

ARCH 3001.06 | B1 Design
Course Outline
Fall 2024

R O O M P A V I L I O N

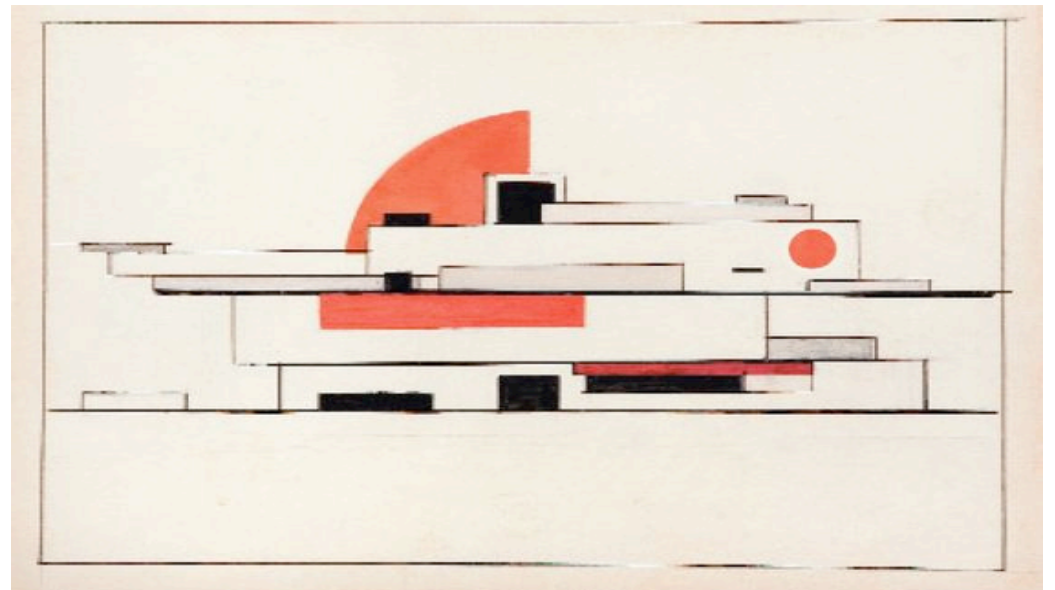
Dalhousie University
School of Architecture

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17 September 2024

Suprematism in architecture: Kazimir Malevich and the arkhitektors
<https://thechannelhouse.org/2014/03/12/suprematism-in-architecture-kazimir-malevich-and-the-arkhitektors/#jp-carousel-18200>



(From top to bottom)
Serpentine Pavilion, Kensington Gardens, London. SANAA, 2009
Infomab 10 Pavilion, Madrid. Kawamura Ganjavian, 2010
Kivik Pavilion, Sweden. David Chipperfield and Antony Gormley, 2008

Course overview

ARCH 3001 Design

CREDIT HOURS: 6

Course description

This studio course introduces principles of architectural design, focusing on elementary building types of room and pavilion. Through case studies and original design work, students develop skills in problem definition, building organization and geometry, structural and material development and visualization. Additional topics include the social and symbolic functions of architecture and design as a response to site.

FORMAT: Lecture, Studio

Additional description

As the first studio in the architecture programme, ARCH 3001 Design is the foundation for future studios, introducing students to fundamental architectural principles and developing essential design skills. Principles addressed include the social and symbolic dimensions of space, form and materials, and the impact of place and context on building design. These ideas are introduced in a thematic dialectic of situation and enclosure. The course also develops design skills such as formal and spatial modelling, building organization and geometry, structural and material composition, an understanding of human scale in architecture, and design methods and visualization through drawing and modeling.

Learning objectives

1. The development of core design skills:

- hand-eye coordination and techniques of modelling & spatial composition (dimensions, proportion and scale, geometry-unit-module, composition, balance and unity);
- the observation and perception of spatial and formal order;
- the ability to analyze and incorporate in design work, the dynamic processes of site, program, light, wind, and environment (especially interior-exterior relationships, and the visual impact of light);
- the ability to visually communicate the design process, to oneself and to others (using models, sketching, orthographic drawings, and photographs).

