

Department of Architectural Technology

ARCH 1231 BUILDING TECHNOLOGY I

Measured Space Assignment

Description: A fundamental skill required of architects is the understanding of space and the systems that combine to make space durable, habitable, accessible, and usable including structure, finishes, ventilation, transparency, power, and lighting to mention a few. Space is three dimensional, a volume with width, length, and height. This assignment challenges you to use careful observation combined with measurement tools to document the volume of a primary space, its structural grid, and key elements such as stairs and escalators, to translate this documentation into hardline architectural drawings including at least 1 floor plan, 2 sections, and 1 axonometric.

Note: All drawings require careful architectural lettering for titles, scale, student name, and annotations.

Assignment Context: This assignment is intended to establish and practice the base skills that will be critically important for the following assignments in this course.

Prerequisites: Understanding of orthographic projection, lineweight, scale, architectural drafting techniques.

Recommended Text:

[Ching, Francis. Architecture Graphics. John Wiley and Sons, 2009.](#)

Suggested Reference: See the City Tech [Openlab](#) for additional reference materials.

Plagiarism: Student work submitted must be original and developed individually. Tracing is not acceptable. All construction lines and notations during drawing construction are to remain visible at final submission. Drawings without construction lines (guidelines) will be downgrading significantly.

Assignment Specific Learning Outcomes / Assessment Method	
Learning Outcomes	Assessment Methods
Upon successful completion of this assignment the student shall be able to:	To evaluate the students' achievement of the learning objectives, the professor will do the following:
Layout coordinated and consistent plan, section, and axon drawings.	Review student measured space assignment for accuracy and application of line weights and drawing conventions following assignment rubric

Grading Rubric
Student Name:

	Approaching Benchmark	Benchmark	Approaching Capstone	Capstone
Lineweight + Poche Distinguishing elements especially cut lines (poche), grid lines, transparent elements, finishes	Lines are consistent thickness and quality, in the correct alignment	In addition, two lineweights are distinguishable, including cut line	In addition, three or more lineweights are distinguishable, including some finish textures	In addition, transparency is clear, centerlines, gridlines, dimension lines are shown correctly. Poche hatch is carefully executed
Dimensional + Proportional Accuracy Major Dimensions of length, width, and height are accurate	Each drawing shows space with approximate proportional relationships	In addition, overall room dimensions are accurate	In addition, major elements are accurately spaced and proportionally correct	In addition, minor elements and finish textures are accurately sized and located.
Construction / Guidelines Guidelines and proper techniques were utilized in the careful construction of each drawing	Guidelines are used for overall geometry of drawing	In addition, guidelines indicate orthographic projection for drawing construction.	In addition, guidelines indicate geometric center of space, perimeters of space, and grid locations of key elements	In addition, guidelines are accurate, working off of grid lines and center lines to each major element and guiding alignments.
Ordering System The ordering system of the spaces is clearly understood.	General configuration of spaces is depicted	In addition, 2d drawings include guidelines and grid lines that locate the structure and walls of the spaces	In addition, the relationship between each space is accurate and the 2d and 3d drawings are consistent and coordinated	In addition, 2d and 3d drawings clearly articulate the ordering system of the spaces through centerlines, geometric modules, gridlines, and guidelines
Drawing Conventions Standard methods of drawing and documentation of key data and elements are utilized	Drawings are properly scaled and provided with a title including course #, student name, professor name, semester + year	In addition, elements stairs are drawn following standards and conventions	In addition, plans and sections distinguish clearly between elements at cut plane and those beyond	In addition, symbols are utilized and section level tags and cut lines mark cut locations and elevations above datum

Assignment Schedule: See Syllabus

Deliverables:

