

first year: assignment five

descriptive geometry of a tool (repetitive sections) Part A

Issued Monday, September 17, 2007 @ 4.00 p.m.

Objective As an architect, you will need to master various forms of representation which are both analog “by hand” and digital. This assignment will introduce you to high quality drafting techniques as well as the pursuit of precision. Any exceptional drawing takes your commitment, patience, and time. As a student of architecture, you are expected to understand the techniques of constructing complex geometries and proper line weight.

Method / Process You will be assigned a tool, such as a wrench, hammer, hand drill, eggbeater, clamps, hand planes, etc. for which you are to draw one (1) plan (top view), two (2) elevations (side views) and eight (8, at a minimum) sections.

You are now asked to determine the scale that best represents your tool which will allow you to draw it in detail. Should it to be drawn at actual size, or -2x, +2x, +3x, etc?

Once you decide the scale that best represents your tool, you are to consider the composition of your drawing. Using tracing paper, draw freehand your plan, two elevations and eight (at a minimum) sections using proper line weight and drawing conventions. Pin-up your composition of drawings showing how the plan, elevations and sections relate to each other. You should consider how the layout of one drawing type relates to the next. When combined, these sketches should fit within two sheets or more of 20" x 30" Strathmore 500 Series Bristol Board, horizontally oriented. Show with string the outline of each 20" x 30" area over your pinned up drawings.

Materials Tracing paper and wood pencil
Twine (supplied by us)

Due Wednesday, September 19, 2007 @ 1.30 p.m.

first year: assignment five (cont.)

Part B

Method / Process Using light construction lines, you are to draft your plan, two elevations and eight (at a minimum) sections on the Strathmore Bristol Board Sheets. ALL lines drawn are to be constructed using a scale, triangles and a compass (no freehand lines or flexible curves are acceptable). As you layout these drawings, you should consider how to construct the unique geometry of the object by working from the most general outline of the form to the most specific. A square before a circle, etc. Once you have the general form, you can then add the descriptive geometry within it. For instance, you can draw a series of lines to determine a curve.

Materials Lead holder(s) with 3 suggested leads: 2H (light), H or F (medium), HB (dark)
Strathmore 500 Series Bristol Board: 2-ply Cold Press, 20" x 30" (2 sheets minimum)

Due Friday, September 21, 2007 @ 1.30 p.m.

Before you start When using the Strathmore Bristol Board, horizontally orient the sheet. Draw on the side displaying the watermark and orient the board so the watermark is located in the lower right corner.

As you make your drawings, protect completed areas with tracing paper to keep the areas clean. Before you begin drafting, you should clean all of your drafting tools and the underside of your parallel rule with Windex.

Part C

Method / Process Continue working on the construction lines which describe your tool. On a sheet of vellum, test your knowledge of line weights before adding them to your final drawings. Once completed, add the proper line weights to your drawings.

Materials Lead holder(s) with 3 suggested leads: 2H (light), H or F (medium), HB (dark)
20" x 30" sheet of vellum
Strathmore 500 Series Bristol Board from Part B

Due Monday, September 24, 2007 @ 1.30 p.m.

first year: a short review of line weights and types

Construction line (2H lead)	Helps to define the unique geometry of the object, space or detail. They typically remain as part of the process of the drawing. You do not need to erase them.
Dark line (HB lead)	Used for section cuts and ground lines. Indicates spatial profile versus edges
Medium Line (H or F)	Used for elevational information or information behind a section cut. A surface subdivision and secondary information
Light Line (H)	Used to represent depth; items which are beyond the elevational information
Dashed Lines (H)	Used to indicate information occurring on a different plane than the section cut.
Dotted Lines (H)	Used to indicate implied information, surface subdivisions, contours, or texture.

A few suggestions regarding line weights, types, and quality

1. Always protect the finished areas of your drawing with tracing paper.
2. Lines should not be thick. Always work with a sharp lead.
3. Rotate your lead holder while drafting to keep the line consistent in width.
4. If you see smudges on your Strathmore Bristol Board, clean your tools.
5. If uncertain what line weight or line type to use, ask a classmate or wait to discuss it with your instructor.
6. Do not dig your lines into the Strathmore Bristol Board. The lines should be atop the Board, not grooved into it.
7. If erasing, use a white eraser, not a colored one. Colored erasers tend to leave behind a streak of color.
8. Construction lines should extend from one Strathmore Bristol Board to another; helping to make critical alignments and specific geometries relate to one another.