

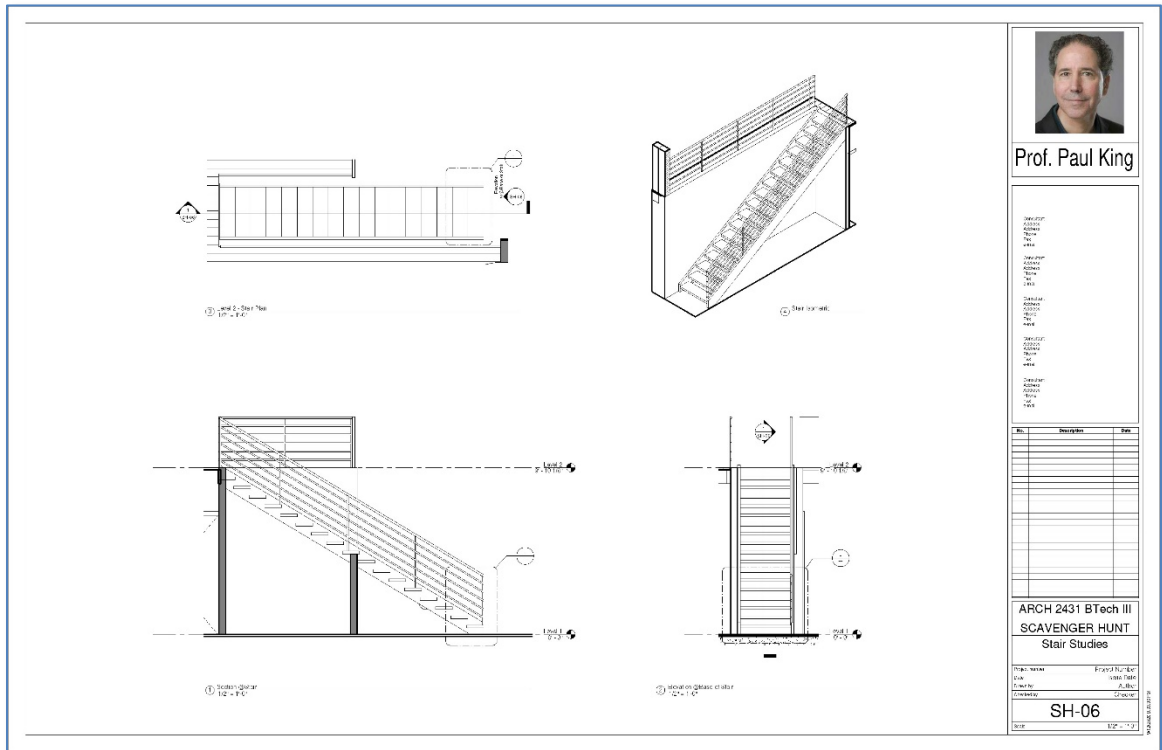


**Overview:**

This studio assignment will introduce the concept Building Information Modeling (BIM) using the Revit program. All of the semesters Studio Assignments combined, represent 30% of your final grade. Working with the sample file provided, we will explore the organization of a Revit file, learn the interface and commands, and format various views on title blocks. We will look to represent building assemblies using groupings of four (4) related views – a plan, two elevations or one elevation & one section and an isometric. Remember that our focus this semester is on the creation of construction documents and not presentation drawings. To clarify construction, we will consider materials (adding hatch patterns) and connections and add annotation (notes/leader & dimensions) as appropriate. The term “scavenger hunt” describes your search through the existing Revit file, for good assembly subjects. Select an assembly and ask yourself – How is it built?

Our printed work will be reviewed in a series of class pinups using Miro.com or live pinup on the wall.