2. The development of competence and skill in analyzing sites and buildings. Analysis of site and program is an essential preliminary to developing well-designed buildings — this is also known as “pre-design”. Architectural case studies are also important exercises to understand that built works of architecture are a resource and teacher for the designer to understand:

- how architecture supports human activities and conveys meaning;
- how the composition of formal and spatial orders and the use of materials can support the life taking place in the building;
- how a building is sited and oriented to protect from the elements, and how it can be articulated to create a pleasing interior ‘environment’ in terms of views in and out, daylight, shade, warmth and ventilation;
- how buildings stand up (their structure, elements and materials) and how they are built.

3. The development of competence and skill in architectural design, integrating knowledge from your building technology and representation courses, in the following aspects:

- the four aspects listed above, in support of the building’s composition and design strategy
- a holistic approach to design, working in both plan and section, and at three scales of site, building, and detail;
- craft in drawing and modeling; framing, editing, and focus in developing and communicating the design concept.



4. The development of competence and skill in design communication. Active observing through sketching is the foundation of architectural skill and knowledge, and it is developed through practice. Skillful design visualization will advance your design work and enable you to effectively communicate your design to audiences, whether they are reviewers, client groups, or the public.

5. Self-reflection and collaboration skills. The architect Donald Schoen writes of the “reflexive practitioner”, one who pays critical attention to the values and theories which inform their actions so they may continue to learn and gain insight into their own professional development. These skills also apply to working collaboratively with others.

Integration with other courses

Because architectural design draws on the history of architecture, is developed through visualization and realized through building construction, this design studio advances in parallel with your history, representation and building technology courses. It shares some assignments with Building Technology, Representation, and History courses. See Assignments for details.

Course format and weekly meeting times

The course meets Tuesday and Friday afternoons, from 2:00 pm to 5:30 pm, for lectures, studio and reviews. Unless otherwise indicated, students are expected to work in studio during class time, and to be available for group work and desk crits. Medjuck Building Rooms B102, B015, 1210, 2107, 2135, and 2135a are reserved for this course. [Formerly HA18, HA19, HB1, HD4, HD2D, and HD2E].

Reading

Books are available for purchase in the Dal Bookstore. They may be available with free online access from Dalhousie Libraries or rented from the Dalhousie bookstore (bookstore.dal.ca) or VitalSource (www.vitalsource.com).

- Ching, Francis D.K., with Steven P. Juroszek. 2018. *Design Drawing*, 3rd ed. Hoboken, NJ: Wiley. (Sexton Library: NA 2708 C49 2018; purchase or rent)
- Ching, Francis D.K. *Architecture: Form, Space, & Order*. http://rsd2-alert-durden-reading-room.weebly.com/uploads/6/7/1/6/6716949/ching-architecture_form_space_order.pdf
- Unwin, Simon. 2014. *Analysing Architecture*, 4th ed. London: Routledge. (Purchase at Dal Bookstore, one hard copy is in Sexton Library; Dal Libraries has access to 2021 edition for 3 users, and unlimited access to 2003 edition.)
- Parnell, Rosie, and Rachel Sara. 2007. *The Crit: An Architecture Student's Handbook*, 2nd ed. London: Routledge, 2007. (A limited number of copies in the Dal Bookstore, hard copy in Sexton Library)

Resources and inputs

An architectural proposal is only as effective as the inputs used to create it. Well-established design inputs can make the rest of your design process development easier as a result. Once you've defined your design inputs, you are ready to engage in core project development. The courses in the B1 Term provide you with some design resources and inputs that will help you to develop your design. It is important that you also find your own design inputs. Normally they are influenced by your own interests. Bring them in to our classes and record them in your portfolio. We will help you to see design potentialities in them.



Assignments and assessment



Robert Mellin, Drawings of Tilting, NF.
Pencil on paper.

Assignments

The course is organized in three exercises, including analysis, design and visualization. All the work is assembled and arranged in a process portfolio along with the other work of the term. Course components weighting is indicated below.

