ARCH 121 SYLLABUS

Design & Drawing 1.1



FORM & SPACE



As the structure is approached, the one foot offset in the beam height of the entry walls create the illusion of a solid wall. These two entry walls and a 10 foot tall rectangular raised volume hide the columns that surround the major space as well as the other elements that define it.

The entry is made up of two curved walls, each being 24 feet high. Beams go through the walls at certain heights to create a stepped look. The start of the entry wall has one or two beam cutouts, and after each wall column, two more beam cutouts are added. The major space can be viewed through the one foot slots on the inner entry wall.

The major space is defined by columns arranged Just inside the edges, a changing negative volume outside of it, and a hand rail set at four feet around it. From the major space, there are avariety of visual options. The beam cutouts in the south-east wall decrease in height by four feet, the beams that radiate out from the columns decrease by three feet, the columns decreases by three feet, the columns decreases by one foot. This creates a feeling of movement around the circular major space.

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QUARTER SCHEDULE

	Monday	Wednesday	Friday
Week 1 September 17	Class 1 Introduction Assign Project 1	Class 2 Assign Project #2	Class 3 Preliminary Due
Week 2 September 24	Class 4 Preliminary Due	Class 5 Preliminary Due	Class 6 Preliminary Due
Week 3 October 1	Class 7 Project 2 Due Assign Project 7 Assign Drawing 1	Class 8 Drawing 1 Due Assign Project 3	Class 9 Preliminary Due Assign Drawing 2
Week 4 October 8	Class 10 Project 1 Due Preliminary Due	Class 11 Drawing 2 Due	Class 12 Preliminary Due Assign Drawing 3
Week 5 October 15	Class 13 Project 3 Due Assign Project 4	Class 14 Drawing 3 Due	Class 15 Preliminary Due Assign Drawing 4
Week 6 October 22	Class 16 Preliminary Due	Class 17 Drawing 4 Due Evaluation Due	Class 18 Preliminary Due Assign Drawing 5
Week 7 October 29	Class 19 Project 4 Due Assign Project 5	Class 20 Project 4 Due Drawing 5 Due	Class 21 Project 4 Due Preliminary Due
Week 8 November 5	Class 22 Preliminary Due	Class 23 Project 7 Due	Class 24 Preliminary Due
Week 9 November 12	Holiday	Class 25 Project 5 Due Assign Project 6	Class 26 Preliminary Due
Week 10 November 19	Class 27 Preliminary Due	Holiday	Holiday
Week 11 November 26	Class 28 Preliminary Due	Class 29 Project 6, Due Teacher Evaluation	Class 30 Final Review







CONTENT & OBJECTIVES



This course provides an introduction to the issues, concepts and processes associated with two- and threedimensional design; the concepts, methods and skills pertaining to the freehand, drafted and digital representation and visual communication of ideas, objects and environments; and, multiview, paraline and perspective pictorial systems.

Digital tools can be woven into the course as specified by the teacher or desired by the student. This provides an opportunity to apply the skills and concepts learned in ARCH 160 or known by the student.

Course Content

The course has two primary content areas. The first is two- and three-dimensional visual design and the second is visual communication. The design area includes both the design of things and their visual communication. Concepts that identify the means available to create things will include size, shape, material, context and relationship (pattern, hierarchy, contrast and balance) will be introduced and explored through a series of projects. The visual communication area includes an introduction to perception and the pictorial systems (multiview, paraline and perspective) used to represent the visual world.

Content areas are simultaneously explored through a variety of media so that students can learn related concepts, methods and skills in an environment that fosters critical evaluation of the media and their impact on the design process.

Content Sequence

Visual cues of three-dimensional form and space.

- Construction of two-dimensional geometric shapes.
- Line weight, texture and value to create the illusion of space and form.
- Principles, concepts and techniques for scanning and using image editing software. (Arch 160)
- Principles, concepts and techniques for using page layout software. (Arch 160)

Basic concepts of graphic design and communication.

Design concepts of implied versus explicit forms and patterns.

Design concepts of pattern, hierarchy, contrast and balance.

Freehand drawing principles and strategies.

- Axonometric and plan oblique drawing systems principles, conventions and techniques.
- Shading surfaces to reflect their orientation to a light source.
- Orthographic drawing system principles, conventions and techniques.
- Architectural concepts of space definition, sequence and figure.
- Concepts of implied versus explicit spatial definition.
- Direct lineal perspective drawing principles, conventions and techniques.
- Principles, concepts and techniques for incorporating people and vegetation in drawings and digital images.
- Principles, concepts and techniques for using 3D modeling software. (Arch 160)

Learning Objectives

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The following objectives form the basis for the first year Design & Visual Communication sequence of courses. Additional specific objectives are defined at the beginning of each project statement.

The student completing this course will be aware of:

Design:

- 1. A range of basic design concepts including size, shape, surface, material, context, number, variety and relationship (pattern, hierarchy, contrast and balance).
- 2. A range of ways that basic design concepts can be employed to create relationships between elements within a design or presentation.
- 3. A range of basic architectural design concepts.

Drawing:

- 1. A range of drawing systems and their conventions (orthographic, paraline and lineal perspective).
- 2. A range of graphic languages (combinations of line weight, texture and value) used to represent three-dimensional objects and environments on two-dimensional surfaces.
- 3. A range of media (i.e., pen, pencil, colored pencil, crayon, marker, computer) and approaches (i.e., freehand, drafted, contour, gesture) that can be employed in drawing and other visual communications.
- 4. A range of presentation methods (i.e. drawings, models, slides, computer images, etc.).
- 5. A range of principles, concepts and techniques for including entourage (people, vegetation, etc.) in architectural drawings.

Digital:

- 1. A range of software available to support drawing, design and visual communication (i.e., paint, draw, page layout, 3D modeling, communication, etc.).
- 2. A range of ways that analog information can be translated to digital information (i.e., scanners, digital cameras, etc.).

The student completing this course will understand:

Design:

- 1. The basic design concepts including size, shape, surface, material, context, number, variety and relationship (pattern, hierarchy, contrast and balance).
- 2. The value of the conscious application of the basic design concepts to the creation, development and communication of ideas.
- 3. A range of ways that basic design concepts can be employed to create relationships between elements within a design or presentation.

- 4. A range of basic architectural design concepts (i.e., approach, entry, arrival, open/implied versus closed/explicit space and clear spatial figure.
- 5. The difference between a concept and a specific design.

Drawing:

- 1. The information gathered by the human visual system and how it supports the perception of form and space.
- 2. The relationship between the information gathered from the visual world (i.e., surface properties and spatial cues) and graphic languages that can be employed to represent them in drawings.
- 3. The fundamental principles and concepts underlying orthographic, paraline and lineal perspective drawing systems.
- 4. The basic concepts and techniques used in direct, perspective construction.
- 5. The relationships of drawing system, technique, speed and media to appropriately and efficiently communicating the desired information.

Digital:

- 1. The function and relationship of the major hardware components of a typical stand-alone computer system.
- 2. The relationships between analogue and digital information and the translation of one to the other.
- 3. The capabilities of specified image editing, page layout and 3D modeling software.

The student completing this course will be able to:

Design

- 1. Plan, carry out and reflect on a process for creating a design solution.
- 2. Generate alternatives and develop solutions to defined design problems.
- Design things and communications that employ concepts of size, shape, surface, material, context, number, variety and relationship (pattern, hierarchy, contrast and balance) to create relationships between elements exhibiting an appropriate level of complexity.
- 4. Design abstract compositions and spaces that range from implied to explicit.
- 5. Develop a spatial design concept using sketch and drafted paraline drawings.
- 6. Create clear visual hierarchies in two- and three-dimensional designs.
- 7. Design spaces that have clear figures and support an approach, entry, arrival sequence.
- 8. Design spaces that exhibit different degrees of openness/ explicitness.
- 9. Design and execute two-dimensional presentations composed of drawings, images and/or text that support the intended communication.

Drawing:

- 1. Utilize a range of media, tools, techniques and pictorial systems to represent existing and imagined objects and environments on two-dimensional surfaces.
- Draw proportionally accurate one- and two-point eye-level perspectives that communicate the experience of being near things or within spaces.
- 3. Create the illusion of three-dimensional form and space on two-dimensional surfaces by employing a range of graphic languages (line weight, value and texture) to represent the properties and spatial cues (i.e. size, overlap, vertical location, aerilal perspective, light, shade, shadow, etc.) afforded by existing and imagined objects and environments.
- 4. Draw both freehand gesture and carefully constructed representations of existing and imagined objects and environments on two-dimensional surfaces.
- 5. Construct an accurate paraline drawing to present a final solution.
- 6. Incorporate people and trees into multiview, paraline and perspective representations to animate, give scale and enhance the illusion of form and depth.
- 7. Produce hand lettering that exhibits good form, consistency and alignment.

Digital:

- 1. Perform a range of functions and operations using specified image editing, page layout and 3D modeling applications.
- 2. Translate files to a variety of formats and transfer them between applications.
- 3. Construct a 3D digital model of a design concept and use it to evaluate, revise and present a final solution.

Applicable NAAB Criteria Defined

Verbal & Writing Skills

Ability to speak and write effectively on subject matter contained in the professional curriculum.

Graphic Skills

Ability to employ appropriate representational media, including computer technology, to convey essential formal elements at each stage of the programming and design process.

Fundamental Design Skills

Ability to apply basic organizational, spatial, structural, and constructional principles to the conception and development of interior and exterior spaces, building elements, and components.

Collaborative Skills

Ability to identify and assume diverse roles that maximize individual talents, and to cooperate with other students when working as members of a design team or in other settings.

Formal Ordering Systems

Understanding of the fundamentals of visual perception and the principles and systems of order that inform two- and three-dimensional design, architectural composition, and urban design.



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A	Ŀ	Ak		Evidence	
			1. Verbal & Writing Skills (Ability)	Present, Critique & Reflect	
			2. Graphic Skills (Ability)	Drawings & Presentations	
			3. Research Skills (Ability)		
			4. Critical Thinking Skills (Ability)		
			5. Fundamental Design Skills (Ability)	Design Process & Solutions	
			6. Collaborative Skill (Ability)	Small & Large Group Discussions	
			7. Human Behavior (Awareness)		
			8. Human Diversity (Awareness)		
			9. Use of Precedent (Ability)		
			10. Western Traditions (Understanding)		
			11. Non-Western Traditions (Awareness)		
			12. National & Regional Traditions (Understanding)		
			13. Environmental Conservation (Understanding)		
			14. Accessibility (Ability)		
			15. Site Conditions (Ability)		
			16. Formal Ordering Systems (Understanding)	Design, Presentation & Critique	
			17. Structural Systems (Understanding)		
			18. Environmental Systems (Understanding)		
			19. Life-Safety Systems (Understanding)		
			20. Building Envelope Systems (Understanding)		
			21. Building Service Systems (Understanding)		
			22. Building Systems Integration (Ability)		
			23. Legal Responsibilities (Understanding)		
			24. Building Code Compliance (Understanding)		
			25. Building Materials & Assemblies (Understanding)		
			26. Building Economics & Cost Control (Understanding)		
			27. Detailed Design Development (Ability)		
			28. Technical Documentation (Ability)		
			29. Comprehensive Design (Ability)		
			30. Program Preparation (Ability)		
			31. Legal Context of Arch Practice (Understanding)		
			32. Practice Organization & Management (Awareness)		
			33. Contracts & Documentation (Awareness)		
			34. Professional Internship (Understanding)		
			35. Architect's Leadership Roles (Awareness)		
			36. The Context of Architecture (Understanding)		
			37. Ethics & Professional Judgement (Understanding)		









TEXTS, SOFTWARE & MATERIALS

This section identifies the texts, software, equipment and materials that you will need for this studio. The texts, software and equipment are long term investments—they will be used and referred to in future courses and constitute the beginning of your professional library and work environment respectively. In addition, they should be a source of enjoyment for your eyes, mind and hands.