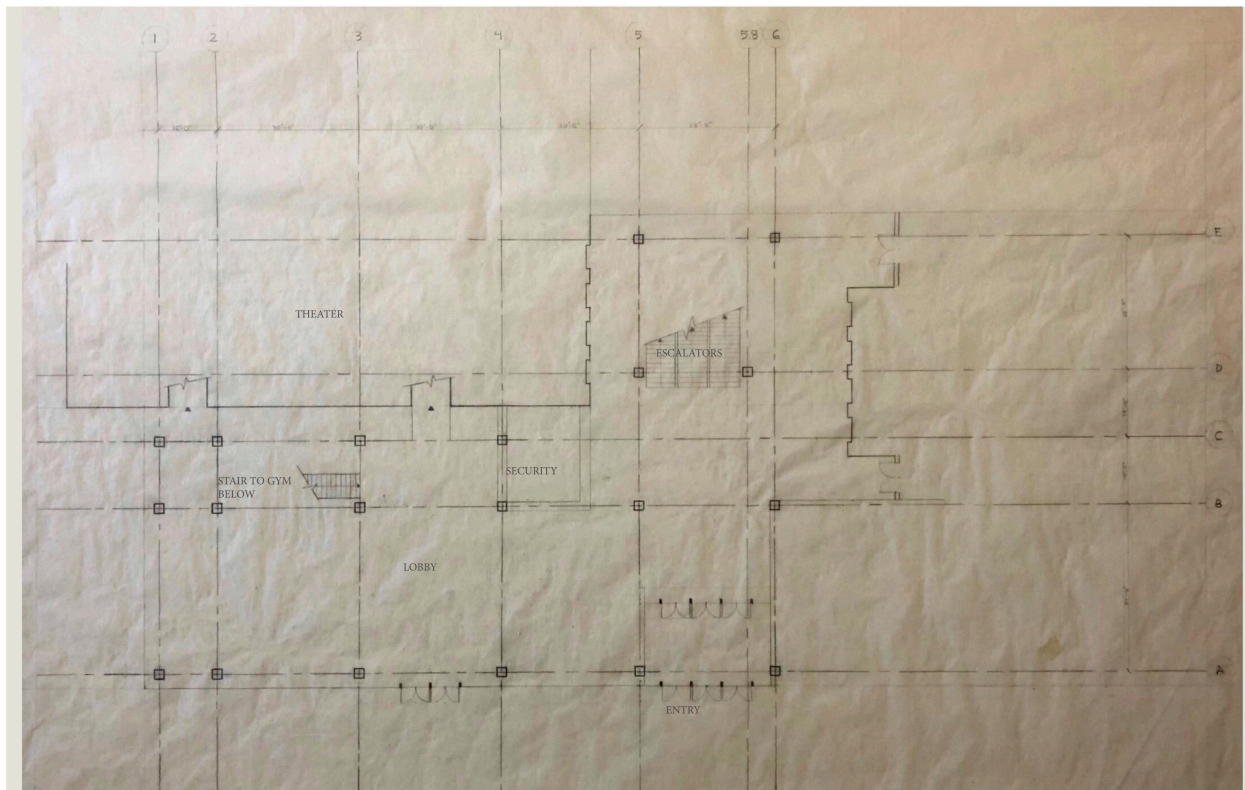
- | | | |
|-----------------|-----------------------------|-------------------|
| 1. Plan | Approx. Sheet Size: 24"x36" | Scale: 1/8"=1'-0" |
| 2. Sections (2) | Approx. Sheet Size: 24"x36" | Scale: 1/8"=1'-0" |
| 3. Axon | Approx. Sheet Size: 24"x36" | Scale: 1/8"=1'-0" |

Extra Credit:

- | | | | |
|------------------------|-----------------------------|-------------------|--------|
| 4. Additional Section* | Approx. Sheet Size: 24"x36" | Scale: 1/8"=1'-0" | 15 pts |
|------------------------|-----------------------------|-------------------|--------|