<i>Assignment or required component</i>	<i>Participants</i>	<i>% of mark</i>
• 1. Elements of Architecture	Team of 2-3	25%
• 2. Pavilion Case Study	Team of 4-5	25%
• 3. Pavilion Counterpoint	Individual	35%
• 4. Collaboration Reflections (twice)	Individual	5%
• 5. Process portfolio	Individual	10%

Group assignments

Assignments 1 and 2 involve group work. Each student provides a summary and evaluation of their collaborative work at the end of each collaborative assignment. This, in conjunction with the process portfolio, will aid instructors in determining the extent of individual contribution to group assignments.

Attendance and participation requirements

Students are expected to work in studio and to be present during the scheduled studio afternoons. Studio culture is an important part of an architectural education, and working in studio is essential for you to learn from each other. It is also helpful for collaborating with classmates in group assignments, discussing your work with your instructor each week, and keeping your portfolio updated.

B1/M5 Charette

In the B1/M5 charette, students spend an afternoon in a Research Charette with M5 students. Each M5 student will work with one or two B1 students. The M5 student develops the content of the charette on a topic related to their thesis. This Fall, the charette takes place on Tuesday October 10, from 2:00 - 5:30 pm.

Reviews and pin-up deadlines

Students are required to present their work in a review. The review format varies throughout the term: a 'round robin' review (in which students present sequentially to several reviewers); informal discussions around an assignment; and/or presentation and 'critique' of design work to the whole class. If a student expects to miss a review, they must submit a Student Declaration of Absence (SDA). In this case, the course coordinator will make special arrangements for another review within a short time period. It is not permitted to miss a review without presenting a SDA. Work not pinned up in the designated time slot before the review will result in a 10% penalty for that assignment. For a helpful introduction to reviews and desk crits, see Parnell and Sara, *The Crit* (2007).

Mid-term standing

In Week 6, each student meets with a team of instructors to review their process portfolio. This review constitutes qualitative feedback on the progress of the student's design work and their portfolio as a whole. The following week, students will receive a letter grade for Assignment 1. Students will receive a letter grade on Assignment 2 during the Fall Study Break (Week 10).

Assessment process

Grading is done by each instructor, in consultation with the other instructors. The course coordinator ensures fairness across the class sections, which may lengthen the time before you receive written feedback on your work. Individual marks for group work may vary within the group, following consideration of collaboration reflections, and quality of individual contribution as evidenced in the process portfolio.

Grading format, feedback and rubrics

After each review, students will receive a letter grade, with detailed rubric evaluations. Reviews provide each student (or team) with extensive qualitative feedback on the assignment. In the process portfolio reviews, faculty discuss with each student their design work, progress, strengths, and areas to further develop. Students are welcome to record oral feedback.

Grade	Point	Percent	Definition
A+	4.30	90–100	Excellent Considerable evidence of original thinking; demonstrated outstanding capacity to analyze and synthesize; outstanding grasp of subject matter; evidence of extensive knowledge base.
A	4.00	85–89	
A–	3.70	80–84	
B+	3.30	77–79	Good Evidence of grasp of subject matter, some evidence of critical capacity and analytical ability; reasonable understanding of relevant issues; evidence of familiarity with precedents/the literature.
B	3.00	73–76	
B–	2.70	70–72	
C+	2.30	65–69	Satisfactory Evidence of some understanding of the subject matter; ability to develop solutions to simple problems; benefitting from his/her university experience.
C	2.00	60–64	
C–	1.70	55–59	
D	1.00	50–54	Marginal Evidence of minimal familiarity with subject matter, critical and analytical skills.
F	0.00	0–49	Inadequate Insufficient evidence of understanding of the subject matter; weakness in critical and analytical skills; limited or irrelevant use of the literature.
INC	0.00		Incomplete
W	neutral		Withdrew after deadline
ILL	neutral		Illness, compassionate reasons



Holocaust Memorial, Judenplatz, Vienna, 2000. Rachel Whiteread.
A large world in a small world.
A house like a city. A city like a house.
Aldo van Eyck