- **Pinup #1** – Create a minimum of two (2) sheets and add any existing views. Use existing scales.
  - Number the sheets SH-01 & SH-02. Name it based on what is on each sheet.
- **Pinup #2** – Create Six (6) new sheets.
  - On the first set of three (3) sheets- format perspectives, full floor plans & exterior elevations. Use existing scale. Number these sheets SH-03 Perspectives, SH-04 Floor Plans & SH-05 Exterior Elevations.
  - On the second set of three (3) sheets- create three scavenger hunt assembly studies. These will include enlarged drawings or callouts (minimum scale of  $\frac{1}{2}'' = 1'-0''$ ). The first assembly for everyone will be the interior stair. Each student must identify two additional assemblies. Number these sheets SH-06 Stair Study, SH-07 “Second Study”, SH-08 “Third Study”. Pick appropriate names for studies 2 & 3.
- **Pinup #3** – Create Six (6) boards.
  - Leaving the perspectives, full floor plans and exterior elevations behind, we will focus on the three (3) sheets of “Scavenger Hunt Assembly Studies.” We will continue to develop sheets SH-06, SH-07 & SH-08 – we will not be creating new sheets. For each study you will also be required to locate photographs that illustrate how the subject of the study could be built. The pinup will therefore include six (6) boards – three printed from Revit and three formatted with associated photographs.
  - For this pinup you will be expected to add materials designations using hatch or detail items, as well as annotation including notes/leaders & dimensions.
  - Also consider if there are any portions of this study that will need to be further enlarged to be explained. Minimum scale for this next level of enlargements is to be  $\frac{3}{4}'' = 1'-0''$ . Common scales for studies at this level of detail are  $\frac{3}{4}''$ ,  $1 \frac{1}{2}''$  and  $3''$  to the foot.
  - If you require extra sheets for any study, add a suffix to the number. SH-07 becomes (SH-07.1 & SH-07.2)
- **Pinup #4** – Final pinup of three (3) “Scavenger Hunt” assembly sheets.
  - We will continue to develop sheets SH-06, SH-07 & SH-08. Make modifications to your studies based on comments made during pinup #3. For these studies, in addition to the first group of four (4) views (plan, elevation/section, isometric), include at least one additional group of four (4) views (plan, elevation/section, isometric) to detail an additional portion of the assembly.
  - All details are to include materials designations and annotation (notes/leaders & dimensions)
- **Pinup #5** – Final pinup best “Scavenger Hunt” assembly. This may be one or more sheets.
  - Taking your best study, rework it to make it the best sheet you can. Consider comments from Pinup #4.
  - Keep the sheet number for this study. Create additional sheets as needed.



