Case Western Reserve University
Art Studio: ARTS 302/402 Architecture and City Design 1 • Fall 2022 • 3 credits
Tuesdays/Thursdays 5:30 – 8:30 pm
Instructor: Sally L. Levine, AIA, LEED AP BD+C; sll14@case.edu

I. GENERAL BULLETIN COURSE DESCRIPTION ARTS 302 The social, spatial and aesthetic elements in architecture; the composition of the building: the window, door, roof, enclosing walls, and character of interior and exterior space. Problems relate to small, intimate scale and residential structures. Lectures, field trips and studio experiences. *Recommended ARTS 101 or ARTS 106 courses prior to enrollment.*
GENERAL BULLETIN COURSE DESCRIPTION ARTS 402 See ARTS 302

II. COURSE OBJECTIVES

1. To understand/utilize different architectural processes in the creation of the build environment.
2. To develop an understanding of contemporary architecture and architects.
3. To advance each student's personal development while achieving a class standard of excellence.
4. Encourage experimentation, self-evaluation and continued growth.
5. To awaken within each student one's own understanding and creative abilities.
6. To discover a committed approach to design.
7. To teach verbal, graphic and model building presentation techniques.
8. To create a portfolio of architectural experiences.

III. PROGRAM AND ACTIVITIES

POINT DISTRIBUTION

Project no. 1	2 models @ 35 pts [design 25/craft 15] and 2 sets of drawings @ 20 pts		120
Project no. 2	10 plates @ 20 pts each		200
Project no. 3	Design process and Final presentation @ 150 each		300
Sketchbook			40
Birthday biography			40
Class quizzes			100
		Undergraduate Total	700 pts
Graduate Paper		Graduate Total	800 pts

IV. CLASS REQUIREMENTS

1. Regular, prompt attendance during assigned class days and times. If you must be absent due to illness or emergency, please email the instructor. Three unexcused, missed class periods will result in a grade reduction. Additional missed classes could result in a failing grade.
2. Cooperative effort in the cleaning up and storage of your artwork and supplies during the term.
3. Be prepared for each individual desk critique.
4. Invest time outside of studio hours developing projects.
5. Timely completion of all class assignments.
6. Participation in class discussions and project critiques.
7. Participation in the "Semester in Review" student art exhibition.

V. ATTENDANCE

The issue of student attendance is one that bears repeating. As stated in the Handbook of the Colleges, "Students are expected to attend class regularly." Students who have a medical or other emergency that prevents them from attending a class session should contact their Navigator and/or Student Disability Resources and provide them with documentation for their absence. Students should then request that the Navigator or Disability Resources office contact the instructor to confirm that the absence should be excused. Any absences not designated as excused by the Navigator or the Student Disability Resources office will be considered unexcused.

VI. STUDENT EVALUATION

1. Prompt, regular attendance.
2. Participation in class discussions and project critiques.
3. Completion of all of the design projects; verbal and graphic presentations that meet each assignment's criteria and deadlines -10% for each late class day.
4. Short quizzes related to class topics.
5. Sketchbooks.
6. Prepared, organized and efficient utilization of studio time.

GRADING SCALE

A	> 92%	Excellent
B	> 80%	Good
C	> 72%	Average
D	> 65%	Unsatisfactory
F	< 65%	Failure

VII. SKETCHBOOKS

Each student will keep a sketchbook to be used for taking class notes, designing projects, sketching architectural and design details, collecting relevant architectural images and doodling of any kind. Sketchbooks will be reviewed in class throughout the semester and will be turned in at the end of the term for a final review. Find a sketchbook that matches your personality: be sure that it is large enough to allow you to record your big ideas and small enough for you to carry all the time.

VIII. MEETINGS

During the semester, I am prepared to meet individually with any and all students enrolled in this course. In particular, I would like to meet with students with disabilities who are registered with the Coordinator of Disability Services (368-5230) and who may need individual arrangements.

IX. EMAIL

You are welcome to email me. I will try to get back to you quickly; however, give me about 36 hours before you send too many emails. Also, use this as an opportunity to write "business" emails – proper opening and salutation, no abbreviations and no emoticons as well as proper spelling and grammar. I will return poorly written emails without a response. Once you make the corrections, I will reply.