Texts & Software

The Required Texts provide the basic references for this course and are available in the text book section of El Corral Book Store.

Required Texts

Benedict, William R. *121 & 131 Syllabus* El Corral Publication

Benedict, William R. *Base Syllabus* El Corral Publication Used for Arch 121/131, 122/132 & 123/133

Benedict, William R. *Drawing Form* El Corral Publication Used for Arch 121/131, 122/132 & 123/133

Benedict, William R. *Creating Relationships* El Corral Publication Used for Arch 121/131, 122/132 & 123/133.

Ching, Francis D. K. with Steven P. Juroszek. 1998. Design Drawing. New York: Van Nostrand Reinhold Co. Used for Arch 121/131, 122/132 & 123/133

Software

All incoming students are required to have a laptop computer. The following 2-D software will be used in the first year studio program and Arch 160. The software is required for all architecture students taking Arch 131/2/3 or Arch 121/2/3 and 160 and recommended for all students taking Arch 121/2/3.

Adobe Creative Suite InDesign Photoshop Illustrator

Acrobat

The following 3-D software will be taught in Arch 131/2/3 and Arch 160 and is optional for all students taking the Arch 121/2/3 series.

Google, SketchUp

Autodessys, Form-Z

Equipment & Materials

The following lists identify equipment and materials that you may need during the quarter. Purchase those that you do not own on an as needed basis. The drawing instruments should last you for years and be used in many of your courses at Cal Poly. Purchase ones that feel good to you and are of the best quality that you can reasonably afford. The brands identified are provided as references. Any comparable brand that does the job and is satisfactory to you is acceptable.

In-Class Equipment & Materials

You must have the following materials and colored media with you at all times—class activities will assume there presence.

- Rolling Straight Edge: 12" long (Alvin, Rollo Ruler No. 298, \$21.00).
- Compass: Bow compass (Alvin, 508, 6 Bow Compass W/ADJ Adapter).
- Dividers: (Alvin 660, Divider, \$8.00).
- Architectural Scale: Triangular, 12" long (Staedtler Mars 987 18-31, \$8.00)
- Circle Template: 1/16" to 3" diameter circles (Picket, Circle Master 1204i, \$5.50).
- Drafting Pencils: Graphite drafting pencils grades 4H, 2H, F, H, HB, 3B and 6B (Staedtler, Mars Lumograph 100, \$1.00 each).
- Pencil Sharpener: For wood pencils (Sterling #605 or Staedtler 511-63, \$2.00).
- Sand Paper Block:
- Erasers (pencil): Pink Pearl & Kneaded Rubber.

Fiber Tip Pens: Black. Sakura, Pigma, Micron Pens 005, 01, 02, 03, and 08 (\$2.25 each). Pentel, Sign Pen, S520-12 (\$2) Pentel, Super-Fine Pen, SF70 (\$2) Pilot, Razor Point (\$1)

- Drafting Dots: For securing drawings to drawing board (Alvin #DM123, \$4.50).
- Three Ring Binder: 1" to 1.5" to hold the syllabus (\$4.00).
- Sketchbook: Cachet, Classic, 9" x 12", Wire-Bound, medium surface (\$14.00).
- Sketch Pad: 300 Series, Strathmore, Newsprint, Rough, 18 x 24, 50 Sheets, 35 lb. (\$5)
- Grid Paper: 40 sheets, 8.5" x 11" pad (Morilla, Cross Section, 8/8, \$4.00).
- Typing Paper: 100 sheets, 8.5" x 11", heavy weight, 25% cotton (Southworth Paper, Four Star, 20 lb, 403C, \$4.25)

- Sketch Tracing Paper: Roll of lightweight white tracing paper (Seth Cole, 50 yd. x 12", \$7.00).
- Equipment Box: Min. 14" interior dimension. A portable container such as a tackle or art box to organize and transport your equipment. You will also need to carry your drawings back and forth while protecting them from dirt, wrinkling and the whether.

Sheet Protectors: 8.5" x 11" nonglare plastic protectors for three ring binders. (K&M Division, Poly-VU #PV119G).

- Green & Red Plexiglass: 2" by 6" pieces available in the bookstore. (\$4.00)
- Colored Pencils (Prismacolor) (\$1.00 each) 938 White 1072 French G. 40%

1076 French G. 90% 1054 Warm Gray 40% 935 Black 924 Crimson Red 948 Sepia

- Crayons (Art Stix)
 - 1924 Crimson Red 1935 Black 1938 White 1948 Sepia
- Markers (Art Marker) (\$2.50 each) 98 Black 102 Warm Gray 40%

Additional Equipment & Materials

The following materials may be used during the quarter or be necessary for you to complete assignments at home. Purchase them as they are needed.

- Drawing Board: 23" x 31" (Alvin, AB616/4, Tilt-Angle White Dwg Bd 23x31, \$60.00)
- Parallel Bar: (Alvin, 1101-30, Parallel Straight Edge 30in, \$84.00)

Note: The drawing board and parallel bar will be required in class as specified by the teacher.

- Board Cover: Hot press white illustration board #201, Chip board or vinyl board cover (Borco, 37.5" wide \$6.00/ft).
- 45° Adjustable Triangle: Plastic, 8", 10" or 12" (\$20.00).

30/60° Triangle: Plastic, 12" (\$5.00).

- Erasing Shield: Stainless Steel (\$1.00).
- Metal Straight Edge: Used for constructing perspectives, long lines and as a cutting edge (Metal Ruler, Fairgate 20-137, 36" \$9.00).
- Grid Paper: As needed, 11" x 17" pad (Morilla, Cross Section, 8/8, \$5.25).
- Drafting Vellum: As needed, 11 x 17" (Clearprint, Fadeout, 1000HP-8, \$0.30 per sheet).
- Knife: X-Acto #5 (\$3.00) with #24 blades.
- Saw: X-Acto 1 1/4" deep fine tooth razor saw.
- Cutting Surface: Cuts will be cleaner and blades will last longer if you cut on a soft surface. Illustration board will work and there are also self-healing plastic cutting surfaces available (18" x 24", green or gray).
- Printer Ink Cartridges: Always have a spare set of ink cartridges for your inkjet printer. You will always run out at the wrong time.

Coated Inkjet Paper: For presentation prints: Epson, Matte Paper-Heavyweight 50 Sheets, \$13, S041257 Epson, Premium Glossy Photo Paper 20 Sheets, \$15, S041286 50 Sheets, \$35, S041667 Epson, Colorlife Photo Paper 20 Sheets, \$16, S041500

Your Work Space

You will need a place to work outside of class that is supportive of accurate drawing. The following items would constitute desirable components of that work space. The important thing is to create a comfortable and functional place to do your work.

- Work Table: A surface larger that your drawing board to provide layoff surface.
- Light: Adjustable counterpoise light with arms that permit it to be positioned over the specific area of work.
- Comfortable Chair or Stool: Do not underestimate the value of a chair the properly supports your back.
- Push pins and tack surface: This allows you to pin up your work for display, reference or examination.
- Desk or Dusting Brush: Various sizes and shapes (Staedtler 5391, \$3.00).

Computer Station

Be sure that there is no glare on the computer screen. This can be best accomplished by facing the screen toward a dimly lit and/ or darker surface. The screen should be placed at arms length with its angle and height set so that your head is at a comfortable angle. Working at the computer requires a comfortable chair that provides good lower back support.







DIGITAL DETAILS



Operating in the digital world requires that a few things be standardized so that we can more consistently communicate with each other and the output devices that we will employ. To this end the following digital guidelines are established.

Computer Typography

- The availability of computers and printers has allowed everyone to make typographic decisions. The highest quality type is achieved through the use of OpenType, PostScript or TrueType fonts. These fonts are infinitely scalable—they can be made any size and still retain their sharp clear form.
- The approach that will be taken in this studio is to limit type face choices and focus on developing the sensitivity and skill required to manipulate size, weight, leading and kerning to create the required typographic hierarchy and color.

Computer Typography Requirements

- All body text must be in upper and lower case—text set in all caps is harder to read.
- Final type should always be set with OpenType, PostScript or TrueType fonts and printed on 300 dpi printers.

Standard Faces

The only type faces that can be used are listed below. Limiting the fonts to those listed will ensure that your files can be read by others and will work in teacher's offices, classrooms and the computer lab in (05-308).

Arial Arial Black Comic Sans MS Courier Courier New Georga Helvetica Neue Impact Symbol Times Times New Roman Trebuchet MS Verdana

Digital Formatting

The digital presentation is as much a part of your presentation as any physical component. Just as you would organize a physical presentation you must organize the digital presentation. This may mean creating, renaming and editing files to meet requirements and clarify their contents and organization. The following requirements apply to the organization and naming of digital files that you will be handing in during the quarter.

- Note: Files and folders that are not named and organized as specified below and in the project statement will not be accepted and your project may be considered late.
- The CD may not contain files or folders that are not part of class assignments.
- All files and folders for the quarter must be in a folder that is named with the course number and your Cal Poly alias (e.g., 121_wbenedic).
- Within the folder for the quarter, each project must have its own folder that is given the name of the project (e.g., 01_Visual Cues).
- Files and folders within project folders must follow the requirements specified in the project statement or announced in class.
- File and folder names not specified must be logical and facilitate recognition of their content.
 - Bad: view_1 Good: bluedoor
- By the end of the quarter, the CD can contain all the required digital work for the quarter.



CD COVERS



Any CD that you submit must have a custom insert or cover. The design of the cover should be visually related to the current design project or one of the design projects for the quarter.

General CD Cover Requirements

Cover Format: 4.75" square for a thin jewel case. Program: Photoshop. Media: Inkjet print. Material: Heavy weight coated paper.

Your name must appear on the cover (e.g. Will Benedict).

Your name must be neatly printed on the CD (e.g., Will Benedict).

Electronically name the CD using you Cal Poly alias (e.g., wbenedic).

Initial CD Cover Requirements

- The cover must feature your first name—the name by which you want to be addressed. It must be created using a Clipping Group and Layer Style.
- Your last name must be included in much smaller type. It must use a Layer Style.
- All text must be clearly legible.
- You may use any type face you choose.
- All type layers must be rasterized before you hand in the Photoshop file. Choose Layer > Rasterize > Type.

Digital Requirements

- Create a Photoshop file that measures 4.75" square with a resolution of 150 dpi.
- Name the file "_cover" preceded by your Cal Poly alias (e.g., wbenedic_cover).
- Create one text layer with your first name—the name by which you want to be addressed.
- Create a second text layer with your last name.
- Create an Image or Color layer and place it above the layer with your first name. Name the layer appropriately.
- Create an Image or Color layer and place it below the layer with your first name. Name the layer appropriately.
- You may add other layers and Layer Effects as desired.

Reference

Refer to the Photoshop text and the example on the next page.

Due Dates

Final: Finished CD Cover and Photoshop file on disk. Due: As Defined in Class 20 11/2008

ARCH 121 Syllabus





NAME MNEMONIC



The word mnemonic comes from the Greek mneme, "to remember;" a mnemonic is essentially any technique that helps you remember something better. To help us learn each other's names we will develop name mnemonics. For example, several bones of water produces "Water Bones" for Walter Jones, a giant single dice on top of a Navajo Indian producing "Die on a Navajo" for Diana Navarro and a soup bowl with toes sticking out of it produces "Toe Stew" for Joe Steuer.

In Class

Working in small groups you are to help each other develop mnemonics for your names. Each person will then draw their mnemonic on the file card provided according to the requirements.

