustable Compass
15. Olfa Knife OR
16. #11 X-Acto Knife & Blades
17. 18" Metal Ruler w/ Cork

18. Super Glue
19. White Glue
20. French Curves
21. Drawing Transport Tube
22. Art Bin/Tackle box
23. 12" White Tracing Paper
24. 11"x17" Vellum Pad
25. 11"x17" Mylar Sheets
26. 8 ½"x11" Sketch Paper
27. 8 ½"x11" Black Paper (5)
28. 8 ½"x11" Sheet Protectors

Attendance Policy: No more than 10% absences are permitted during the semester. For the purposes of record, two lateness are considered as one absence. Exceeding this limit will expose the student to failing at the discretion of the instructor.

Course Structure: This course is the first design studio which will include lectures, student presentations, guest critics, in-class workshops, and charrettes. The students will be given problems in a week to week sequence. Each problem will involve a cyclical iteration of the design process in which new skills in a variety of media will be acquired. Students will give verbal and graphic presentations of their designs which will demonstrate agility with vocabulary, concepts, and result in a critical class discussion to assess quality of the work. Work will be completed both in and outside of class. Written evaluation for each week will be provided by the professor and fellow classmates. Students should keep record of their own progress in a spreadsheet.

Learning Objectives

Upon successful completion of this course, the student will:

1. **Implement** an iterative design process from problem identification, information gathering, solution generation and evaluation, implementation, presentation, and overall project evaluation. (Knowledge)
2. **Incorporate** design concepts and vocabulary into design process and presentations. (Knowledge)
3. **Distinguish** between media and **determine** the appropriate method and media required to complete a drawing or model. (Gen Ed)
4. **Communicate** ideas and information both verbally and through writing. (Gen Ed)
5. **Develop** and **apply** professional vocabulary. (Gen Ed)
6. **Produce** orthographic, axonometric, perspective, and architectural vignette drawings. (Skill)
7. **Utilize** analogue and digital media to create drawings and models. (Skill)

Assessment

To evaluate the students' achievement of the learning objectives, the professor will do the following:

1. **Review** students' creative process (initial sketches through to the final project) by means of frequent pin-ups. (Los: 1,2, 3, 6, 7)
2. **Assess** the students' use of professional vocabulary during oral presentations. (Los: 2, 4, 5)
3. **Review** students' written descriptions of design work and feedback. (Los: 4, 5)

Grading:

Weekly Sketches	10%
Projects	80%
Sketchbook	5%
Class Participation	5%

Academic Integrity: Students and all others who work with information, ideas, texts, images, music, inventions and other intellectual property owe their audience and sources accuracy and honesty in using, crediting and citation of sources. As a community of intellectual and professional workers, the college recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and is punishable by penalties, including failing grades, suspension and expulsion.

Course Outline: At the beginning of each semester, students should prepare a spreadsheet with each exercise and their relative grade weights. Each exercise will have a Craft grade and a Design grade. Students should keep track of their own progress in this way.

WEEKLY SKETCHES

A total of 10 weekly sketches will be completed per semester as homework. Each sketch has a clearly defined focus and method such as blind contour form study, positive and negative space, shade and shadow, texture, light, depth, perspective, and scale. Sketches will explore a variety of paper and drawing media. Thumbnail study sketches should be completed in a sketchbook prior to preparing the final sketch on 8 ½"x11" paper. Hand letter on the back of each sketch the intention, time it took to complete, and the location.

WEEK 1:

Lecture: **RECTILINEAR FORM:** Identify axis in rectilinear forms and recognize hierarchy and dominance of volumes based on proportion. Group forms to create a visually pleasing unified object.

Lab & Homework: **EXERCISE 1**

1. Construct nine (9) rectangular volumes of white clay of varying sizes, but all smaller than 4" in the greatest dimension.
2. Identify dominant forms, subdominant forms, and subordinate forms. Identify the dominant axis of each volume.
3. Assemble groupings of 3 rectangular volumes (a total of 3 groupings) and secure to a ½" thick foamcore base.