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Art Studio: ARTS 302/402 Architecture and City Design 1
Fall 2022 - 3 credits
Section 100: Tuesdays/Thursdays 5:30 - 8:30 pm
Instructor: Sally L. Levine, AIA, LEED AP, BD+C; sll14@case.edu

Required text: *Architecture: Form, Space & Order* by Francis D.K. Ching
Recommended: *Analysing Architecture* by Simon Unwin
Reference text: *Precedents in Architecture* by Roger H. Clark and Michael Pause

The best way to predict the future is to design it. *Buckminster Fuller*
Meaning has an inherent curative power. Meaning affects everything. *Carl Jung*

Week 1	T. 29 August	Introductions Assessment of Student Expectations Select Birthday report dates *Lecture: Space and the History of Architecture* Reading: 1. *Primary Elements* (Ching)
	Th. 1 September	Skills: *Conventions of Architectural Drawings* Line Weights Lettering *Lecture: Reading Drawings* Begin Project 1a Solids and Voids: Lines and Volumes
Week 2	T. 6 September *Birthday:* *Fumihilo Maki*	Discussion: *Primary Elements* In class: Project 1a model and drawings
	Th. 8 September *Birthday:* *8 July* *Sarah Harkness*	In class: Complete project 1a Lecture: Nine Square Begin Project 1b Solids and Voids: Lines, Planes and Volumes
Week 3	T. 13 September *Birthdays:* *Tadao Ando*	Review: Project 1a model and drawings Continue Project 1b - Think Box Reading 2. *Form* (Ching)
	Th. 15 September	In class: Project 1b model Skills: Axonometric
Week 4	T. 20 September *Birthday:* *Stanley Tigerman*	Discussion: *Form* In class: Project 1b drawings

	Th. 22 September *Birthday:* *David Frank Adjaye*	Review: 1b Solids and Voids: Lines, Planes and Volumes Intro to Project 2 - Case Studies: Learning from the past Select Case Study homes Lecture: *Smith House by Richard Meier*
Week 5	T. 27 September	Begin Project 2a drawings and diagrams 1 plan of main 1 front elevation 1 plan diagram of choice 1 elevation diagram of choice 1 plan-to-elevation diagram 1 parti diagram Reading: 3. *Form & Space* (Ching) Lecture: *Villa Schwab*
	Th. 29 September *Birthday:* *H H Richardson*	In class: *Diagrams & Parti Exercise* Desk crits: Sketchbooks Review 2a/Introduce 2b
Week 6	T. 4 October *Birthday:* *Christopher Alexander*	Discussion: *Form & Space* Begin Project 2b *Re-parti* 1 main floor plan 1 front elevation Diagrams: - *same as the initial diagrams* 1 plan diagram of choice 1 elevation diagram of choice 1 plan-to-elevation diagram 1 parti diagram
	Th. 6 October *Birthday:* *Charles Edouard Jeanneret*	In class: 2b Discussion: Golden Section Rectangle Review 2b/Introduce 2c
Week 7	T. 11 October	Begin Project 2c *Golden Section* Lecture: *7 Ways of Looking at Buildings*
	Th. 13 October	In class: 2c Discussion: *Organizations* Review 2c/Introduce 2d
Week 8	T. 18 October *Birthday:* *18 July* *Odile Decq*	Lecture: Sir John Soane and Context In class: Townhouse Identify firmness, commodity & delight in each case study Desk crits: Sketchbooks

