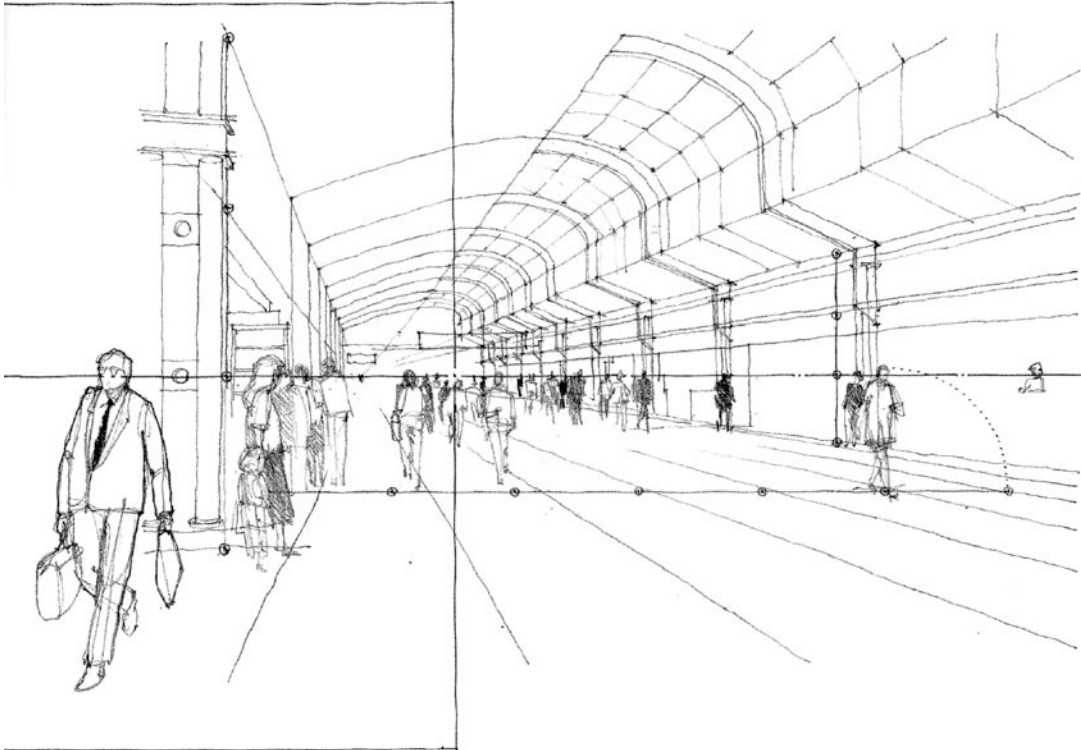


Course Number and Title: ARCH 151 / Architectural Drawing I / 3.0 Credits

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**PROJECT 4, ASSIGNMENT 1: One-point Perspective**

As architects we must be able to convey three-dimensional forms on two-dimensional drawing surfaces. To do this in a convincing manner, we employ drawing systems such as one-point perspective to describe spaces. This assignment will focus on developing your skills of observation and translation of three-dimensional information onto the two-dimensional drawing surface as well as your freehand drawing ability.

Visit 30<sup>th</sup> Street Station to complete a one-point perspective drawing in your 11x14 sketchbook of the interior space of the Main Concourse using the drawing techniques discussed in class. Fill the sketchbook page with finely-crafted freehand linework. Hand-letter your name, the date (1/4" high letters) and a title (1" high letters) on the drawing using a small triangle. Scan the drawing and *plot it* at twice its original size for class.

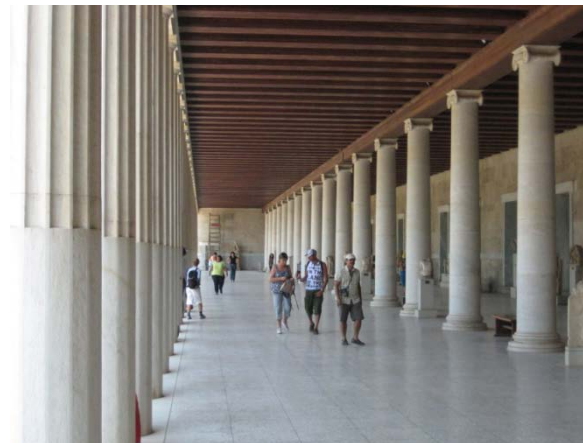
The perspective should be drawn in pencil first, followed by ink (Pilot Pen and Sharpie).