Reading: Hannah, Gail Greet. Elements of Design: Rowena Reed Kostellow and the Structure of Visual Relationships, pp.44-57.

WEEK 2:

Lecture: **DELINEATING RECTILINEAR FORM:** Represent 3-D form in 2-D drawings which communicate depth and relationships between parts. Present and review Exercise 1.

Lab & Homework: **EXERCISE 2**

1. Work with one of your groupings from the previous exercise. Construct multi-view drawings of your grouping by tracing freehand over drafted construction lines.
2. Indicate the dominant, subdominant, and subordinate forms graphically. Label and dimension the axis of each volume. Indicate the ratio of length to width.

WEEK 3:

Lecture: **BASIC PATTERN RECOGNITION:** Identify attributes of an illustration and record their properties and affect. Present and review Exercise 2.

Lab & Homework: **EXERCISE 3**

1. Identify the basic pattern areas in an illustration (magazine or architectural lecture series poster) by outlining their contours on tracing paper.
2. Describe the attributes: number, position, size, shape, direction, texture, surface quality, and color. Explain why these attributes enhance or support the intent of the illustration.
3. Create an 11"x17" presentation board with the original clipping, the basic pattern area identification overlay, and inventory of attributes in either horizontal or vertical format. Label all parts of the presentation with lettering.

Reading: Elam, Kimberly. *Geometry of Design*. Pages 44-75.

WEEK 4:

Lecture: **BASIC GEOMETRY RECOGNITION:** Identify underlying geometries and proportions of an illustration. Present and review Exercise 3.

Lab & Homework: **EXERCISE 4**

1. Using the same illustration as the previous exercise, identify the overall organizing geometries of the page and its' objects by hardline drafting over them on tracing paper.
2. Label dimensions, radii, angles, and identify the center of the page. Describe the geometric layout in sentence format.
3. Scan the illustration and overlay. Create an 11"x17" presentation board with the clipping, overlay, and description.

WEEK 5 & 6:

Lecture: DURER'S ALPHABET: Understand geometric proportions described in written form to draft an accurate representation through multi-view orthographic and paraline drawings. Present and review Exercise 4.

Lab & Homework: **EXERCISE 5**

1. Based on Albrecht Durer's written description, choose a letter of the alphabet and construct a precise and perfectly proportioned drawing. Preserve your construction lines.
2. Imagine the letter was extruded to fit a 4" cube then draw all 6 sides of the object. Draw a plan oblique view and a set of multi-view drawings (including sections) of the letter and add shading.
3. Reconstruct your 6 orthographic drawings in vector graphics software (Adobe Illustrator), and add line weights for construction lines and final lines. Students may scan hand drawings and scale appropriately in software.

Reading: Durer, Albrecht. *Of the Just Shaping of Letters.*

Web URL, PDF: <<http://sean.gleeson.us/2006/03/08/durers-crazy-idea>>

WEEK 7 & 8:

Lecture: DURER ABSTRACTED: Use geometric proportions to derive a 6-sided form which addresses a given use. Present and review Exercise 5.

Lab & Homework: **EXERCISE 6**

1. Using your multi-view drawings from the previous assignment, keep only the construction lines. Select lines and shapes created from these lines to project onto the faces of a 4" foam cube.
2. Cut into the foam cube based on the lines. Your cuts should be designed to hold a No. 2 pencil. All six sides of the cube should be able to hold a minimum of 8 pencils.
3. Create multi-view drawings of your cube. Create an isometric drawing of your cube with shading.
4. Create several 11"x17" presentation plates with your drawings from Exercises 5 and 6 in page layout software (Adobe InDesign). Include two photographs of your final model, and the original text description from Durer.

WEEK 9:

Lecture: SUBDIVISION & MULTIPLICATION: Use line weight, shading, hatching, and other methods of creating value to create hierarchy and depth in a 2-D drawing. Present and review Exercise 6.

