Building Sections

CMCE 1110 Construction Drawings
Professor Anderson

How do Plans and Sections relate to each other?

De Blas House, Spain
Alberto Camp Baeza
What do Building Sections reveal?

1. Spatial layout
2. Changes in plane and heights
3. Structure and construction details
4. Materials
5. Interior views
6. Lighting studies

**Typically required by the Building Department**
Escherick House
Louis Kahn, 1959-1961
204 Sunrise Lane, Philadelphia, PA

SECOND FLOOR PLAN

FIRST FLOOR PLAN
Escherick House Longitudinal Section
Autocad Techniques

- Mirror
- Stretch
- Array
- Divide
- Distance
- Measure

Tools you have learned:
- Leaders
- Notes
- Hatch
- Line and X-Lines
- Offset
- Extend/Trim
- Fillet
- Copy/Paste
- Ortho Mode and Polar Tracking
- Object Snap
- Layers and Color Styles
- Line-types
- Dimensioning
- Paper Space vs Model Space
- Viewports

- Arc
- Ellipse
- Blocks
Mirror creates mirrored copy of objects.

Activate: Home tab, Modify subtab or type “mi”

Array

Array distributes object copies into any combination of rows, columns and levels.

Activate: Home tab, Modify subtab or type “ar”

Resources:

Click on nodes to adjust array settings.
Divide

*Divide* creates evenly spaced points, objects or blocks along the length or perimeter of an object. Activate: Home tab, expand Draw subtab or type “div”

Resources:

“ptype”
Measure to check your work

Measuregeom tools are used to measure the distance, radius, angle, area, and volume of selected objects or sequence of points.

Activate: Home tab, Utilities subtab, type “me” to activate general measure tool or “di” to activate distance command.

Resources:
Orthographic Projection: Process

1. Copy first and second floor plans.
2. Rotate plans accordingly, per required section view.
3. Align plans (stack vertically – make sure outer walls align).
4. Set elevation markers in area below plans to set up section regulating lines.
Orthographic Projection: Process

5. Vertical Lines: Use X-Lines to project features from first floor plan that intersect with the section marker to the section.
Orthographic Projection: Process

6. Vertical Lines: Use X-Lines to project features from second floor plan that intersect with the section marker to the building section.
Orthographic Projection: Process

7. Horizontal Lines: Create X-Lines to project building regulating lines and details from the elevations. Assign line weights/layers as applicable.

8. Annotation: elevation markers, notes, dimensions.
Complete Layout: Titleblock and Viewport
Assignment Specifications:

- Email your progress drawing at the end of this class. *You must use your City Tech email address and email to the gmail submission email address. Include the assignment title in the email subject line.
- Name files: Last Name First Name – Assignment # Assignment Title.
- Example: Anderson Nicole – Assignment 8 First and Second Floor Plans
- Email final submission *BEFORE THE START OF THE NEXT CLASS*
- Submit 8.5”x11” plot of each drawing *AT THE START OF THE NEXT CLASS* - bind/staple as required