	Th. 20 October *Birthday:* *Sir Christopher Wren*	In class: 2d Review 2d Discuss 4 phases of Project 2 *Mid term grades due: Monday 24 October*
Week 9	T. 25 October *Birthday:* *Paulo Mendes da Rocha*	Fall Break
	Th. 27 October	Lecture: *Firmness • Commodity • Delight* Reading: 5. *Circulation* (Ching) Skills: Exploded Axonometric In class: Draw exploded axonometric of townhouse
Week 10	T. 1 November	Discussion: Circulation In class: complete Project 2 drawings, including exploded axonometric Introduce Project 3: Residential design Identify heroes; define metaphor/concept Lecture: *Cornell Boxes* Collect material for Cornell Box
	Th. 3 November	Visit site In-class: Cornell Conceptual Box
Week 11	T. 8 November	Review Cornell Boxes Lecture: *Lateral Thinking* In-class: Understanding size of space Develop multiple schemes Pin-up: 3 schemes; select 1 to develop Assignment: Project concept: 25 words or less
	Th. 10 November	Discussion: *Concepts and Principles* Begin: Site Plan 1/32 = 1-foot 1st floor plan 1/16 = 1-foot Reading: 6. *Proportion & Scale* (Ching)
Week 12	T. 15 November	Lecture: Elevations from Plans Reading: 7. *Principles* (Ching) Develop multiple elevations Front elevation 1/16 = 1-foot
	Th. 17 November *Birthday:* *Rem Koolhaas*	Class conversation: Accessibility New question: How do we design for the greatest number of people? Discussion: *Proportion & Scale* Develop Parti Diagram Desk crits

Week 13	T. 22 November	Class conversation: The circular economy New question: How do we design for deconstruction and reuse? Discussion: *Sections* Continue: 2nd floor plan 1/16 = 1-foot
	Th. 24 November *Birthday:* *Walter Burley Griffin* *24 May* *Florence Knoll*	No class. Thanksgiving
Week 14	T. 29 November *Birthday:* *Cass Gilbert*	Class conversation: Sustainability *Visual Presentation Examples* Continue Project 3
	Th. 1 December *Birthday:* *Minoru Yamasaki*	Pin-up or Walk-around Desk Crits
Week 15	T. 6 December	Desk Crits Turn in sketch books
	Th. 8 December	Preparing for your Final Presentation Last scheduled class before final review Hang work for *End of Semester* Student exhibit
Week 16	T. 12 December - F. 16 December	*End of Semester* Student exhibit Opening Reception, 12 December 5:00 -7:00 PM
Week 17	T. 20 December	Final Review Project 3 Bring all process drawings, final drawings and models
	F. 23 December	Grades Due by 11am

Preparing for the Final Review

As you prepare for the review, take time to jot down some notes.
Here's a suggested outline:

Introduce yourself and your hero.
Briefly summarize your BIG idea; define the formal principles; explain your concept.
Show your Cornell Conceptual Box.
Walk us through the building:

- Site Plan
- Floor plans; define Parti
- Elevations/Sections

Ask for questions/comments.
Bring all of your design drawings/sketchbooks - they may come in handy.

Don't be defensive if a juror challenges one of your ideas. It's the jurors' jobs to question your design. Sometimes they will have terrific suggestions/comments; sometimes they won't. Remember, I give out the grades, not the jurors. If there's something that puzzled you throughout the design process, take the lead and ask for specific feedback. After all, *this is your education.*

Birthday Reports

Prepare a 7 to 10-minute PowerPoint presentation about the architect whose birthday you are celebrating. Use at least three (3) resources to learn about this architect. The resources may be online but remember that there are books and magazines in the library that may provide information, as well. Summarize the architect's life, including education and work history.

Highlight a minimum of four (4) significant building projects or other work, if the architect's contributions are not built work. Show photos of the building projects and when available, drawings such as plans, elevations and sections.

Be sure to have an opinion about the work; although each of the architects is notable, you may or may not like this particular architect's body of work.

Presentation notes:
Practice your presentation ahead of time.
It is fine to have notes; there is nothing more boring than listening to someone simply read the text from a Power Point presentation.
Look at the audience when you speak; do not stare at the screen with you back to the class.
Be confident: you have done the research, so you know more about the subject architect than any of the other students.
Ask for questions and comments at the end of the presentation.

Project 1a: Solids and Voids; Volumes and Lines

Kit of Parts:

12 - 1-inch cubes

Make the cubes out of white Strathmore board; glue sturdily with white glue.

12 - 1/4-inch x 1/4-inch x 3-inch rods

Make the rods out of 1/4-inch square dowels and paint white.

All dimensions must be precise and all corners must be exactly 90 degrees. Cut all edges square.