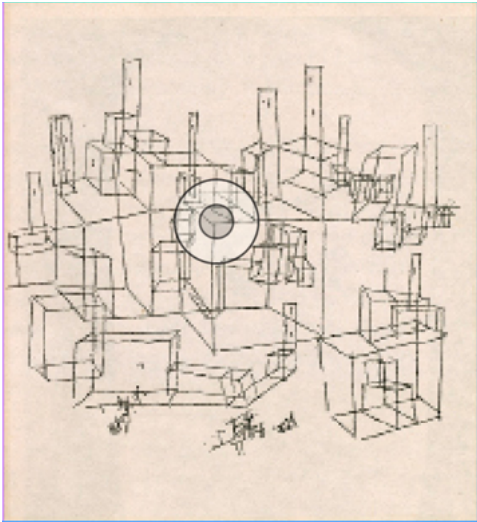
Student declarations of absence

Student Declarations of Absence enable you to request an extension to a deadline if you need to be absent from the university for up to three days due to an illness or emergency. In such situations, you are asked to contact your studio instructor before the missed assignment and upload an SDA form within three days after your absence. See Brightspace page “Student Declarations of Absence” for details on use of these.

Student evaluation of their learning experience

A day in Week 13 has been set aside for you to complete Student Learning Experience Questionnaires for all your B1 courses. These help the course instructors learn what is effective in your learning and how the course and instruction may be improved. University policies on respect and inclusion apply to your feedback, as it does for all interpersonal interactions in your university studies.

1 Elements of Architecture



“A line is a dot that went for a walk.”

“All pictorial form begins with the point that sets itself in motion ... The point moves ... and the line comes into being — the first dimension.

If the line shifts to form a plane, we obtain a two-dimensional element.

In the movement from plane to spaces, the clash of planes gives rise to body (three-dimensional)

A summary of the kinetic energies which move the point into a line, the line into a plane, and the plane into a spatial dimension.”

Paul Klee, *The Thinking Eye: The Notebooks of Paul Klee* (English translation), 1961

Architecture embodies itself as a lived composition of four architectural elements: the point, the column, the plane and the volume. “As conceptual elements,” says Francis D.K. Ching in his book *Architecture: Form, Space, & Order*, “the point, line, plane, and volume are not visible except to the mind’s eye. While they do not actually exist, we nevertheless feel their presence. We can sense a point at the meeting of two lines, a line marking the contour of a plane, a plane enclosing a volume, and the volume of an object that occupies space”. These elements are the foundation of architecture. When these elements are defined, an intention is immediately expressed, creating relationships to what exists and between the various elements or pieces involved.

As architects we can relate these abstract elements to a column, a wall, and a room. When we design with these elements of architecture, a space to inhabit is created. The presence and the proportion of the human body transforms these abstract ideas into architectural space — a room. Each room must clearly express its formal intention and its program of activities to realize its full potential as a place for human life. The material qualities and placement of these elements — columns, walls, roofs, and how they come together — can intensify human experience. For example, spatial compression or release; direct or indirect light making a space feel warm or cold.

Each abstract idea, intention, or quality can take on a meaning at the physical, material and spatial level. One has to learn to think and explore design ideas in these terms – to think spatially. How architecture responds to its site is crucial to the success of a project. Environmental conditions, topography and social and cultural interaction are key factors in the adaptation of an idea to a location.

Week 1

In your first design assignment, you will start in a group of 4 to 5 students, assigned one of the three architecture elements: **Line** (5” long), **Plane** (5” x 7.6”), or **Volume** (5” x 5” x 5”). Your group is asked to build a physical model with just one of these elements. The intention is for you to think about composition and assemblage as you build the model. It may be helpful to think about the relation of each piece to the previous one. Are they parallel, rotated, what is their spatial relationship? Use pins as needed to hold the elements in place.

One model is just the beginning! We’d like you to end up with at least three different models within the group. As you go along, take photos of your trials/experiments, and make a selection of these to include in your Process Portfolio. You may disassemble the models and reuse the architectural elements, after you have recorded them in photos or sketches.

Week 2

... **Adding SCALE**. Starting on Week 2 you will begin to work with a human scale. This is when you will begin to consider compositional and spatial strategies, such as the relation between the whole and the different parts, how light and shadow might work in your project, and how the body might relate and experience these spaces.

... **Adding a PROGRAM**. Imagine your model as a reading room. This has to function as an intimate meditative space in which people can read, exchange books and share stories about the books. The structure needs to accommodate at least four people to inhabit it at the same time and in any season. Yet the functionality of the Room could change throughout the year — operating as a book exchange during colder months, and a more immersive and interactive reading and storytelling experience during milder weather. The Reading Room should have the potential to enrich the community in which it is placed.