- Begin by setting up a one-point perspective grid *drawn lightly* with construction lines in pencil.
- Continue to use pencil to fill in known information in a light lineweight.
- Only trace over the drawing elements in ink after the drawing is complete.
- Use at least three pen line weights to express fine detail, primary content and other information.
- Familiarize yourself with the terminology: vanishing point, horizon line, measuring line, picture plane.
- Refer to Design Drawing, 1998 edition p. 226 – 233 "One Point Perspective".
- Assignment continued on reverse...

Use perspective drawing techniques to add detail to your drawings to convey scale to the viewer. You must include the following elements: scale figures, light fixtures, window panes, and ceiling and floor details. Assess the relative proportions of elements to accurately size objects and place them in space. Refer to pp. 314-315 when drawing people (scale figures) for proper technique. *Do not fill people in with solid tone, use only lines.*

Keep in mind these principles of one-point perspective:

- Perspective drawing allows us to: 1. place three-dimensional objects in two-dimensional pictorial space; 2. illustrate how the forms diminish in size as they recede; 3. depict a specific vantage point from *true eye height*.
- In one-point perspective, one wall within your drawing must be parallel to the 'picture plane' and this plane can contain your *measuring line* from which all other measurements will be gauged.
- In one-point perspective, all horizontal lines which are parallel to one another but perpendicular to the picture plane converge to a single vanishing point. The vanishing point need not be centered but must be at eye height.
- All vertical lines remain vertical in the perspective drawing.
- Equal and repetitive spaces or objects can be drawn using the Method of Diagonals (see Design Drawing / Perspective Measurements: Subdividing Depth).
- Use a Measuring Line to gauge relative heights and proportionate objects (see Design Drawing / Perspective Measurements: Measuring Height and Width).
- Use visual cues such as *proportional, axial, and modular relationships* to translate information into the drawing.
- Most importantly: establish a *true eye height* and place your vanishing point at this height.



2 one-point perspective views of the interior of the Reconstructed Stoa of Attalos, 159-132 BC (presently the Ancient Agora Museum) in Athens, Greece.