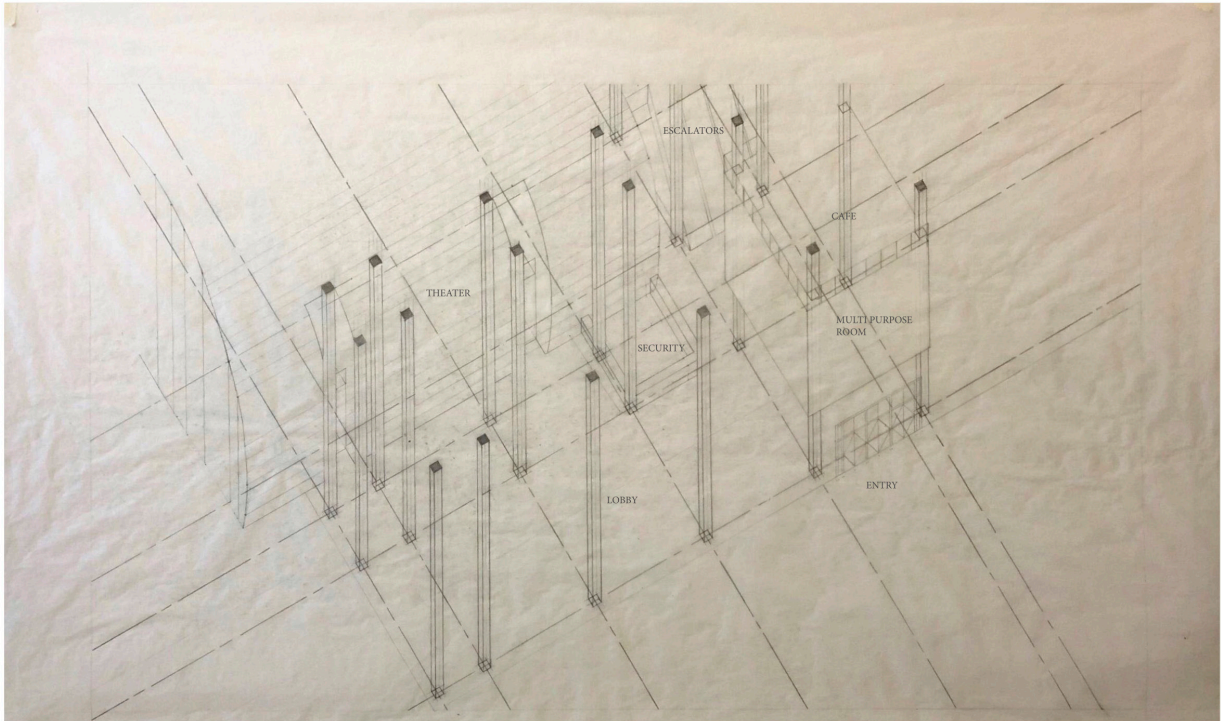
*(location to be agreed with professor in advance.)