... Taking it to a SITE

The location of the Reading Room will have an effect on your design. The site can react to: a viewpoint (the plinth, the hill); the public realm (the square, the street, the courtyard); or the landscape (the garden, the boardwalk).

Weeks 3-5

In the last three weeks of Assignment 1, you will work in smaller groups of two to three students. Begin by selecting, editing and doing iterative studies of your early ideas. You now have to think of the model as a reading room on a specific site, and what adjustments need to be made so it feels like a welcoming environment for reading and storytelling. In your re-designed model, you might use architectural moves such as addition, subtraction, interception, rotation, indentation, or even folding, to make a satisfactory composition out of your architectural elements. You can also add one or two other primary elements into your Reading Room. And don't forget to include enclosure! The interior and exterior shapes are both relevant.

Presentation requirements

Each team will be allotted 1 linear foot of wall space per team member, to around 7 feet in height. Within this area, please include your models; orthographic drawings of the model (plan, section and elevation); and photographs and sketches of the model in light and shadow. Each team is also asked to have a brief statement on their design, presented to the class.

Due date and review

Pin-up work on Tuesday, October 15, 11:00 - 12:30 am in the Exhibition Room. Review is Tuesday, October 15, 2:00 pm.

Evaluation

Assignment 1 represents 25% of the course mark. Applicable rubric: 1: *Elements of Architecture*

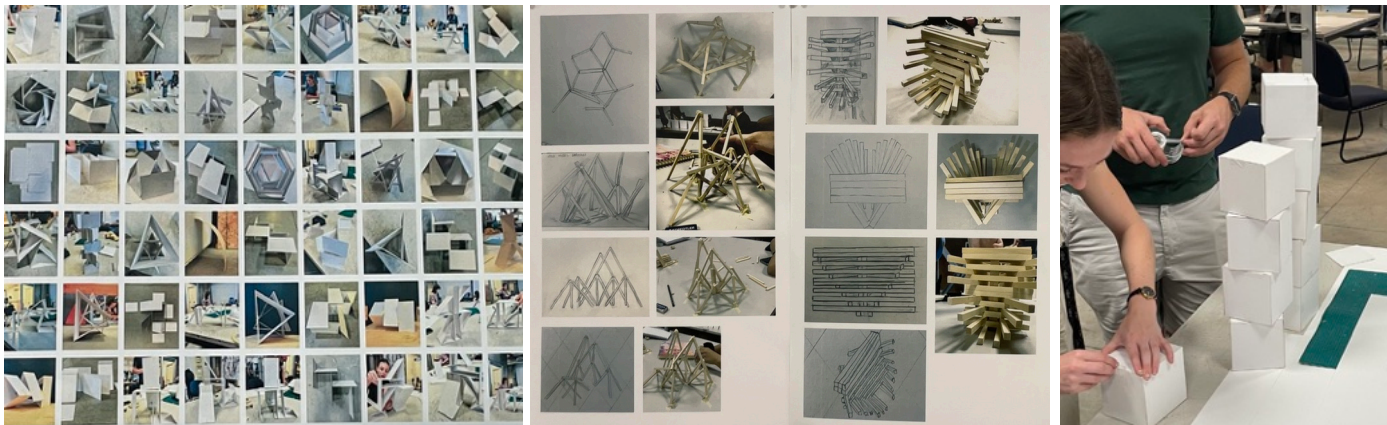


A reading room

“Despite the growing presence of digital devices, the demand for physical books remains as strong as ever, and with good reason. Research has shown that readers of printed books absorb and remember more information about the plot of a book than those using e-readers, likely due to the tactile sensation of handling a physical book, turning its pages and feeling how far you have progressed.

Even children as young as three benefit from being read to from physical books, becoming more engaged and finding the story easier to remember. Researchers theorize that this is because they are less distracted than by electronic devices.”