Requirements

- The mnemonic and text must be drawn (hand or computer) on a white index card or heavy paper that measures 3 x 5" (12 x 21 picas).
- A minimum 1/8" or 1 pica white border must be left on all sides.
- The mnemonic and printing must be high contrast black and white. Limited color may be added for clarity and/or graphic impact.
- The card must include the drawing/mnemonic, a parallel verbal image (toe stew) and your name (Joe Steuer) — see examples.
- The text must be clearly secondary to the mnemonic.
- Your favorite type of music and piece and your favorite type of food and dish must be neatly record on the back of the card.



Try to make maximum use of the following factors that naturally enhance human memory. They come from *The Brain Book* by Peter Russell (1984, page 124).

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- Uniqueness. The association should be unique so that there will be no possibility of interference with other associations.
- Exaggeration. The more exaggerated the image, the better. The more bizarre and outstanding an image, the more arousing it is and the clearer is the memory that results.
- Sensory. For most people the image will be predominantly visual, since visual memory is usually the strongest, but smells, sounds, movements, etc., should be included wherever possible. The association can also be improved by making the image three-dimensional, in color and as vivid as possible.
- Interactive. The connection between the objects should be the prime feature of the image. They must be closely connected.

[Notice in the examples that the individual pieces (toes and stew) are not strung together as a sequence of independent items but interrelated to form a single more memorable image (toe stew).]

- Simplicity. The simpler the connection, the better. Keep it childlike, unencumbered, and unique.
- Creativity. Being creative involves you much more in the association and increases the depth of processing. The more original the image, the better will it be remembered. Indeed, the act of creation is essentially the same as that of memorizing the forging of a link between two previously unassociated ideas.
- Sexual and Vulgar. Don't be afraid to make sexual or vulgar connections if they occur to you. Most people find such associations are remembered much better.

[Normally associations are done for yourself. However, because our associations will be shared I ask that any sexual or vulgar associations be tasteful so as not to cause embarrassment.]

Involvement. Memory is intimately linked with conscious experience. The more strongly you experience something, the better you will remember it. So savor your mental image fully.



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1: VISUAL CUES



We have all operated within the visual world for years and know unconsciously what information acquired through out visual system means in terms of the form and relative location of ourselves and other things. The visual world provides the cues we need to operate within the world safely and effectively. The same visual cues also form the basis of all drawing because it is by representing them that we can create the illusion of form and space on twodimensional surfaces.

Instructional Objectives

- To understand the visual cues that support our perception of threedimensional form and space and the spatial relationships between ourselves and other things within the visual world.
- To be able to identify the visual cues evident in a photograph that contribute to its illusion of three-dimensional spatial depth and form.
- To be able to create a presentation that contains a photograph and identifies and describes in words the visual cues operating within an existing two-dimensional image.

Optional Digital Objectives

- To be able to scan an image and use Photoshop to prepare the image for use in a page layout program.
- To be able to use a page layout program to create the presentation using layers and text styles.

Problem Statement

Visually examine the physical world that you can see. How do you know when things occupy three-dimensional space like a desk or are two-dimensional like a piece of paper? How do you know which things are closer to you? An understanding of how we perceive form and depth is fundamental to being able to live in the visual world and create and draw things. By knowing how form and space are perceived we can keep from bumping into things and make design decisions that enhance the three-dimensional qualities of our environments.

The assigned readings identify the visual cues and provide a base for their understanding and recognition. The task is to identify the visual cues that are operating in a photograph.

Begin by finding a photograph that in your estimation creates a strong illusion of three-dimensional form and space. Analyze the photo and identify all the visual cues that are contributing to the illusion. Finally, design a presentation that contains the photo and your analysis.

Visual Cues

You must identify six visual cues operating in the image that you have chosen. Each visual cue must be named, defined and identified with reference to the image:

Cue name: Overlapping.

- Cue definition: When one object covers a portion of another it indicates that the covered object is farther away.
- Cue Identification within the image: The closer desk covers those farther back.

Design Goals

- The presentation should possess a clear visual hierarchy (Image/ title, heads, text).
- Text should be clearly readable at 18".
- The presentation should exhibit an overall organizing concept/ theme that relates all elements.
- The design should minimize the perception of the white margin and define and incorporate negative space.
- The presentation should exhibit an overall expression and theme.

Presentation Requirements

- Media: Any combination of hand, photocopy and digital tools and techniques as defined in class.
- Format: 8.5" x 11" (letter with a minimum 1/2" border on all sides). Nothing may exist within the margins. Note: Some inkjet printers can not print within .5" of all sides.
- Typography: The title "Visual Cues", cue text, your name and the standard course information (Teacher's Last Name, Arch 131, Fall 04) must be designed into the presentation.

Optional Digital Requirements

- Fonts: Use a maximum of two typefaces from the legal fonts. Change size, weight, etc. to achieve a typographic hierarchy.
- Media: Use InDesign as the layout program.

Material: Color print on coated paper.

Final Submittal

Original drawing, color photocopy or print on coated paper.

Grade sheet with your name printed at the top

Optional Digital Final Submittal

Color print of the digital file on coated paper.

- A CD with your name neatly lettered on the disk (e.g., Will Benedict), the disk named with your Cal Poly alias (e.g., wbenedic) and a custom designed CD cover. Refer to the chapter titled "CD Covers."
- The CD must contain a project folder named 01_Visual Cues. The following files must be within the project folder.
- InDesign file named "_Visual" preceded by your Cal Poly alias (e.g., wbenedic_Visual.indd).
- Final Photoshop file(s) named to facilitate recognition. The file(s) must must have a .psd extension.
- No other files or folders may be within the project folder.

Process Notes

Scan images in 24 bit RGB format.

Open the scans in Photoshop and save them in native Photoshop format (.psd)

Adjust image value and color balance and sharpen.

Scale final images using Photoshop before importing them into InDesign.

Downsample final images to 150 spi.

Visual Cues Stephanie Simonds, Benedict, Arch 131, Fall 03



Aerial Perspective

Dust, smoke, and water droplets in the air make objects have progressively less detail, contrast, and chroma and turn blue the farther they are from the viewer. The mountains have less detail, contrast and chroma and are bluer than the near trees and room interior.

Overlapping

Objects that are near cover up those objects that are farther away. The pillows in the foreground overlap the table.

Convergence

Parallel edges not parallel to the viewer's face appear to converge to a common point. The edges of the ceiling beams converge toward a common point in the distance.

Light Orientation

The value of surfaces change with their orientation to the light source making visible their relative position in space. The sides and bottoms of the beams are different in value indicating their different orientations in space.

Size

Objects that are the same size appear smaller the farther they are from the viewer. The pillows on the far couch appear smaller than those on the near couch.

Vertical Location

Objects that are closer appear lower in the field of vision than objects that are farther away. The near couch at the bottom of the photograph is lower than the couch that is farther away.





1: VISUAL CUES GRADE SHEET

Name:

Evaluation is based on the standard project grading criteria described in the Base Syllabus with the following specific issues emphasized. Project Weight: 1 Due date as defined in class.

On Time

Craft (50%)

- **A B C D F** Quality of the original drawing, photocopy and/or print and its trimming.
- A B CDF Quality of the hand lettering.
- A B CDF Alignment, spacing and dimensions of presentation elements are accurate and consistent.
- **A B C D F** The presentation contains no unintended marks, glue, etc.

The following criteria apply if a student chooses to use digital media and the teacher identifies them as applicable.

A B C D F File Preparation & Submittal

All/Most/Some/None

- Files and folders created, organized and provided as specified with
- no extraneous files included
- Files saved in appropriate format

Files at appropriate resolution and dimensions Files use appropriate fonts

Craft Grade

Design (50%)

- A B C D F Cues correctly and clearly named, defined and identified.
 - A
 B
 C D F
 Cue 1

 A
 B
 C D F
 Cue 3

 A
 B
 C D F
 Cue 3

A B C D F Meets Problem Constraints & Goals

All/Most/Some/None Image choice exhibits a strong illusion of three-dimensionality.

- Contains specified elements: Title (Visual Cues), Image, cues and
- standard course information
- Text is easily readable at 18 inches.
- The presentation possesses a clear visual hierarchy (Image/title, heads, text) The design minimizes the perception of the white margin and defines and incorporates negative space.

A B C D F Achieves Design Excellence

- The design exhibits a clear concept that affects the relationships between and development of all elements.
- The design communicates a strong expressive mood or feeling.
- The design exhibits a clear experientially pleasing quality that communicates on a poetic level.

Design Grade









2: SHAPE GENERATION

The square is an important geometric shape in drawing and design. It is used as a generating and proportioning tool in drawings and as a generator of shape for two- and three-dimensional things. In this project a square will provide the beginning point for generating two-dimensional designs according to a set of rules. The designs will be created by either subdividing and/or multiplying a square. The final two-dimensional compositions will provide the basis for the quarters exploration of form and space.

Instructional Objectives

- To be able to draw construction lines and arcs using a Parallel bar, triangle, circle template and/or compass that are straight, consistent in weight and accurately aligned.
- To be able to hand trace constructed lines using a pen to create lines that are consistent in weight throughout their length, meet at defined points/intersections and follow the constructed lines with appropriate accuracy.
- To be able to hand letter in all caps with consistent letter form, size and alignment.
- To be able to generate alternative solutions to a problem.
- To be able to generate both symmetrical and asymmetrical solutions to a problem.

Problem Statement

The project will explore ideas related to generating alternative designs based on a set of rules, concepts of symmetry, asymmetry and variety and the skills and techniques associated with traditional freehand drawing and drafting.

The problem is to design and execute compositions created by either subdividing a 3" square or multiplying a 1/2" square. The goal is for the location and length of all lines (straight and curved) to be precisely defined without any measuring or arbitrary decisions—any new line must be defined by existing points and lines.

The location of each line or arc should be carefully considered and follow the constraining rules. Generate many alternatives. You are looking for a set of designs that you find pleasing and would enjoy exploring further. Work until you are satisfied with the final set.

Design Constraints

- All compositions must be abstract. They may not contain any overtly recognizable forms (i.e. face, car, fish, etc.).
- Compositions must start from either a 3" (Subdivision) or 1/2" (Multiplication) square.
- Multiplication designs must fit within a 3" square when the sides of the two squares are parallel.

A point is defined by the intersection of two or more lines.

Two points must preexist to construct a straight line. The exception to this rule are vertical and horizontal lines that may include at a single preexisting point. Vertical and horizontal lines are lines that are parallel to the sides of the beginning square (3" or 1/2").

- Two points must preexist to construct a curved line (a portion of a circle). One point defines the curve's center point and the other defines its radius.
- The beginning and end of any legal line (straight or curved) must be defined by its intersection with a point or line that preexists or is created by drawing a second legal line.
- Lines (straight or curved) must be continuous between and/or include their defining point(s).

All lines must be the same weight throughout their length.

Designs must be clearly symmetrical or asymmetrical. If a design evokes debate as to its classification it is not a clear demonstration of the concept. The intent is not to explore some esoteric boundary between the two concepts but to encourage greater variety in your design explorations.

Design Goals

The designs that are developed should be diverse—they should:

Exhibit variety in the number of lines used in different designs.

- Exhibit variety in the density/number of lines within different areas of a design.
- Exhibit variety in the sizes and/or shapes of areas within a design.
- Exhibit variety between designs in the organizational concepts include both symmetrical and asymmetrical designs.
- Exhibit variety between designs in the proportion of straight lines and arcs—one subdivision design must contain only straight lines.
- Exhibit variety between designs in the overall feel or expression.
- Finally, work to develop designs that are not obvious products of the constraining rules.
- Refer to the Base Syllabus for general design goals.