Model:

With the above pieces, construct a model that explores the dialog between solid and void. Develop a clear and well-proportioned organization *(parti)* that investigates the special implications of order and the geometric properties of the square. Be aware that each element has its own traits: Rods are linear and extended; Cubes are central and dense.

Drawings:

On 11" x 17" vellum, in pencil at full scale, draw a plan, a cross section, and two of the four elevations that best express your solution. Establish a hierarchy of line weights in your drawings. Be sure to coordinate your drawings (they must not show conflicting information about your solution.) Carefully organize your vellum sheets so that the drawings are neatly and rationally laid out. Depending on yourdesign, fit more than one drawing on a sheet, but avoid composing a crowded appearance. Incorporateonto each sheet a carefully hand lettered title that includes the problem number, the assignment date and your name.

Objective:

The purpose of the exercise is to explore figure ground relationships between solids, between solids and voids, and between voids and implied voids to produce an understandable and clearly identifiable 3-dimensional organization of elements that exhibit a hierarchy.

Project 1.b Solids and Voids; Volumes, Planes and Lines

Kit of Parts:

9 - 1-inch cubes

Make the cubes out of white Strathmore board; glue sturdily w/white glue.

9 - 1-inch

Make the planes out of white Strathmore board

9 - 1/4-inch x 1/4-inch x 3-inch rods

Make the rods out of 1/4-inch square dowels and paint white.

All dimensions must be precise and all corners must be exactly 90 degrees. Cut all edges square. Laser Cutter in ThinkBox.

Model:

With the above pieces, construct a 3-inch x 3-inch x 3-inch cube so that a solid/void ambiguity results The cube will form one continuous mass and must articulate the properties of a 9-square. Use white glue to assemble the elements.

Drawings:

On 11" x 17" vellum, in pencil at full scale, draw a plan, a cross section, an axonometric, and two (2) of the four (4) elevations that best express your solution. Establish a hierarchy of line weights in your drawings. Be sure to coordinate your drawings; they must not show conflicting information about your solution.

Carefully organize your vellum sheets so that the drawings are neatly and rationally composed. Depending on your design, fit more than one drawing on a sheet, but avoid composing a crowded appearance. Incorporate onto each sheet a carefully hand lettered title that includes the problem number, the assignment date and your name.

Objective:

To explore the relationships among lines, planes and solids as they define space (voids) and solids and function as figures; and to produce an understandable and clearly identifiable 3-dimensional organization of elements.

LINES

Most architectural drawings are made with lines.
The meaning of these lines is communicated through the use of different line weights. The distinct qualities of the lines themselves make architectural drawings communicate effectively and give the drawings an attractive appearance.

Objectives

Our objective is to develop an awareness of the importance of line weight in architectural communications.

Line Weights

Architectural drawings are composed of a minimum of three line weights. In many cases, three line weights are all that are needed.

Light Lines are used for incidental information. These lines are light because they are thin. These linesare bl ack. They are detail lines, floor patterns, and surface texture.

Medium Lines are used mainly for the edges of surfaces. These lines are black too, but they are of normal width. They define building elements and all elements that are not cut.

Heavy Lines are used for the profile of any object or building and for edges of solids that are cut in plan and section.

Lines that define whole elements are emphasized using a heavy weight; lines that define sub-parts of whole elements are medium weight lines; and lines that do not define anything, as such, but provide incidental information are light lines.

A change in line weight, even within a particular line, communicates a change in the relationship between adjacent areas; therefore, once a system of line weights has been established for a drawing, it must be fol lowed rigorously. In most relatively complicated drawings, the more frequent a line of a particular weightoccurs the lighter it should be drawn. Typically, profile lines are used least often, edge lines of surfaces within an object more often, and incidental information lines most often.