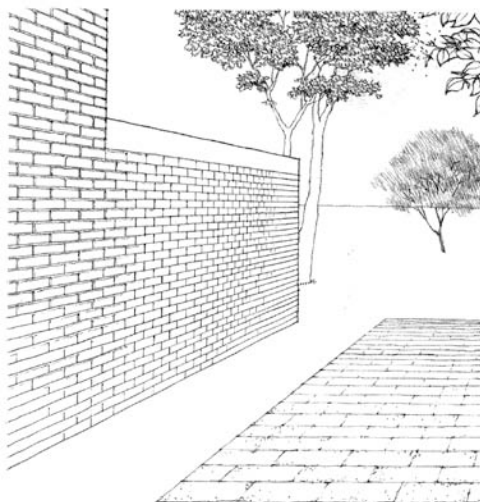


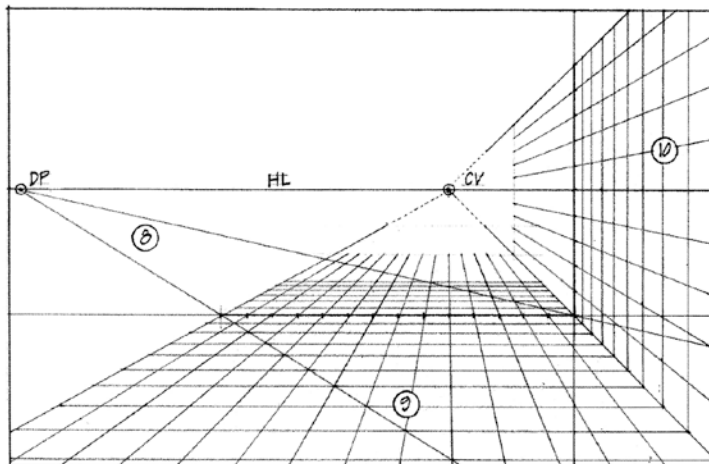
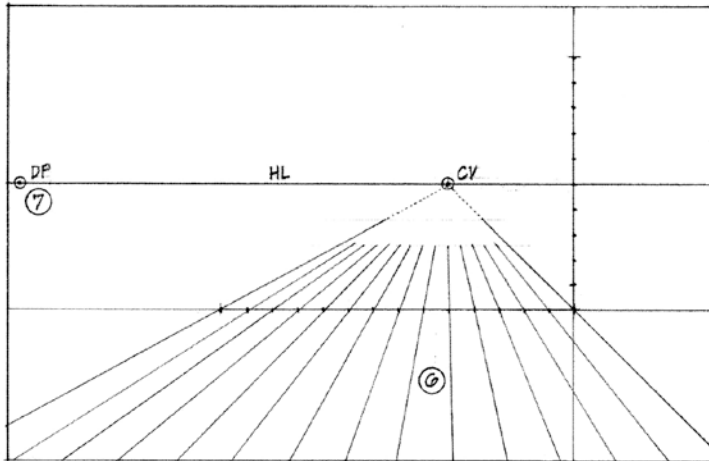
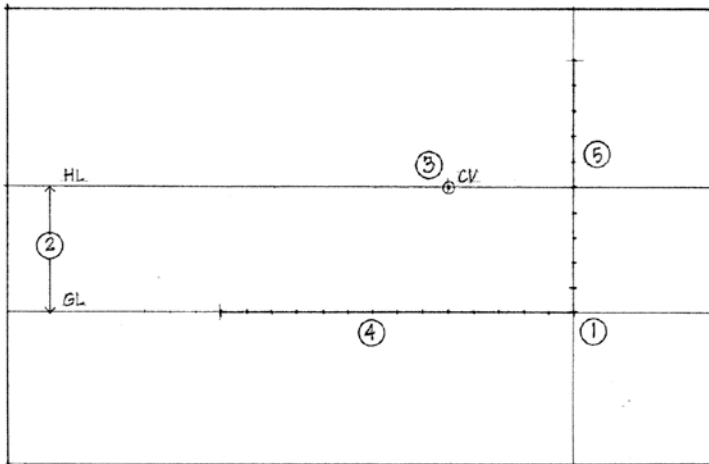
Image: use texture to provide "depth cues" in perspective drawing. Diminish the quantity and darkness of lines as they recede in space.

**Assignment Due: 2pm**

Tues 11/17 (Section 1) or Thurs 11/19 (Section 2)

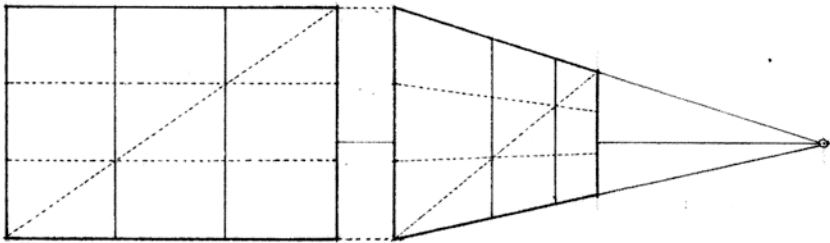
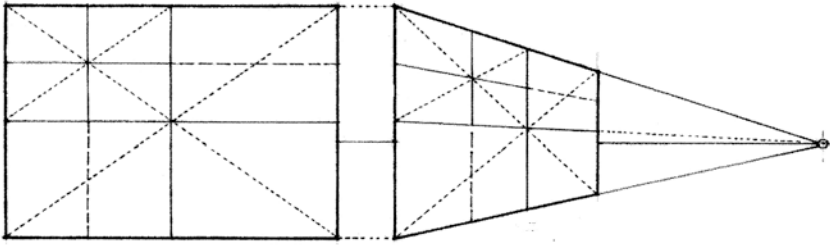
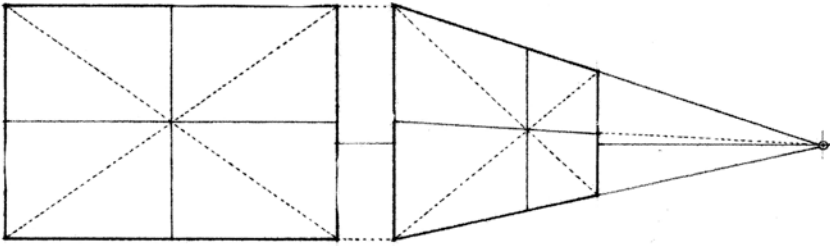
- Plotted one-point perspective drawing at 2x (two times) its original size.
- Scan drawing at 300dpi / grayscale image, save as a .JPG entitled **YourName\_30thStreet.JPG**
- Email .JPG to [DrexelDrawing@gmail.com](mailto:DrexelDrawing@gmail.com).