Design Ideas

A key aspect of this project is the generation of alternative ideas for solving the problem. The first alternatives are a way to understand the problem and develop your ability to control the end products within the rules of the game. They will also help you understand the potential range of ideas that can be developed and discover directions that you find interesting. Based on your initial alternatives you will begin to develop an understanding of the problem and directions you want to explore in your final set of designs.

Requirements

- You must generate a minimum of 12 correct subdivision and 12 correct multiplication design ideas.
- There must be a minimum of four symmetrical and four asymmetrical designs for each category.

Format: 8.5 x 11"

Material: 8 x 8 Cross-Section Grid Paper.

- Media: Felt tip pens. Use any combination of drafted (straight edge, compass and/or circle template) and freehand drawing techniques to construct the ideas.
- Line Weight: All lines must be the same weight (01 or 005 Micron pen). The beginning square must be indicated with a heavy line (08 Micron pen). The two line weights should be clearly different.
- Layout: Open. Ideas can be developed at any size and organized in any way on the sheets.
- Typography: Your name and the standard course information (131, Fall 01) must be hand lettered on each sheet.

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Final Design Requirements

The six design ideas that best meet the goals of the problem are to be chosen and drawn on a single sheet.

Minimum design variety:

A minimum of two must be subdivision.

- A minimum of two must be multiplication.
- A minimum of two must be symmetrical.
- A minimum of two must be asymmetrical.
- A minimum of one subdivision must be all straight lines.

Format: 8.5 x 11"

- Material: Typing Paper.
- Layout: The final designs must be laid out using a parallel bar, triangles, compass, circle template and a hard (e.g., 2H) lead pencil. The construction lines should be light but visible and pass through points of intersection. Do not erase pencil construction lines.

Inking. The construction lines must be freehand traced with a pen. All lines must be the same weight (01 Micron pen). The beginning square must be drawn with a 08 Micron pen. The two line weights should be clearly different.

Layout: Use the standard layout shown in class.

Typography: Use only hand lettering. Title (Shape Generation), your name and the standard course information (e.g., Benedict, Arch 131, Fall 01) must appear on the sheet as indicated.

Production Suggestions

Each tool has assets and liabilities and requires different skills and techniques. The following suggestions will be helpful in attaining and maintaining a high level of craft.

Drawing Suggestions

- Precisely measure and layout the entire design using a hard lead pencil (e.g., 2H, 3H, 4H) to ensure accuracy before finalizing in ink.
- Use a parallel bar, triangle, circle template and/or compass to construct the design in light pencil.
- Do not ink in the 3" boxes for the multiplication designs—leave them in pencil.

The ink may not dry instantly so be careful of smears.

Draw top to bottom and left to right to minimize smearing.

Fresh pens may bleed excessively. Test the pen on a scrap paper to get the feel of the pen and paper before beginning.

Draw on a smooth resilient surface.

Draw arcs first and then match the straight lines to them.

- Draw all of one line type (e.g., horizontals) at a time as you finalize the drawing.
- The oils from your hands may affect the way the lead adheres to the paper so protect the paper.
- Do not retrace designs when redoing work to improve the drafting. They should be reconstructed each time to achieve the greatest precision.

Final Submittal

Original drawings containing a minimum of 12 correct Subdivision and 12 correct multiplication alternatives.

Original drawing containing the final six designs.

Two photocopies of the original drawing containing the final six designs.

Grade sheet with your name printed at the top.













SHAPE GENERATION VALERIE GRAY, BENEDICT, ARCH 131, FALL 03













2: SHAPE GENERATION GRADE SHEET

Name:

Evaluation is based on the standard project grading criteria described in the Base Syllabus with the following specific issues emphasized. Project Weight: 1 Due date as defined in class.

On Time

Craft (50%)

A B CDF Quality of alternative drawings & lettering

A B C D F Drafting Quality

All/Most/Some/None Lines are consistent in style, width and density throughout their length Lines exhibit intended orientation Lines meet precisely Dimensions are precise

A B C D F Lettering Quality

All/Most/Some/None Letters have good and consistent form Verticals are vertical and horizontals are horizontal or consistent Letters are the same height Letters are aligned horizontally Letters are consistently spaced visually Letter strokes are consistent in weight and have strong ends

Craft Grade

Design (50%)

 A B C D F Meets Problem Constraints & Goals All/Most/Some/None
 A minimum of 12 correct Subdivision and 12 correct Multiplication alternatives.
 A minimum of two subdivision and two multiplication designs.
 A minimum of two symmetrical and two asymmetrical designs.

A minimum of one subdivision has all straight lines.

A B C D F Designed according to the rules

- Y N Design 1
- Y N Design 2
- Y N Design 3
- Y N Design 4
- Y N Design 5
- Y N Design 6

A B C D F Achieves Design Excellence

Variety within and between design alternatives.

- Creativity and aesthetic quality of the design alternatives.
- The design alternatives exhibit a clear experientially pleasing quality that communicate on a poetic level.

Design Grade

35






3: HIERARCHY



The designs created in the Shape Generation project visually establish a flat two-dimensional world. The challenge of the Hierarchy project is to see new possibilities in these familiar designs. The goal of this project is develop a visual hierarchy of lines, balance weight and motion and implied shapes and patterns. The project will continue to investigate ideas related to generating designs within a set of constraints, generating alternatives, concepts of symmetry and asymmetry and the skills and techniques associated with traditional and digital drafting.

Instructional Objectives

To be able to generate alternative solutions to a problem.

- To be able to construct drawings that exhibit a high level of craft and precision using digital tools.
- To be able to develop design solutions that follow a set of design constraints.
- To be able to vary the line weight in a design to create a clear visual hierarchy of lines.
- To be able to vary the line weight in a design to create a dynamic balance of weight and motion.
- To be able to vary the line weight in a design to create a hierarchy of implied shapes and patterns.
- To be able to integrate text into a design.

Problem Statement

Changing the weight of the lines in a composition can dramatically transform its visual qualities and impact. For this project, you must choose one of your final designs from the Shape Generation project to transform in terms of line weight.

Incorrect designs from the Shape Generation project must be corrected before use in this project.

- The design must be created at twice its original size (use a 6" or 1" square).
- The final design must be abstract. It may not contain any recognizable forms (i.e. face, car, fish, etc.).
- Lines may not be added to or eliminated form the designs. All lines of the original design must be visible.

- The design must clearly exhibit a minimum of three visually different line weights.
- No line may be less than .5 points (1/64") or wider than 1p6 (18 points) (1/4").

Design Goals

- The elements of the design should exhibit a visual balance of weight and motion.
- The design should contain a hierarchy of implied shapes and/or patterns.
- Typography should extend the geometry and theme of the design to enhance its dynamic quality.
- Typography should have a clear visual hierarchy and be secondary to the design.
- Location of the design within the format should enhance its qualities and dynamic balance.

Drawing Requirements

Media: Ink

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Material: Velum, typing paper or as specified in class.

Technique: Drafting

Format: 8.5 x 11" with a minimum 1/2" margin on all sides. The drawing and your name must stay within the margins.

Typography: Print your name on the sheet.

Presentation Requirements

Format: 8.5 x 11" with a minimum 1/2" margin on all sides. The drawing and typography must stay within the margins.

Layout: Open. Should respond to and enhance the design.

Typography: Title (Hierarchy), your name and the standard course information (e.g., Benedict, Arch 121, Fall 03) must be designed into the layout.

Process

Once you have completed the drawing, scan it at 300 spi.

Save it as a Photoshop Grayscale file.

Crop and adjust as necessary.

Place the file in an InDesign document.

Add the required presentation text in InDesign.

Final Submittal

Original drawing.

Photocopy of the original drawing.

B&W print of the final InDesign layout on heavy weight coated paper.

- A CD with your name neatly lettered on the disk (e.g., Will Benedict), the disk named with your Cal Poly alias (e.g., wbenedic) and a custom designed CD cover. Refer to the chapter titled "CD Covers."
- The CD must contain a project folder named 03_Hierarchy. The following file must be within the project folder.
- InDesign file named "_Hierarchy" preceded by your Cal Poly alias (e.g., wbenedic_Hierarchy.indd).
- Photoshop file named "_OriginalDrawing" preceded by your Cal Poly alias (e.g., wbenedic_OriginalDrawing.psd).
- No other files or folders may be within the project folder.

Grade sheet with your name printed at the top.





Example

The key design goal is to create a composition that exhibits a hierarchy of implied shapes and/or patterns. The illustrations on this page provide an example of this design goal influencing the development of a composition. The first illustration has increased the weight of the lines that will be used to develop the composition. There is no hierarchy because all the lines are the same weight.

The second illustration employes three distinctly different line weights to build a hierarchy of shapes and patterns consisting of a pattern of radiating lines, a square and two pointed elements.

The third illustration changes the explicit pattern of radiating lines into one that is implied by changing line weights within each line. The choice of where to change weights also calls attention to other lines and possible shapes. The square in the third illustration remains explicit (completely defined) and there is a greater sense of weight and motion toward the right.

The fourth illustration makes the square more implied and in doing so balances the weight and motion. Note that the number of areas within the design that are surrounded by heavier lines has been reduced with each change. This allows the spaces of the design to be implied and connect with each other and the context.

The final design on the next page adds the text as an extension of an angled element and places the design within the format with respect to the geometry, weight and motion of the design.







3: HIERARCHY GRADE SHEET

Name:

Evaluation is based on the standard project grading criteria described in the Base Syllabus with the following specific issues emphasized. Project Weight: 1 Due date as defined in class.

On Time

Craft (50%)

A B C D F Drafting Quality All/Most/Some/None

Lines are consistent in style, width and density throughout their length Lines exhibit intended orientation Lines meet precisely Dimensions are precise Quality of the hand lettering Contains no unintended marks

A B C D F Presentation Quality

All/Most/Some/None Quality of the print Alignment, spacing and dimensions of presentation elements are accurate and consistent The print is sharp The print contains no unintended marks

A B C D F File Preparation & Submittal

All/Most/Some/None Files and folders created, organized and provided as specified with No extraneous files included Files saved in appropriate format Files at appropriate resolution and dimensions Files use appropriate fonts

Craft Grade

Design (50%)

A B C D F Meets Problem Constraints & Goals All/Most/Some/None Design exhibits at least three distinctly different line weights. Design exhibits a visual balance of weight and motion. Typography extends the geometry and patterns of the design and is secondary to the design. Location of the design within the format enhances its qualities. Design exhibits a hierarchy of implied shapes and/or patterns. A B C D F Achieves Design Excellence The design exhibits a clear concept

that affects the relationships between and development of all elements. The design communicates a strong

expressive mood or feeling.

The design exhibits a clear experientially pleasing quality that communicates on a poetic level.

Design Grade

41







4: FORM & SPACE

The designs created in the Shape Generation and Hierarchy projects exist in a flat two-dimensional world. The challenge of the Form & Space project is to imagine the three-dimensional implications and possibilities of the two-dimensional designs. Seeing three-dimensional form in two-dimensional shapes is an important skill for environmental designers. Design requires that we constantly translate between the two- and three-dimensions. The goal of this project is to discover and visualize threedimensional form arising from a familiar two-dimensional design.

Instructional Objectives

- To be able to generate a solution and develop it through a series of iterations.
- To be able to construct drawings that exhibit a high level of craft and precision using traditional drafting media and tools.
- To be able to develop design solutions that follow a set of design constraints.
- To be able to define spaces that range from explicit to implied.
- To be able to create views that range from open to closed.
- To be able to define architectonic form and space using some combination of lineal, planar and volumetric elements.
- To be able to create a transition between the world and a space.
- To be able to develop and accurately represent a design solution using the plan oblique drawing system and conventions.
- To be able to shade surfaces of a plan oblique drawing to represent the relationship of surfaces to an assumed light source in accordance with a specified graphic language.
- To be able to incorporate people in plan oblique drawings to communicate scale.