Lab & Homework: **EXERCISE 7**

1. Overlay vellum over your printed drawings from the previous exercise. Choose one subdivision and one multiplication design and draft over it in pen. Exaggerate line weights in order to create multiple readings of the patterns. Repeat three (3) times.
2. Before redrawing your multiplication designs, thoughtfully site it within a 4" square using its' inherent geometry.
3. Using reverse poche, hatching, and gradient shading enhance your drawings and further differentiate them from each other.
4. Scan your drawings. Add a title and print on 11"x17" paper.

Reading: Benedict, William. *ARCH 121 SYLLABUS.* Pages 29-40.

WEEK 10:

Lecture: **GEOMETRIC HIERARCHY:** Use line weight, shading, hatching, and other methods of creating value to create hierarchy and depth in a 2-D drawing. Present and review Exercise 7.

Lab & Homework: **EXERCISE 8**

1. Overlay vellum over your printed drawings from the previous exercise. Choose one subdivision and one multiplication design and draft over it in pen. Exaggerate line weights in order to create multiple readings of the patterns. Repeat three (3) times.
2. Before redrawing your multiplication designs, thoughtfully site it within a 4" square using its' inherent geometry.
3. Using reverse poche, hatching, and gradient shading enhance your drawings and further differentiate them from each other.
4. Scan your drawings. Add a title and print on 11"x17" paper.

WEEK 11 & 12:

Lecture: **EXTRUDED GEOMETRIES:** Extrude 2-D lines to create surfaces and volumes which explicitly and implicitly define space. Present and review Exercise 8.

Lab & Homework: **EXERCISE 9**

1. Choose one of your subdivision designs from the previous exercises. Using layered plan oblique drawings on tracing paper extrude lines and shapes to create surfaces and volumes.
2. Slide the volumes up and down in the vertical direction to create space. Add thickness to surfaces.
3. Trace over your spatial composition with pen on mylar and add shade. Draft plan and elevation views.
4. Construct shadows in plan and elevation and poche. Transfer shadows to plan oblique drawing.
5. Determine a scale for your composition by adding a person to the elevation.
6. Using the plan-projection method, construct a 2-point perspective of your composition.
7. Create several 11"x17" presentation plates to compliment your 11"x17" drawings from the previous two exercises.

WEEK 13 & 14:

Lecture: **MORE EXTRUDED GEOMETRIES:** Extrude 2-D lines to create surfaces and volumes relative to the scale of a person. Present and review Exercise 9.

Lab & Homework: **EXERCISE 10**

1. Working with the same subdivision design as the previous exercises, extrude lines and shapes to create surfaces and volumes in a 3-D vector modeling software (Rhino). Give surfaces thickness. Extrude heights with relation to a person assuming that your site is 16 feet square (1/4"=1'-0" scale).
2. Slide the volumes up and down in the vertical direction to create space.
3. Repeat with one of your multiplication designs.
4. Print axonometric, 1-point and 2-point perspective views of your two designs on 11"x17" paper.
5. Trace onto vellum freehand with line weights and line types. Add shading and entourage by hand.

WEEK 15:

Lecture: **FINAL PRESENTATION:** Final pin-up and presentation of Exercise 10 and all weekly sketches. Verbal presentations by students with a review jury of at least one outside critic. Written feedback on student performance completed and distributed.

Bibliography:

Hannah, Gail Greet. Elements of Design: Rowena Reed Kostellow and the Structure of Visual Relationships. New York: Princeton Architectural Press, 2002. Print.

Lupton, Ellen and Jennifer Cole Phillips. Graphic Design: The New Basics. New York, NY: Princeton Architectural Press, 2008. Print.

Zell, Mo. Architectural Drawing Course: Tools and Techniques for 2D and 3D Representation. Hauppauge, NY: Barron's Educational Series, Inc., 2008. Print.