Examples of previous student submissions

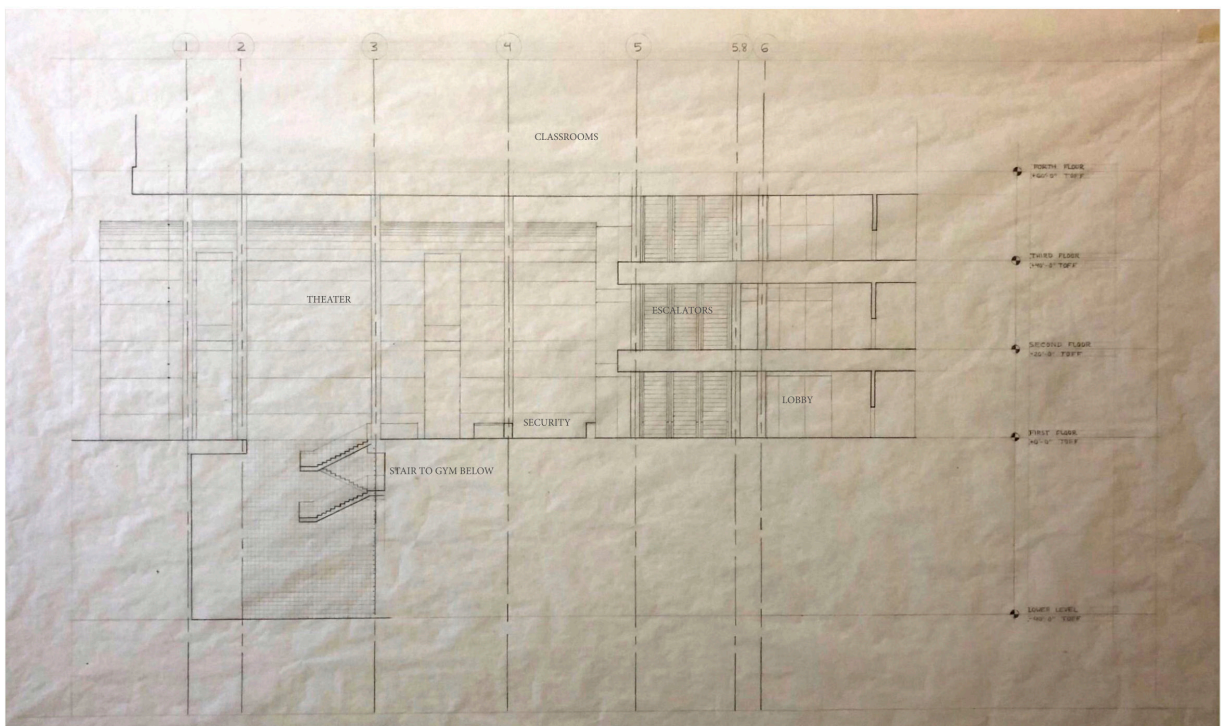


Academic Building Lobby Floor Plan

MEASURING SPACE ASSIGNMENT

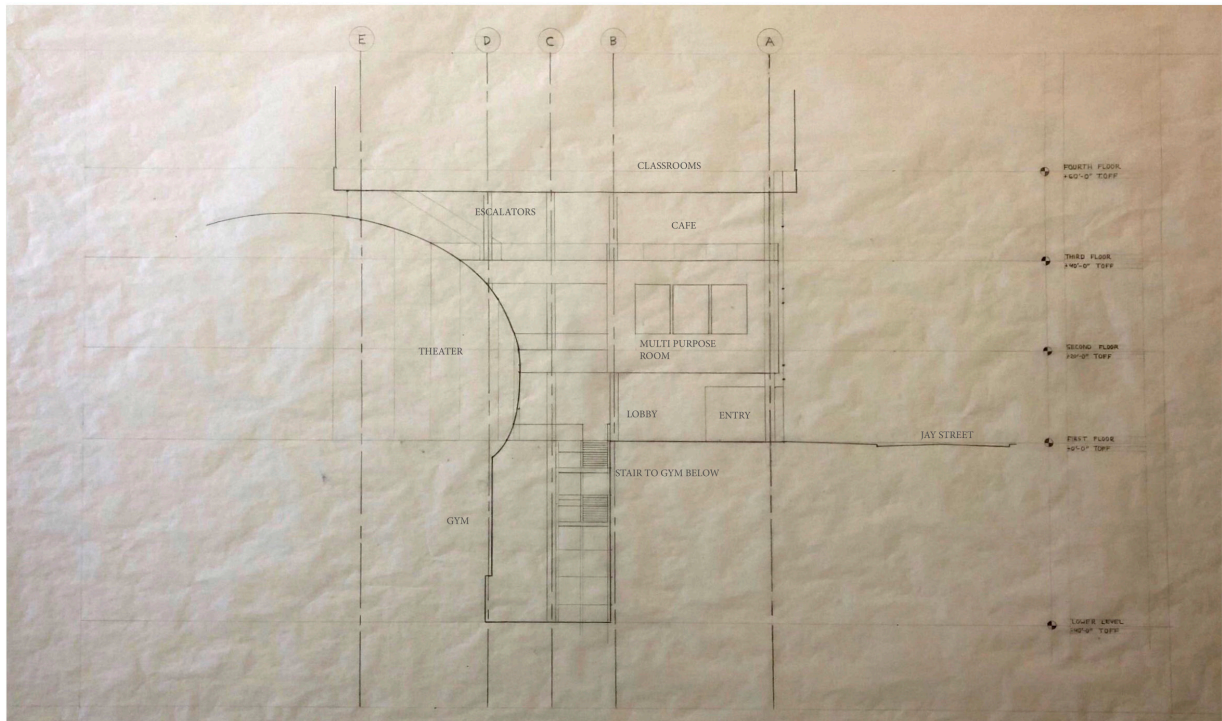


Academic Building Lobby Axonometric



Academic Building Lobby Long Section

MEASURING SPACE ASSIGNMENT



Academic Building Lobby Short Section