## ONE-POINT PERSPECTIVE GRID

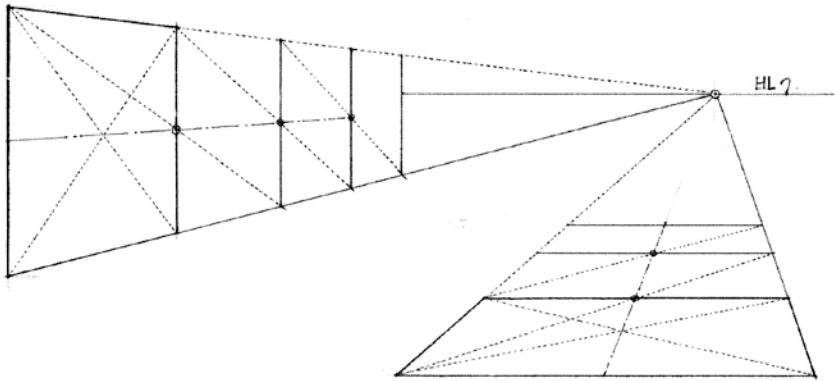


A perspective grid is a perspective view of a three-dimensional coordinate system. The three-dimensional network of uniformly spaced points and lines enables us to correctly establish the form and dimensions of an interior or exterior space as well as regulate the position and size of objects within the space. Several types, varying in scale and point of view, are commercially available. We can also use the following procedure to construct a one-point perspective grid:

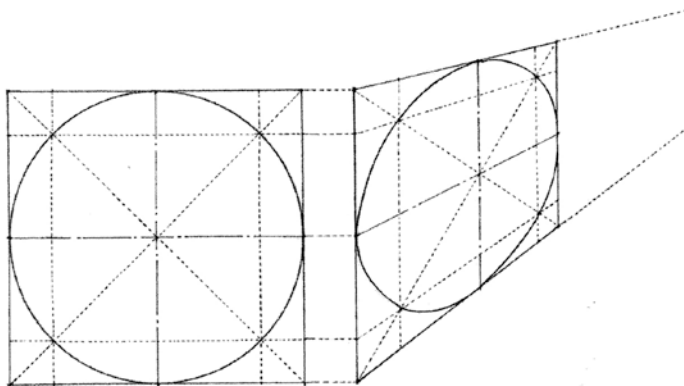
1. Decide on a scale for the picture plane, taking into consideration both the dimensions of the space and the desired size of the perspective drawing.
2. At the scale of the picture plane, establish the ground line and the horizon line at the eye level of the spectator.
3. Establish the center of vision close to the middle of the horizon line.
4. Along the ground line, lay out to scale equal increments of measurement. The unit of measurement is typically one foot; we can use smaller or larger increments depending on the scale of the drawing and the amount of detail desired in the perspective view.
5. Do the same along a vertical measuring line drawn through the left or right endpoint of the ground line.
6. Through each of the measured points on the ground line, draw lines on the ground plane from the center of vision forward into the perspective.
7. Establish the diagonal point to the left or right of the center of vision at a distance equal to the distance of the station point to the picture plane. If this is unknown, the distance from the center of vision to the diagonal point should be equal to or greater than the width of the space.
8. From the diagonal point, draw diagonals through both endpoints of the measured ground line.
9. Where these diagonals cross each of the lines converging at the center of vision, draw a horizontal line. The result is a perspective grid of squares on the ground or floor plane.
10. If desired, we can transfer these depth measurements and establish a similar grid along one or both receding sidewalls, as well as on a ceiling or overhead plane.



Subdividing Depth Measurements



Extending Depth Measurements



Circles in Perspective