Project Statement

You are to design a three-dimensional structure based on one of your six final designs from the Shape Generation project. The following defines the rules for constructing three-dimensional elements from the two-dimensional design.

- Note: Circles will make this problem and the next more technically difficult. Consider this in relationship to your current skills and understanding when choosing a design.
- Incorrect designs (designs that do not meet the "Shape Generation" project constraints) must be corrected before they can be used in this project.
- The chosen design will be redrawn at 6" square. The scale of the 6" design will be 1/8" = 1'-0" making it 48 feet square.
- Lines must be added to a multiplication design if chosen as defined in "Siting Multiplication Designs."
- Lines may be added to the chosen design to support the development of your walls and spaces. Added lines must follow the Shape Generation rules and may use the midpoint of an existing segment (a line between two intersections) to create a new line.
- All elements must be extruded vertically from existing points, lines and combinations of lines in the chosen design.
- Any combination of existing and new lines may be used—you may use as many or as few of the lines as you desire.
- Lineal elements (columns) are extruded from a point/intersection and must be either a 2 foot diameter cylinder or a 2 foot square prism centered on the point/intersection or a shape defined by the intersection of two or more expanded lines.

- Planar elements (walls) are extruded from a single line and must be 2 foot wide and centered over its defining line. Its length is established by extending 1 foot past its end points. Ends may be round, square or a shape defined by the intersection of two or more expanded lines.
- Volumetric elements (positive and negative shapes) are defined by some combination of lines (straight and curved) that enclose an area.
- Positive volumes (solids) are defined by extending 1 foot outside the defining lines.
- Negative volumes (spaces carved into solids) are defined by extending 1 foot inside the defining lines.
- The maximum height of any positive element is 24' above grade.
- Negative volumes may not extend more than 4 feet below grade.
- All vertical dimensions must be in 1 foot increments.
- The tops and/or bottoms of all extruded elements must be flat horizontal surfaces.
- There must be at least two cases of elements of different heights intersecting within the composition. The shape of intersections must reflect the rules for generating elements.
- The structure is assumed to be constructed of one homogenous material—there are no tertiary lines.
- The composition must contain a minimum of six positive elements including at least one column, one wall and one positive volume.
- The composition must include a minimum of one negative volume cut from the site.
- Lineal or planar elements defined by the chosen design may be raised above the base and supported by other elements. This will allow the creation of horizontal slats or planes within a vertical plane. Their vertical dimensions and locations must be set in 1 foot increments. These do not count toward the minimum 6 positive elements.

There are no roofs.

Design Constraints

- The site is flat and all pedestrian areas must be on grade—the design may not include stairs or ramps.
- The structure occupies a 48' square area.
- The major approach to the site and structure is from the South.
- The design must create an entry on the South side of the structure.
- The design must create one major space that occupies at least 25% of the structure.
- The floor area of the major space may not be interrupted by positive or negative elements.

Design Goals

- The entry should provide a transitional experience between the world and the major space that involves both time and space.
- The major space should be partially or completely hidden from view as you approach and enter the structure. Your understanding of the major space should grow over time.
- The visual experience of being in the major space should range from more enclosed to more open depending on the direction you look. The views should range from more explicit/closed (e.g., solid walls) to more implicit/open (e.g., columns).
- The major space should have an easily identifiable figure/shape (e.g., rectangle, circle, triangle, etc.) that is clearly delineated by its defining elements.

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Siting Multiplication Designs

- When a multiplication design is used, it must be sited within a 6" square. The siting must use the geometry of the site and design to link the two together.
- The illustrations show the original design in the upper left. The upper right illustration shows the geometry of the site. The bottom two illustrations show alternative locations of the original design.
- You may relate any line or lines within the design to the lines of the site. The bottom left design uses the diagonal and vertical and horizontal center lines of the big square to establish the geometric relationship as noted by the heavy lines. The right design uses the vertical and horizontal center lines of the site. The vertical center line passes through the center of the small square.
- The sides of the base/beginning square used to generate the multiplication design and the sides of the site must remain parallel to each other. However, the design may be rotated within the site as the bottom right example illustrates.
- Once the design is located within the site, a minimum of two lines of the site geometry must be kept as part of the final design and a sufficient number of the original design lines must be extended to intersect the square to integrate the site and the design. You should not be able to easily tell that the design was created with the multiplication approach.

Process

Choose designs from the Shape Generation project that you want to explore for this project.

Site designs if they are multiplications designs.

- Enlarge the chosen designs from the Shape Generation project by 200%—make them 6" squares.
- Place a design (six inch square) at a 60°/30° orientation. Put the 60° angle on the left and the 30° angle on the right. The side facing the 30° angle is considered south. The design may be rotated and/or flipped in any way you choose.
- Overlay the designs and sketch alternative ideas as plan oblique drawings. It is important that you generate a rich set of alternatives.
- Once you have arrived at an alternative you wish to develop, overlay the design with a sheet of trash for preliminaries or vellum for the final.
- Construct each element's footprint. Work out all end conditions and intersections before you extrude an element vertically. Use multiple layers of trash to solve intersections and ends of all elements as they would appear at all levels within the design.
- Extruded the footprints vertically. Enter their vertical dimensions and construct their faces.
- Do not rely on your developmental drawings for accuracy. Reconstruct everything on the final sheet of velum with a hard lead pencil. Leave construction lines on the final sheet.

Presentation Elements

The final presentation will include the original design, plan oblique drawing and a shaded copy of the plan oblique drawing.

Original Design

You must provide a drawing of the shape generation design that you are using to create your Form & Space design. The drawing must include any new lines added to support your design.

Format: 8.5" x 11" in vertical orientation

Margins: Minimum 1/2" all sides

Material: Vellum

Media: Pen

Line Weight: All lines must be the same weight (01 Micron pen)

Technique: Traditional drafting

Scale: 1/8" = 1'- 0" (6" = 48')

Your name and the standard course information must be included on the page.

Plan Oblique

Format: 11" x 17" in vertical orientation

Margins: Minimum 1/2" all sides

Material: Vellum

Media: Pen

Technique: Traditional drafting

Plan Orientation: 60°/30°

Scale: 1/8" = 1'- 0"

Layout:

Title, drawing name, standard course information and the graphic scale must stay within 3" of the bottom of the sheet.

The bottom corner of the design that is oriented at $60/30^{\circ}$ must be 4 $1/2^{"}$ up from the bottom and 4 $3/8^{"}$ in from the left side of the sheet.

Text:

Title "Form & Space," must be in 1/2 to 3/4" hand traced lettering.

Drawing Name, " $60^{\circ}/30^{\circ}$ Plan Oblique," must be in 1/4" high hand lettering.

Your name and standard course information must be in 1/8" standard hand lettering.

A graphic scale must be included.

Must include at least three scale figures. The figures must be traced from those provided in the "Entourage" chapter of Drawing Form.

Hidden Contours: All hidden contours must be shown as thin dashed lines. Hidden contours are defined as edges that could be seen or touched as you moved around your design. Line Language: Primary contours are heavy, secondary contours are medium, hidden primary and secondary contours are light dashed lines in ink.

Heavy line weights should be positioned so as not to diminish the size of near surfaces.

Construction/regulating lines are very light pencil lines that may be left as part of the final drawing.

Shaded Copy

Shade a letter size reduction (64%) of the Plan Oblique drawing.

Format: 8.5" x 11" in vertical orientation. Center the reduced Plan Oblique sheet within the letter size sheet.

Material: Typing paper

Media: Black and/or Sepia Prismacolor pencils

Technique: Traditional freehand shading

Tone Language: Surfaces are to be shaded to represent their relative orientation to an assumed light source located above and to the right:

Horizontal surfaces including the ground must be white.

Vertical surfaces facing the 30° angle start at light gray.

Vertical surfaces facing the 60° angle start at medium gray.

In General, vertical surfaces get darker as they rotate to the left and lighter as they rotate to the right.

Tones should be smooth and clearly distinct

Make the darkest surface in your system very dark to produce a full value range.

Final Submittal

Monday

Original Plan Oblique drawing (checked but not collected) Original drawing of original design Photocopy of original design Grade sheet with your name printed at the top

Wednesday

Hand in original Plan Oblique drawing

Two 100% (11 x 17") photocopies of the Plan Oblique drawing

Three letter size (64%) photocopies of Plan Oblique on typing (bond) paper.

Friday

Letter size Shaded Plan Oblique.





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4: FORM & SPACE GRADE SHEET

Name:

Evaluation is based on the standard project grading criteria described in the Base Syllabus with the following specific issues emphasized. Project Weight: 3 Due date as defined in class.

On Time (Monday)

On Time (Wednesday)

On Time (Friday)

Craft (30%)

A B C D F Drafting Quality

All/Most/Some/None Lines are consistent in style, width and density throughout their length Lines exhibit intended orientation Lines meet precisely Dimensions are precise Primary, secondary and hidden line weights are clearly different

A B CDF Quality and consistency of shading

A B C D F Lettering Quality

All/Most/Some/None Letters have good and consistent form Verticals are vertical and horizontals are horizontal or consistent Letters are the same height Letters are aligned horizontally Letters are consistently spaced visually Letter strokes are consistent in weight and have strong ends

Craft Grade

Understanding (50%)

A B C D F Drafting Conventions All/Most/Some/None Correct use of plan oblique drawing system Edges and dimensions are correctly represented

A B C D F Drawing Conventions All/Most/Some/None Line weights and styles used as specified Values change consistently and clearly as specified

People are correctly incorporated

A B CDF Meets and reflects design constraints

Understanding Grade

Design (20%)

A B C D F Meets Design Goals All/Most/Some/None There is an entry/transition experience; Major space is disclosed over time; Major space changes with direction of view; Major space has clear figure/shape.

A B C D F Achieves Design Excellence

The design exhibits a clear concept that affects the relationships between and development of all elements.The design exhibits a clear experientially pleasing quality that communicates on a poetic level.

Design Grade









5: RE PRESENTATION

What designers show themselves affects the designs they create. In the Form & Space project, the plan oblique drawing was used to represent the design. This project will produce orthographic drawings of your design and an eye-level perspective to more completely describe the design and provide some sense of what it might be like to experience the forms and spaces you have created. Use the project as an opportunity to learn more about the different ways that designs can be represented and what each can contribute to our understanding.

Instructional Objectives

- To be able to create orthographic drawings that accurately represent a design.
- To be able to accurately construct an eye-level perspective view of a design.

Orthographic Drawings

You are to create orthographic drawings based on your Form & Space design. To support this you must have a copy of the plan oblique drawing of your Form & Space solution with you at all times.

Format: 8.5" x 11" oriented vertically.

Material: 8x8 Cross section grid paper.

Media: Pencil, Black Pen and Color Pencil.

Scale: 1/8" = 1'-0"

- Required Drawings: Roof Plan, Floor Plan, South Elevation, West Elevation and a section.
- Typography: Hand lettered. Drawing title (e.g., Roof Plan), drawing scale, your name and the standard course information should appear on each sheet.

A North arrow should accompany all Plans.

Trace a minimum of one person into each elevation and the section.

Profile the structure and complete openings in elevations.

Define and shade a ground area that is deeper than your negative volumes.

Show negative volumes as dashed lines in elevations.

Show elements overhead with dashed lines in the Floor Plan.

Process

Layout the drawings in pencil on 8x8 cross section grid paper. One drawing on each sheet.

Relate the sheets to each other in standard orthographic relationship to support construction of the views.

Once views are constructed, ink the lines using only freehand techniques.

Perspectives

The task is to construct two eye-level perspectives to communicate the essential qualities the design. One will match the 60/30 plan oblique and the other will be of the major space.