Line Intersections

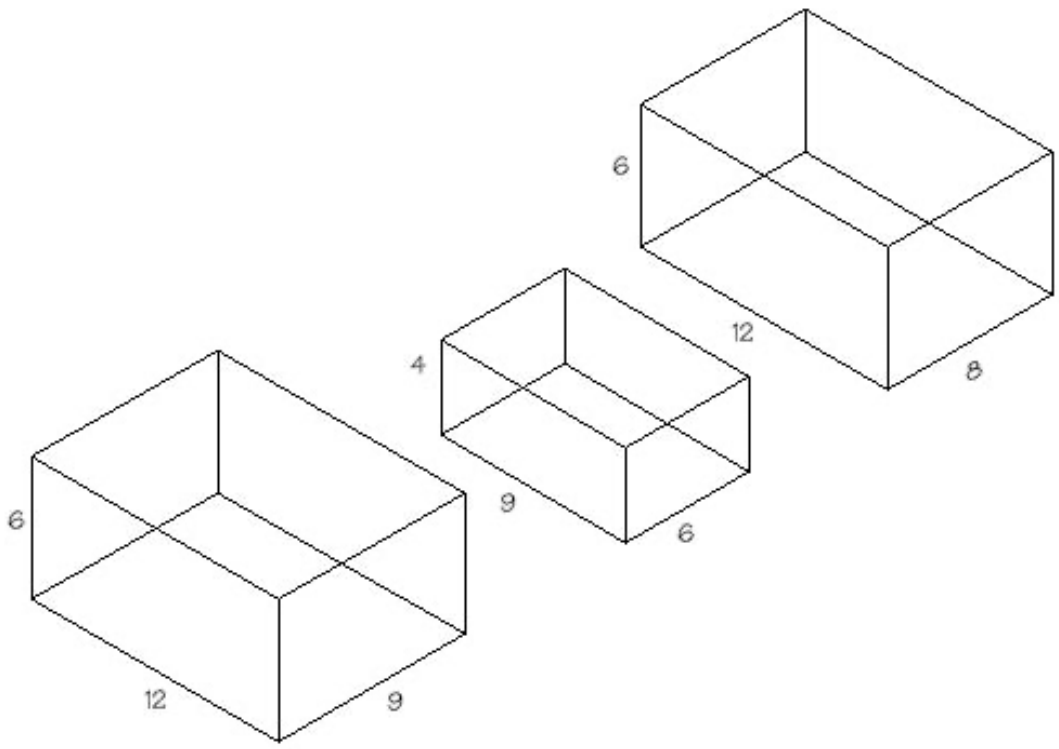
Since the area of the drawing that is concerned with the corners of surfaces is very small and the change in the direction of the lines defining the edges of the object is substantial, these points communicate a very high amount of information. Accordingly they should be emphasized. This important requirement is satisfied when the intersection of lines representing the corners of surfaces are clearly intersected by making the lines cross one another by a small amount.

Proportional Systems

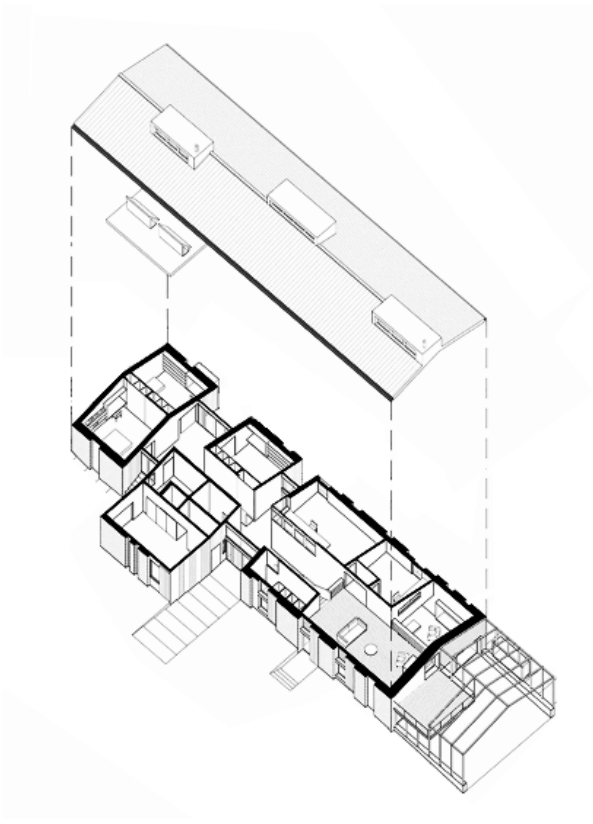
Arithmetic Proportion
Three numbers are in arithmetic proportion when the difference between A and B is the same as the difference between B and C. (A + X) = B, and (B + X) = C. For example, the numbers 2, 4, and 6 form an arithmetic proportion, because (4 - 2) = (6 - 4).† Similarly, 5, 25, and 45 form an arithmetic proportion, because (25 - 5) = (45 - 25). In an arithmetic proportional system, numbers rise in a simple progression, addingthe same number each time. 5 plus 20 is 25; 25 plus 20 is 45; so 5, 25, and 45 form an arithmetic proportion.