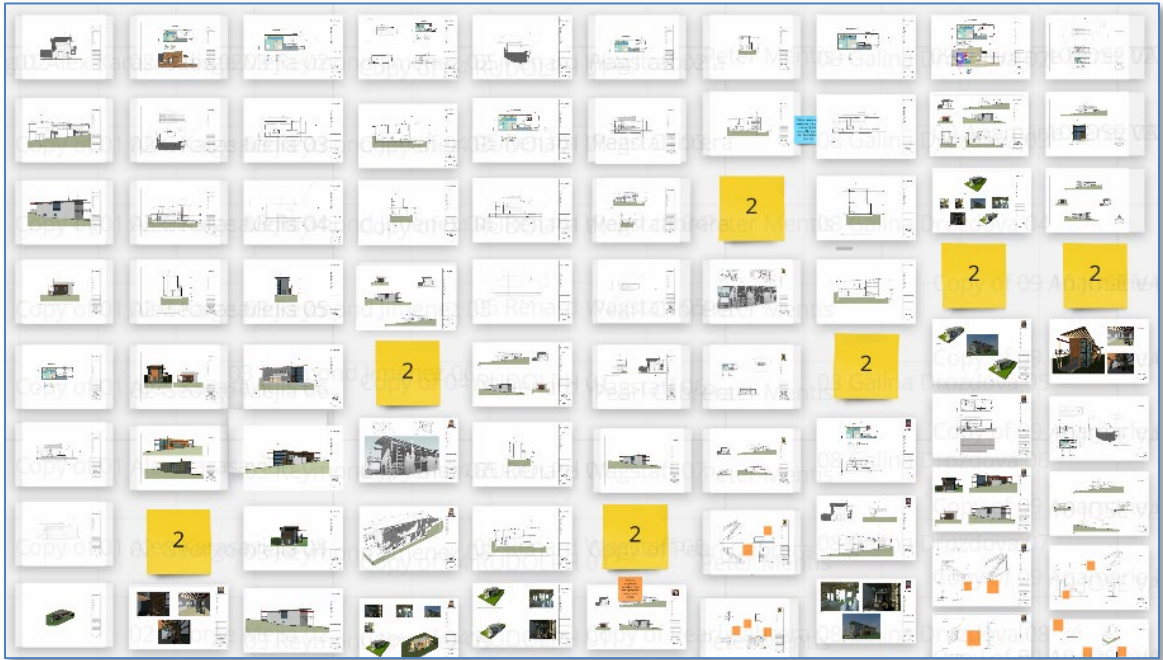
Sample sheet from Pinup #2

### Revit Specific Tasks:

- **Customize the titleblock.** Using a 22 x 34 titleblock – make a copy of this family and add course and individual information to the titleblock. You may have to adjust locations of lines, etc.
- **Add Personal Information** – Remove the Autodesk Logo in the top right corner of the title block and add a recognizable portrait photo of yourself to the sheet. Below this add your name. Make sure it is large enough to be legible. If your name is long, it can be on two lines. You may have to adjust lines on the titleblock for it to fit.
- **Add Class Information** – Add the Course Number & Name (ARCH 2431 Building Technology III) using the “Owner” and “Project” fields. Add the Professors Name (Prof. King, etc.) and the semester (Fall 2020) below your name.
- **Add Sheet information** – For each sheet, add a sheet number and a title. For the date drawn add the deadline date.
- **Duplicating views** – Since we have multiple pinups, you may need to include the same view on more than one sheet. To do this you will need to “duplicate” the view. Review the duplicate options. (with detailing, as a dependent)
- **Dimension and Text Styles** – Notes and dimensions text, should be 1/8” tall. Create new styles as needed.
- **Project Browser Cleanup** - When you create new views either using duplicate or creating new views as callouts, sections or elevations, be certain to rename these views appropriately.
- **Revit File Name** – Each of you must rename your Revit file in the format (Firstname.LastName ARCH2431 Scavenger Hunt Studies Semester-Professor.rvt) File name for a student named Louis Sullivan in Prof. King’s Fall 2020 class would be (Louis.Sullivan ARCH2431 Scavenger Hunt Studies FA20-King.rvt)

### MIRO & Pinups -

- We will be conducting “virtual pinups”, using a shared pinup board hosted on Miro.com. We may also conduct a live pinup in the classroom. You will not be required to create an account to work with Miro. The pinup space will be provided for you with a single frame for each of you. You will need to rename this frame to claim your pinup space and you will duplicate and place each additional sheet below, creating a vertical column of sheets for each student.
- To post your work in Miro - print each sheet from Revit to a separate PDF and then paste it onto the frame.



**Sample Miro.com Pinup Board**

**Grading & Rubric:**

- **Grading:** Pinup # 1 will be graded as complete/incomplete. Pinup #2 & Pinup #3 will be given a preliminary grade (A/B/C/D). Pinup #4 & #5 will be given final grades – these count most toward your overall semester grade.
- **Rubric:** Assignments will be graded on the following criteria. Additional criteria may be given during discussions.
  - Completeness of submission & deadlines. Proper file name, sheet name/number and format of titleblock
  - Good selection of study subjects & appropriate views. Coordinated sets of four (4) views are best. (Plan, two Elevations or an Elevation & Section and an Isometric). Scales for the group of four typically match.
  - Annotation & appropriate scale of views. Use a scale that clearly represents the information and allows for proper annotation to be added including, hatch patterns, detail items, notes/leaders & dimensions.
  - Formatting and organization – Are the sheets laid out well, organized and numbered properly? Do views align, is there limited wasted (white) space? Are detail views numbered sequentially?
  - Level of detail – Do the studies show enough to explain the construction? This requires that drawings exist at multiple scales ( $\frac{1}{2}''$  or  $\frac{3}{4}''$ ) with a second set of callout details at larger scales. ( $1 \frac{1}{2}''$ ,  $3''$  or  $6''$ )
  - Demonstration of the mastery of the Revit software. Good control over views, proper organization of project browser, creation and organization of sheets with title blocks, proper printing to PDF, etc.
  - Oral Presentation – Students ability to describe what has been drawn.

**Archive Submission:**

- In addition to class Miro pinup boards, each student will need to post the following completed assignments in blackboard. For these submissions, you must combine the individual PDF files into a single PDF and then upload this to the proper directory in blackboard. You must also include your Revit file.
- Failure to submit the archive file on a timely basis may lower your grade.
  - **Pinup #4** – Final pinup of three (3) “Scavenger Hunt” assembly sheets.
  - **Pinup #5** – Final pinup best “Scavenger Hunt” assembly.