The perspectives must be eye-level set at 5 or 6 feet as specified in class.

60/30 Perspective

This perspective matches the 60/30 Plan Oblique.

Use the 30/60 shortcut perspective setup process described in Drawing Form to create a custom perspective chart to support drawing the perspective.

Major Space

A view of the major space from within the major space.

Use one of the three direct perspective setups described in *Drawing Form* to create a custom perspective chart to support drawing the perspective.

Requirements

Format: As specified in class.

Media: Ink.

Material: Velum, tracing paper or as specified in class.

Typography: Hand lettered. Drawing title (e.g., 60/30 Perspective, Major Space), your name and the standard course information should appear on each sheet.

Final lines are to be drafted.

Differentiate between primary, secondary and tertiary lines through line weight.

Digital Alternative

You may use a 3-D modeling program to construct a digital model of the design. The digital model can be used to create the specified perspectives. Once the digital perspectives are created they must be traced and presented as specified above.

Final Submittal

Original orthographic drawings. Original perspectives. Photocopies of original perspectives. Grade sheet with your name printed at the top.



5: RE PRESENTATION GRADE SHEET

Name:

Evaluation is based on the standard project grading criteria described in the syllabus with the following specific issues emphasized. Project Weight: 2.

Due dates as defined in class.

Note: The Ortho Drawings portion of this project may not be resubmitted.

On Time

Craft & Understanding

- A B CDF Quality of the lettering.
- A B CDF Quality and consistency of freehand lines.
- A B CDF Orthographic drawings correctly drawn.
- A B CDF Quality and consistency of drafted lines.
- **A B C D F** Primary, secondary and tertiary lines correctly and clearly differentiated.
- A B CDF Perspectives correctly drawn.

Grade.







6: FORM & SPACE RE DUX



In the previous two projects you have created and described an initial design. At this point you have a much better understanding of and are in a better position to evaluate and develop your design. The process of making a proposal, evaluating the proposal and making a new proposal is fundamental to design. In this project you will have an opportunity to refine and improve your design and create a presentation of your revised design.

Instructional Objectives

To be able to revise a design to reflect design changes.

- To be able to create a series of eye-level perspective views that communicate the essential experiential qualities of a design.
- To be able to create values that clearly differentiate surface based on orientation.
- To be able to incorporate people and other entourage elements into an image that are to scale, in proportion and enhance the illusion of three-dimensional form and space.
- To be able to create a composite presentation including images, text and graphics.

Digital Objectives

- To be able to scan drawings and edit them for use in a digital presentation.
- To be able to create a composite presentation using a page layout program.

ReDesign

The following describes the changes in the construction constraints that may be employed to aid in improving your design to better meet project goals.

- New lines may be added to the 2D design if they follow the rules specified in the Shape Generation and Form & Space projects—no arbitrary decisions.
- Planes up to 8' tall may be made 6" deep.
- Planes over 8' tall may be made 1' deep.
- Vertical dimensions may be made in 6" increments.
- Slats may be made 2' x 6", 1' x 1', 1' x 6", 6" x 6"
- Slats are defined as intermediate horizontal members that reside within and help define a vertical plane. They must be supported at either end.
- Slats may be centered on or placed left or right of the generating 2D line or aligned with the surfaces of the plane.

Presentation

The final presentation must include a combination of views and text that communicates the essence of your developed design and meets the following requirements.

The presentation must be in black and white.

- The presentation must include two of the eye-level perspectives showing some combination of the design's approach, entry and/or major space.
- People must be added at a minimum of three significantly different locations/depths in space.

- Other entourage elements must be added to enhance the overall sense of depth and spatial layering.
- The presentation must include a Floor Plan at a scale of 1/16" = 1'-0".
- A North arrow must accompany the Floor Plan.
- The surfaces of the structure must be given some textural quality in the required perspectives.
- The presentation must include text that clearly and succinctly describes the key concept underlying the design.
- The presentation must include the title "Walls & Space," your name and the standard course information.
- All required images must be accompanied by a descriptive name (e.g., Floor Plan, Entry, Major Space, etc.).

Presentation Design Goals

- Values must clearly differentiate surfaces based on orientation to enhance the illusion of three-dimensional form and space.
- The presentation should present a clear visual hierarchy (Perspectives > Title > Plan > Text > Your name > Standard Information)
- The typography and graphic elements should relate and be secondary to and enhance the overall presentation layout.
- The presentation design must clearly relate the images and text through clear organizational relationships.

Drawing Requirements

You may use any combination of hand, photocopy and digital techniques as defined in class to create your original perspective and orthographic drawings.

Format: Should fit on 8.5" x 11" sheets.

Layout: Open.

Material: Open.

Presentation Requirements

Format: 10 x 16"

Layout: Open. Created in InDesign.

Material: High quality prints on heavy weight coated paper.

Use only legal fonts.

Typography and other graphic elements must be created in InDesign.

Images must be scaled before importing into InDesign.

- Do not imbed the images in the InDesign document.
- The InDesign file must be named "alias_SpaceLayout" (e.g., wbenedic_SpaceLayout).
- Name Photoshop files of scanned drawings to support recognition (e.g., Approach.psd, Entry.psd, Plan.psd).

Process Notes

Once you have completed the drawings, scan them at 300 spi.

Save them as Photoshop Grayscale files.

Crop and adjust as necessary.

Place the files in an InDesign document.

Add the required text and desired graphic elements in InDesign.

Final Submittal

Original orthographic and perspective drawings.

B&W Print of composite presentation on coated paper.

- A CD with your name neatly lettered on the disk (e.g., Will Benedict), the disk named with your Cal Poly alias (e.g., wbenedic) and a custom designed CD cover. Refer to the chapter titled "CD Covers."
- The CD must contain a project folder named 06_Redux. The following files must be within the project folder.
- InDesign file named "alias_SpaceLayout" (e.g., wbenedic_SpaceLayout.indd).
- Photoshop files of scanned drawings named to support recognition (e.g., Approach.psd, Entry.psd, Plan.psd).

Grade sheet with your name printed at the top.

6: FORM & SPACE RE DUX GRADE SHEET

Name:

Evaluation is based on the standard project grading criteria described in the syllabus with the following specific issues emphasized. Project Weight: 3. Due dates as defined in class.

ReDesign & Presentation

On Time

Walls & Space Design (30%)

A B C D F Meets Design Goals

All/Most/Some/None There is an entry/transition experience; Major space is disclosed over time; Major space changes with direction of view; Major space has clear figure/shape.

A B C D F Achieves Design Excellence

The design exhibits a clear concept that affects the relationships between and development of all elements.

The design exhibits a clear experientially pleasing quality that communicates on a poetic level.

Walls & Space Design Grade

Presentation Design (30%)

A B CDF File Preparation & Submittal All/Most/Some/None Files and folders created, organized and provided as specified with no extraneous files included Files saved in appropriate format Files at appropriate resolution and dimensions Files use appropriate fonts

A B C D F Meets Presentation Requirements

All/Most/Some/None Presentation is clean, sharp and precisely assembled and trimmed

Contains specified elements

Graphic decisions create a clear visual hierarchy (perspectives, title, plan,

text, other elements)

The text clearly describes the concept underlaying the Form & Space design

A B C D F Achieves Design Excellence

Presentation exhibits a clear concept that affects the relationships between and development of all elements. Presentation exhibits a clear experientially pleasing quality that communicates on a poetic level.

Presentation Design Grade

Perspectives (40%)

A B C D F Craft

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All/Most/Some/None Lines are consistent in weight and style Lines are appropriately precise Shading is consistent in style and appropriately scaled Surface values range from very light to very dark

A B C D F Three-dimensionality

All/Most/Some/None

Line weight differentiates between primary, and secondary edges Surface values change consistently and clearly with a change of orientation Surface values enhance surface differentiation.. Entourage elements follow perspective structure of the view and enhance the sense of depth

A B C D F Expression

All/Most/Some/None Perspectives communicate a sense of being within the spaces Perspectives exhibit a strong and consistent mood or feeling.

Perspectives Grade



7: DRAWING



The drawing project includes a series of weekly drawings, compositional alternatives, backing sheets whose role is to develop freehand lettering skills, a sketchbook containing drawing exercises and a series of big gesture drawings. Together they introduce a range of drawing concepts and support the development of freehand drawing process, knowledge, skills and techniques.

Instructional Objectives

- To be able to construct accurate one- and two-point perspective grids and use them to represent architectural form and space.
- To be able to describe in words the essential qualities of a subject that you want to communicate in a drawing.
- To be able to execute architectural lettering that is well formed and consistent.
- To be able to draw small quick sketches that explore compositional alternatives for a proposed drawing.
- To be able to construct freehand drawings of things that appear accurate in terms of linear perspective and proportions.
- To be able to employ the visual cues in a drawing to create a clear illusion of three-dimensional form, depth and space.
- To be able to communicate through a drawing, the selected or identified form, light and material qualities of a subject.
- To be able to make choices as to media and technique to support an intended communication.
- To be able to create values and textures that are distinct and consistent in technique.
- To be able to represent the qualitative feel of a subject as exhibited by its surface qualities and, illumination.
- To be able to represent the, texture, reflectance and transparency of materials.
- To be able to communicate the illusion of architectural space in a drawing.

Weekly Drawings

Each quarter there will be a series of drawing assignments that are intended to enhance visual acuity and awareness, develop basic freehand drawing skills and provide life drawing experiences.

The drawing assignments require careful observation in order to interpret and communicate specific subject qualities. Each assignment will define a subject and constraints. Within the constraints of the particular assignment you must choose a subject and point of view and decide what it is that you want to express. In the process, make choices that challenge your skills and make the assignment an enjoyable learning experience.

Time

Efficiency is of value—the less time it takes you to accomplish your drawing goals the better. Work smart and keep you effort focused on what you are intending to communicate. Look, think, plan and organize before you start. Think about the qualities you want to communicate. Organize your materials and get comfortable. Once you are ready, go for it.

Interpretation

Part of making any drawing is deciding what to include and what to leave out—what to enhance and what to play down. To communicate is to make decisions about the content of your communication. Each drawing you make is a communication of some defined aspects of what you are seeing. Do not be timid in terms of identifying your goals for the communication.

Drawing Requirements

- Format: 8.5 x 11" Drawings should be no smaller than about 4" square or bigger than about 6" x 9".
- All drawings should be from life—they should be of something that exists in front of you as you make the drawing.
- The drawings should represent what you see from where you are drawing—they should be eye-level perspectives.
- All drawings must be freehand—they must be constructed without the aid of drawing instruments other than pens, pencils, etc.
- The rectangular frame-of-reference must be made visible in all drawings by an explicit or implied edge.
- The drawings should employ the appropriate visual cues to create as clear an illusion of three-dimensional form and space as possible given the subject, technique and point of view.
- The drawings should capture the unique shape, proportions and detail of the thing being drawn given the assignment and point of view.
- Graphic decisions, point of view and composition should support the intended communication/expression.

Compositional Alternatives

The preparation for making a drawing includes choosing a subject, establishing a point of view, determining what is to be included and establishing a frame-of-reference and capturing the essential proportions and relationships of the elements within the frame-ofreference.

Compositional alternatives establish what you are going to draw by recording decisions about point-of-view, drawing proportions and the location of key elements within the frame-of-reference.

Each weekly drawing must be accompanied by a set of compositional sketches. The set should not take over twenty minutes to complete and should take the form of proportionally accurate gesture drawings. Refer to the examples.

Compositional Alternative Requirements

- A minimum of three compositional alternatives must accompany each weekly drawing.
- Compositional alternatives must be executed in your sketchbook. Stay a minimum of 3/4" in from the edge of the sketchbook's pages.
- The largest dimension for any compositional alternative should not exceed four inches and may be smaller.
- The frame-of-reference for each compositional alternative must be clearly defined by a rectangle.
- The value range of each compositional alternative must include black and white.
- The drawing quality of each compositional alternative should be appropriate for a gesture drawing.