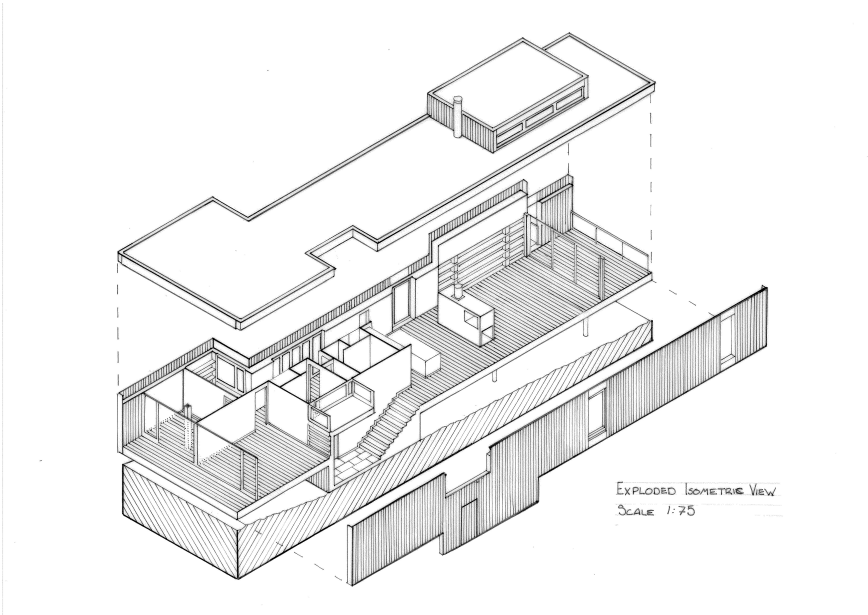
Geometric Proportion
Similar to arithmetic proportion, geometric proportions grow by multiplying instead of adding. In the progression the ratio between A and B is the same as the ratio between B and C. (A x X) = B, and (B x X) =C. So for example, 3, 12 and 72 are in geometric proportion, because (3 x 6) = 12, and (12 x 6) = 72. 2, 4 and 8 are in geometric proportion, because (2 x 2) = 4, and (4 x 2) = 8. A more sophisticated example would be 4, 6 and 9, which are in geometric proportion because (4 x 1.5) = 6, and (6 x 1.5) = 9.

Harmonic Proportion
Harmonic proportion refers to the way that musical harmonies relate to each other.† Mathematically,it is the relationship (C / A) = ((C - B) / (B - A)) -- the ratio between the largest and smallest numbersequals th e ratio of the differences between both of those numbers and the middle one.
So for example, 3, 4 and 6 are in harmonic proportion, because (6 / 3) = 2 and ((6 - 4) / (4 - 3)) = 2 as well. Or 25, 45 and 225 are, because (225 / 25) = 9 and ((225 - 45) / (45 - 25)) = 9 also.



Exploded Axonometrics





Set up as a 30/60 axon; show only floor plan of main floor, explode forward the full height of the front elevation and explode vertically the roof. Do not show the other floor plans. Use dashed lines to show the connections.

NOTE: Three line weights: Heavy for lines the contours; Medium for edges where 2 planes meet; Light for details.

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We took a breezy excursion and gathered jonquils
from the river slopes. Sweet marjoram grew in luxuriant
profusion by the window that overlooked the Aztec city.
Jaded zombies acted quietly, but kept driving their oxen forward.