Alternatives by: Meg Cunningham





Backing Sheets

Each contour drawing must be accompanied by a backing sheet. The role of the backing sheet is to record drawing information, identify the focus of the drawing and provide a vehicle for developing freehand lettering.

Content

Refer to the example shown below.

Drawing Number: e.g., 3

Series Title: e.g., Light & Value

Drawing Title: e.g., Sun, Shade, Shadow

Subject & Location: Identification of the subject you are drawing and its location.

Description: A one or two sentence description of the subject's key visual attributes or qualities that you want to communicate through the drawing.

Drawing Time: e.g., One and One-Half Hours.

Your Name: e.g., Will Benedict

Course Information: e.g., Benedict, Arch 131, Fall 01.

Requirements

Format: 8.5" x 11"

Material: 8 x 8 Cross Section grid paper.

Media: Pen or Pencil.

Margins: 1" minimum on all sides.

Typography: 1/4" Titles and 1/8" Text. All printing is in all caps. Refer to the information on hand lettering that follows.

SUN, SHADE, SHADOW

ARCHITECTURE BUILDING STAIR COURT

A TRIANGLE OF SUN IN THE SHADOWS. A DELICATE RAIL CONTRASTS BANDS OF SUN AND SHADOW.

TWO HOURS

BECKY DAY BENEDICT, ARCH 131, FALL 97 64

Hand Lettering

The ability to hand letter will be needed to support freehand presentations and work in personal sketchbooks in school and the profession. All freehand lettering employed in exercises and projects is expected to be of a quality that supports the overall quality of the presentation.

The standard hand lettered text will be 1/8" all caps. The vertical space between lines (leading) must be at least 1/16" and not more than 1/8". Your specific style may vary but it must be readable, well formed and consistent in shape, size, alignment and spacing.

Hand Lettering Recommendations

Use guidelines to keep height consistent.

Draw guidelines with a hard lead (e.g., 2H, 3H).

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Letter with a medium lead pencil (e.g., F, H, HB) or pen.

Make all letters reach from guideline to guideline—make horizontal lines lay directly on the guidelines and vertical and sloped lines start and/or stop over the guidelines.

- Make round letters such as "C" or "O" reach slightly above and below the guidelines.
- Think of and execute each letter as a series of separate movements. Each movement corresponds to one part of the letter. For example, the "H" takes two vertical and one horizontal strokes. It is important that the series of strokes for a given letter do not blend together but are kept as separate and distinct.

Keep the overall proportions of each letter about square.

- E Yes
- E No
- Pay attention to the line quality of each stroke. They should start and stop with a slightly greater pressure to anchor the ends of the stroke. The middle part of the stroke may use a slightly lighter pressure. This will compensate for the optical illusion which makes a line of constant weight seem lighter at its ends.

Good lettering is the product of thoughtful practice.

Hand Lettering Example

The following example exhibits the desired quality for all standard 1/8" hand lettering.

ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890

I LIKE COMPLEXITY AND CONTRADICTION IN ARCHITECTURE. ... I PREFER "BOTH-AND" TO "EITHER-OR," BLACK AND WHITE, AND SOMETIMES GRAY, TO BLACK OR WHITE. A VALID ARCHITECTURE EVOKES MANY LEVELS OF MEANING AND COMBINATIONS OF FOCUS; ITS SPACE AND ITS ELEMENTS BECOME READABLE AND WORKABLE IN SEVERAL WAYS AT ONCE. BUT AN ARCHITECTURE OF COMPLEXITY AND CONTRADICTION HAS A SPECIAL OBLIGATION TOWARD THE WHOLE. IT MUST EMBODY THE DIFFICULT UNITY OF INCLUSION RATHER THAN THE EASY UNITY OF EXCLUSION. MORE IS NOT LESS.

(ROBERT VENTURI 1966)

Weekly Drawings Light & Value

The following describes the requirements for the weekly drawings for the quarter. Light allows us to see by rendering surfaces with varying degrees of light, shade and shadow. The values created by light are fundamental to our seeing as evidenced by our ability to see without color but not without value. Therefore, the first series of drawings will focus on light and value, their role in rendering form and different graphic languages for their interpretation.

Due Dates

As assigned in class

Weekly Submittals

Weekly drawings and their accompanying compositional alternatives are due as specified in class. Refer to the project grade sheet.

- The drawing and backing sheet must be placed back-to-back in a clear plastic sheet protector. Non-glare sheet protectors are required.
- A photocopy of the compositional alternatives with your name neatly lettered on each copy must be handed in with each weekly drawing.

Final Submittal

All weekly drawings and their backing sheets in sheet protectors will be submitted as a set near the end of the class as specified in class.

Drawings may be resubmitted at this time along with new compositional alternatives for any new drawings.

Drawings that are new or improved must be identified.

Do not hand in compositional alternatives for drawings that are not new.

Drawing Scans

- Scan all drawings as 8.5" x 11", 300 spi, 24 bit RGB files and save them in TIFF format.
- Name the files alias_121_01/2/3/4/5 (e.g., wbenedic_121_01, wbenedic_121_02, etc.)
- Put them in a folder named alias_121Draw (e.g., wbenedic_121Draw)
- Provide the files on a CD with your name neatly lettered on the disk (e.g., Will Benedict), the disk named with your Cal Poly alias (e.g., wbenedic) and a custom designed CD cover. Refer to the chapter titled "CD Covers."



Drawing by Kenia Alfaro,

11/2008



Drawing 1: **Feeling Light**

Although we see light we usually draw shade and shadow. The goal of this drawing is to clearly make light's presence felt by drawing shade and shadow.

Subject: Open.

Sketchbook: Three compositional alternatives.

Media: Soft (2-6B) Lead Pencil. All construction lines should be in very light pencil or erased.

Material: White paper.

- Graphic Language: The drawing should use only continuous tones. There should be no lines. Edges can only be defined by changes in value. The brightest surfaces must be left white.
- Value Patterns: Broad Range (white to black and everything in between).
- Place the objects in a single strong light. Do not have multiple light sources. The light could be from a bright lamp or the sun. Choose a point of view that maximizes the overlapping of the objects.





Drawings: Left to Right, Top to Bottom Karen Newman, Ellen Adamson, Eric Peabody

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Drawing 2: Sun, Shade, Shadow

Surfaces are either turned toward or away from a light source and those that are turned toward the light source may have the light blocked from falling on their surfaces. The goal of this drawing is to represent these three conditions with three uniform values.

Subject: Architecture.

Sketchbook: Three compositional alternatives.

Media: French Gray 50% or 30%, French Gray 90% or Black Prismacolor Pencils.

All construction lines should be in very light lead pencil or erased.

Material: White paper.

Graphic Language: The drawing should use only three flat/even continuous tones (white, gray and black). The surfaces that are in direct sunlight are to be white, those that are in shade (turned away form the light source) are to be gray and shadows are to be black.

Value Patterns: High Contrast.

Leave the sunlit surfaces white and do not define their edges with lines. Only the shade and shadow tones will defines edges. The shade and shadow tones should be even (without variation) and continuous.













Drawing 3: Positive & Negative

We usually speak in terms of the things that we see and their shape. The goal of this drawing is to see and draw the shape of the spaces contained within and defined by the things we see. In doing so, the shape of the spaces should become as important as the shape of the things in the drawings.

Subject: Open.

Sketchbook: Three compositional alternatives.

Material: White paper.

Media: Ink and/or marker.

Graphic Language: Two values (black and white). Objects are white and space is black.

Value Patterns: High Contrast.

You are looking for a subject in which the negative spaces are as interesting as the shape of the things themselves. An important part of this exploration is defining the portion of the visual world that you will represent.

Drawings: Left to Right, Top to Bottom Evette Garcia, Nick Arambarri Casey Feeser



Only the positive reads in the left image. Both Positive and negative read in the right image. The goal is to create drawings like the right image.

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Drawing 4: Drawing Light

When light is provided by a source other than the sun its power is affected by distance. The goal of this drawing is to directly draw light as it illuminates surfaces.

Subject: Open.

Sketchbook: Three compositional alternatives.

Material: Black Canson paper.

Media: White or other single light value Prismacolor Pencil.

Graphic Language: Tone. The drawing should be a tone drawing that records light.

Value Patterns: Broad Range.

This is an opportunity to draw light instead of shade and shadow. The dark paper provides the dark value and your task is to draw the light as it falls on the surfaces of the subject. This is a drawing that could be made at night to record the light emanating from a building or object.



Drawings: Left to Right, Top to Bottom Kim Kaspar, Ike Tang, Jeff Hong

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Drawing 5: Feeling More Light

Light and value have been the focus of the weekly drawings. The goal of the last drawing is to clearly make light's presence felt. The only limitation is that the subject has to be architecture. Use what you have learned this quarter to make a more expressive drawing that clearly communicates the power of light.

Subject: Architecture Sketchbook: Three compositional alternatives. Media: Open Material: Open Graphic Language: Open (No color) Value Patterns: Open Drawings: Left to Right, Top to Bottom Kevin Bussett, Nathan Mendelsohn

Sketchbook/ Drawing Exercises

Keeping a centralized record of ideas and explorations is a habit that many designers and others find useful. It can include both written and drawn information that is either quickly recorded or more carefully developed. The sketchbook is intended to be a repository of your process for the quarter and should be kept with you at all times — you should feel naked without it at your side.

The sketchbook will be used both in and out of class as the place for recording experiences, exercises, ideas, etc. Most work will be done directly in the sketchbook but some will be inserted.

Instructional Objectives

To be able to employ a sketchbook as a centralized record of class related experiences, exercises and processes.

To develop freehand sketching, lettering and diagramming skills.

Materials

Cachet, Classic, 9" x 12", Wire-Bound, medium surface. You must start a new sketchbook each quarter.

Ink pens, Art Stix, markers and colored pencils. Do not use pencils. Use a pen or black Prismacolor pencil as your base drawing implement. Feel free to experiment with other media.

Title Page

The first page of the sketchbook must contain your name and some graphic elements. The page should be designed to identify the owner of the sketchbook in terms of both information and feel. Keep a few pages blank at the beginning of the sketchbook so that you can generate alternatives and eliminate those you do not like.

Project Process

You are expected to draw and write in your sketchbook as you work to solve a each project. These drawings and writings should include facts, goals and concepts associated with a project, exploration of alternatives and the development of solutions.

Project Reflections

The sketchbook will be used to record observations and reflect on what you have learned from class projects.

Weekly Drawings

You are expected to explore each weekly drawing assignment in your sketchbook. This should include a minimum of three compositional alternatives as previously described.

The sketchbook can also be used to produce your weekly drawings. The pages can then be removed and trimmed for placement in sheet protectors as required.

Drawing Exercises

Drawing techniques and systems (e.g., orthographic, axonometric and perspective) will be introduced and practiced in class. These exercises will be done directly in or taped into your sketchbook.

Completion of these exercises is the basis for the grade that you will receive for the sketchbook. Therefore, it is important that you complete these assignments and have them in your sketchbook when it is submitted.

Due Date

The sketchbook must be handed in on the last class day of the quarter.

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Gesture Drawings

Gesture drawing uses a free hand and seeks the essence of things. Gesture drawings are aimed at what the subject is doing more that what it is. It seeks empathy with the subject and the essential underlying structure of the whole. Doing big gesture drawings provides an opportunity to involve your whole body in the process of drawing.

About once a week we will do a series of big gesture drawings from projected images. These are timed drawings that will be done in class.

Instructional Objectives

- To be able to capture the essence of a subject in a limited period of time.
- To be able to make media, value and color decisions to support an expressive interpretation of a subject.
- To be able to amplify selected subject qualities.
- To be able to quickly represent a subject's proportions.
- To be able to quickly represent a subject's underlying perspective structure.
- To be able to use quick gesture drawings to represent a design idea.

Time

Gesture drawings will be completed in a short specified period of time. The time will vary from one to ten minutes.

Materials

300 Series, Strathmore, Newsprint, Rough, 18 x 24, 50 Sheets, 35 lb. This pad must be stored in class for access at any time.

Art Stix, markers and colored pencils.

Due Date

The gesture drawing newsprint pad must remain in class throughout the quarter. It will be evaluated at the competition of all gesture drawings.

Process Notes

Time

Open sessions with 1 to 3 minute warm-up drawings. Use longer times 6 to 8 minutes after warm-ups.

Subject

Repeat subjects within a session or between sessions at times to allow students to be more successful and see growth.

Repeat subjects within a session with different drawing media, times and/or language requirements.

Use Grayscale images to reinforce issue of values. Use some images that have their value systems altered or enhanced.

Use assignments that help students loosen up. Upside Down drawing Continuous scribble

Media

Specify the media and usage for some drawings. Use only B&W media Only Markers Only Art Stix used on their sides Surface/Value first then line for emphasis

Language

Specify the drawing language for some drawings. Continuous Line Scribble Line. Value with no line. Value first then line. Fewest lines/marks.

Design Ideations

The basic elements of two-dimensional design are points, lines and planes. Your are to create 2D compositions using the specified number of these elements.

Divide the page into quarters. Create four designs in four to five minutes—one in each quadrant. Project works of art by Kandinsky.

3 point, 1 line, 1 plane: Relationship 3 points, 3 line, 3 plane Max: Hierarchy 3 points, 3 line, 0 plane Min: Hierarchy

Observations about capturing space within the design. 3 points, 3 lines, 3 plane Max: Space 3 points, 3 lines, 3 plane Max: Space

What have you learned or observed about doing the exercises to this point?

Take designs off the wall.

Discuss types of organizations/patterns. Design 2D Organizations using a 2D compositions created in the preceding exercises.

Create a lineal organization of repeated elements. Create a radial organization of repeated elements. Create a grid organization of repeated elements.
7: DRAWING GRADE SHEET

Name:

Evaluation is based on the standard project grading criteria described in the Base Syllabus with the following specific issues emphasized. Project Weight: 3 Due dates as defined in class.

Weekly Drawings

On Time

On time points are earned with each drawing. The on time points are averaged and subtracted from the average of the drawing grades.

Drawings (50%)

- A B C D F Meets Requirements Subject, Media, Materials, Graphic Language, Values
- A B C D F Craft

Drawing techniques and scale appropriate and exhibit control of the media. Subject proportions and perspective

look correct.

Page precisely trimmed to appropriate size. Drawing matted as specified if required. Drawing without unintended marks.

A B C D F Value & Color

Values range from very light to very dark. Strong value changes communicate sun, shade and shadow conditions.

Clear value changes communicate surface change and orientation. Colors composed of a rich mixture of many colors.

A B C D F Composition & Expression

Choice of subject, point of view and compositional decisions enhance the visual impact of the drawing.

The drawing interprets, amplifies and communicates selected subject qualities.

Drawing communicates a strong expressive mood or quality.

Drawing Grade

Compositional Alternatives (10%)

Compositional alternatives are due with each weekly drawing and may not be handed in alone. They may be resubmitted if the drawing is resubmitted.

A B C D F Meets Requirements

All/Most/Some/None Meets specified requirements Alternatives are significantly different Alternatives include a frame-of-reference Alternatives include all major elements Alternatives are proportionally accurate Alternative values include black and white

A B C D F Drawing Quality

Drawing quality is appropriate for a gesture drawing Drawing is expressive/poetic

Compositional Alternative Grade

Backing Sheets/Lettering (10%)

Backing sheets must contain all required information to be evaluated for a lettering grade.

A B C D F Hand Lettering

All/Most/Some/None Letters have good form Letters are consistent in form Verticals are vertical or consistent Horizontals are horizontal or consistent Letters are consistent in size Letters are the same height Letters are aligned horizontally Letters are consistently spaced visually Letter strokes are consistent in weight and have strong ends.

Gesture Drawings (10%)

Gesture drawings will be done in class on large drawing pads that will be stored in the classroom.

The gesture drawing grade is based on the number of drawings completed during the quarter. A gesture drawing is considered complete if it:

Meets specified requirements Includes a frame-of-reference Includes all major elements Is proportionally reasonable Includes the values of black and white Includes initials and number

A B C D F Completed _____ out of _____

No Resubmittal

Sketchbook/Drawing Exercises (20%)

Drawing exercises will be done in class on in your sketchbook or on sheets of paper you will tape into your sketchbook.

The sketchbook/drawing exercise grade is based on the number of drawing exercises completed during the quarter. A drawing exercise is considered complete if it: Contains all specified elements Process lines are clearly visible Edges are inked and surfaces shaded as specified Figures are included as specified Notes are included as specified

A B C D F Completed _____ out of _____

No Resubmittal



APPENDIX

The appendix contains drawing exercises used during this studio.

Line & Value Exercises

The only way to learn how to draw is to draw. Drawing develops the basic eye and hand skills needed to create lines and values and an understanding of how they can be used to represent things. The chapter entitled "Graphic Languages" in Drawing describes the basic types of lines and values and illustrates ways that they are employed to make languages that create the illusion of form and depth on two-dimensional surfaces. These exercises will build basic drawing skills and an understanding of these languages.

Objectives

To develop basic freehand drawing skills using pencils and pens.

- To be able to draw lines that have a uniform shape, weight and spacing using pen and pencil.
- To be able to create five step value scales using pencils and pens.
- To be able to create smooth value gradations from white to black using pencils and pens.
- To be able to create values that are even and finely textured using pencils and pens.
- To be able to employ values to represent the effect of light on flat, sloped and curved surfaces with respect to some specified light source using pencils and pens.

Exercises

The exercises included in this set fall into two groups. The first group includes exercises that develop basic eye-hand skills in drawing lines. The second group includes exercises that develop basic skills in creating values through texture and tone. Together the exercises are intended to develop basic drawing skills and speed and clarify your understanding of the basic graphic languages.

Setup

Before starting any drawing you must place a sheet of typing paper over the drawing and trace the edges lightly with a lead pencil. Depending on the exercise these lines can be finalized with a fine ink pen or left to guide shading. Always draw on a stack of at least six sheets of typing paper.

Line Exercises

The first group of exercises focuses on the drawing lines. They are intended to develop eye-hand coordination, body memory, drawing flow and speed.

Guidelines

- Keep you hand off the page. Only fingertips may touch the page while drawing. Use your whole arm to create the lines.
- Keep the page in the same orientation. This will develop the ability to draw lines at different angles.
- Maintain a consistent spacing between lines as set by the example lines that are started.











Value Exercises

A value scale presents evenly spaced steps between black and white. A gradation presents a continuous and smooth change from black to white. In this and the following pages there is a place to develop a value scale and a gradation that share their black ends. There is also a drawing in which to apply the values.

Exercise 1

Copy the drawings onto a sheet of typing paper and develop the gradation and steps with a lead pencil using continuous tones. Build the steps and gradations gradually in relationship to each other. Analyze the drawings and use the values to maximize the illusion of three dimensionality.





Exercise 2

Copy the drawings onto a sheet of typing paper and develop the gradation and steps with a Black Prismacolor pencil using continuous tones. Build the steps and gradations gradually in relationship to each other. Analyze the drawings and use the values to maximize the illusion of three dimensionality.



Exercise 3

Copy the drawings onto a sheet of typing paper and develop the gradation and steps with a felt tip pen using a texture of small random marks. Vary the density of the marks to change the value. Build the steps and gradations gradually in relationship to each other. Analyze the drawings and use the values to maximize the illusion of three dimensionality.



Visualization Puzzles

The visualization of objects and environments—the ability to picture them in your mind is an important skill for environmental design professionals. An aspect of visualization is the ability to move back and forth between the abstract representation of an object or environment and the thing itself—the ability to look at orthographic drawings and see things.

Introduction

Being able to look at the orthographic drawings and visualize the three-dimensional object they represent is often difficult for beginning students. It becomes easier with experience. The following exercises will develop your skills in visualizing three-dimensional objects and relating them to their orthographic representations. In the process you will learn how different configurations are represented in orthographic drawings. As you solve each puzzle, reflect on what you have learned about orthographic and axonometric drawing systems.

Orthographic Drawings

The puzzles are presented as a set of orthographic drawings. The drawings will always be in their standard orthographic relationship as shown below. All objects fit within a cube and the dimensions of any subdivisions always fall on some combination of half, third and quarter points. In the example, the Plan/Top view is divided into thirds, the solid diagonal line in the Front Elevation goes from the top of the cube to a point one-third the way up the opposite side, etc. Determine the proportions that are being used in the orthographic drawings and represent them in the three-dimensional solution.

3-D Drawings

The solution to each puzzle is to be represented with an axonometric drawing. You may establish any axonometric view that you wish including an isometric setup. The angle you choose to represent the solution should be chosen to make the form clear. If you draw the edges of the cube to measure about one inch, the drawing will be about the size of the one shown in the example on the previous page.

The axonometric drawings are an opportunity for you to develop your freehand sketching skills. The drawing should be laid out in pencil using a freehand approach. You may use a rolling ruler to assist you in the layout. Once the form has been blocked in you must finalize the drawing using felt tip pens (lines) and a black Prismacolor pencil (values). The final lines must be drawn freehand—do not use a straight edge. Line weights should reflect the difference between primary and secondary contours and the values of surfaces should be based on their orientation to an assumed light source that is located above and to one side. The surface(s) most directly facing the light source (the horizontal surfaces) must be left white. Do not erase the pencil construction lines.



Process

It is a matter of mental trial and error to imagine the shape. As an approach to visualization try to imagine yourself looking at the object from the particular point of view that one drawing takes. For example, the front elevation means that you are standing upright and looking straight ahead at the object. What possible forms could the lines stand for from that point of view? Then go to the next point of view and imagine the possible forms that view supports. Check one image against the other for things that would meet both possibilities or would eliminate some possibilities.

Another approach is indicated in the sketches to the right. The process involves drawing the orthographic drawings on the surfaces of an axonometric cube and then searching for their resolution by projecting the lines and points back into the cube.

Enjoy the challenge. Help each other if you get stuck.









Series 1 Puzzles

The orthographic drawings in this series are made using architectural conventions—hidden edges are not indicated by dashed lines. The task is to visualize the objects described by the plans and elevations and make a three-dimensional sketch of it in the space provided. When you have solved the puzzle, draw the required dashed lines in the orthographic drawings as if you were using mechanical drawing conventions.















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Series 2 Puzzles

The orthographic drawings in this series are made using mechanical drawing conventions. Dashed lines in mechanical drawings indicate hidden lines. Each object has had one or more lines omitted intentionally. The task is to visualize the objects described by the plans and elevations and make a three-dimensional sketch of it in the space provided. When you have solved the puzzle, draw the missing hidden and/or solid lines in the orthographic drawings.







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Series 3 Puzzles

The orthographic drawings in this series are made using mechanical drawing conventions. Dashed lines in mechanical drawings indicate hidden lines. You have been given two correct and complete views. Your solutions must not add any lines to the given views. The task is to visualize as many different alternatives as possible given the plans and elevations (there may be only one). Make a three-dimensional sketch of one alternative in the space provided and illustrate alternatives on additional sheets. Draw the missing elevation to complete the orthographic drawings for each alternative.