© Buildner (formerly Bee Breeders) Architecture Competition Organizers



2 Pavilion Case Study

We study works of architecture as examples of design intentions realized through formal strategies. The architectural lessons embedded in these strategies, like the physical principles discovered in scientific inquiry, are as valid today as when they were first developed. This is why a plan composition used in ancient Rome may find its way into the design of a contemporary public institution in Chicago; and the way a wall meets a roof in a Berlin art gallery re-appears in a house in the Australian outback. These similarities are evidence that architecture's long history is always with us. We study architecture to learn from this history, and contribute to it.

In our next exercise, the Case Study Pavilion, we study noteworthy buildings to learn about fundamental architectural principles:

- How a building is situated in its context
- How it is organized — its geometry & formal composition
- The experience of being in the building & moving through it
- The architectural elements of the building — floor, wall & roof
- What it is made of & how it is built & how it holds up
- How it mediates the light & climate

Students will work in a team of 4-5 classmates to complete a case study and share their findings with the class.

Architectural documentation and analysis

Assemble a portfolio of your building, using books, journals, and the web (compare sources to determine which are authoritative). Then, to thoroughly understand the pavilion, you are asked to complete two kinds of architectural documentation: a set of orthographic drawings (plan, sections and elevations) and a physical model.

Working from your documentation, your group analyzes the architectural strategies used in the pavilion, including: spatial relation of building to context; organizational geometry of the building; choreography of movement, views, points of activity and repose; building elements such as floor, wall, and roof; the culture of construction (materials, methods, and technologies); and finally, symbolism and meaning. Use orthographic drawings as the base of your analysis, and develop them to communicate your findings. Each drawing should be focused and purposeful.

Presentation requirements

The group presentation should include four parts, presented in 2.5 horizontal meters of wall space.

- orthographic drawings (plan, section and elevation).
- a model of the pavilion.
- your architectural analyses of the case study pavilion, with explanatory text as needed.
- your analysis of the pavilion's structure, construction and handling of light.
- your study of the pavilion's material palette and matrix of materials in relation to performance (for B1 Tech).

Also, each group is asked to prepare a five-minute oral presentation of their pavilion, presented to the class.

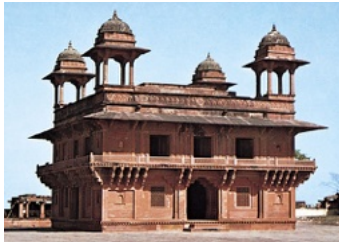
Due date and review

Pin-up work Monday, October 31, 7:00 - 9:00 pm in the Exhibition Room. Review is Tuesday, November 1, 2:00 - 6:00 pm.

Evaluation

Assignment 2 represents 25% of the course mark. Applicable rubric: *2: Pavilion Case Study*

RADIAL PLAN



Diwan-i-Khas
Fatehpur Sikri, India
under Emperor Akhbar
1585 CE

AXIAL PLAN



Temple of Hatshepsut,
Deir-el-Bahri, Egypt
Senenmut, under Pharaoh
Hatshepsut
1480 BCE

FREE PLAN



Teatro Oficina
São Paulo, Brasil
Lina Bo Bardi
1989

SARA

HANNAH



Tempietto
in S. Pietro del Montorio
Rome, Italy
Donato Bramante
1502



Naiku Shrine "Kotai Jingū"
Uji-tachi, Japan
under Emperor Temmu
680 CE



Brion Cemetery
San Vito d'Altivole, Italy
Carlo Scarpa
1969-78

JUDE



Käsämäki Church,
Finland
OOPEAA Architects
2004
Photography © Jussi Tiainen



Thorncrown Chapel
Eureka Springs, AR USA
E. Fay Jones
1980



Landscape Formation One
Weil am Rhein, Germany
Zaha Hadid
1996-99
Photography © Hélène Binet

CRISTINA



Bait Ur Rouf Mosque
Dhaka, Bangladesh.
Marina Tabassum
2012



Wong Dai Sin Temple,
View from Steeles Ave E,
North York, ON
Shim-Sutcliffe
2021



Serpentine Pavilion
Kensington Gardens,
London
Toyo Ito and Cecil Balmond
2002

WILL



St. Mary's Roman Catholic
Church, Red Deer, AB
Douglas Cardinal
1969



Gando School and Library
Gando, Burkina Faso
Diébédo Francis Kéré
2012

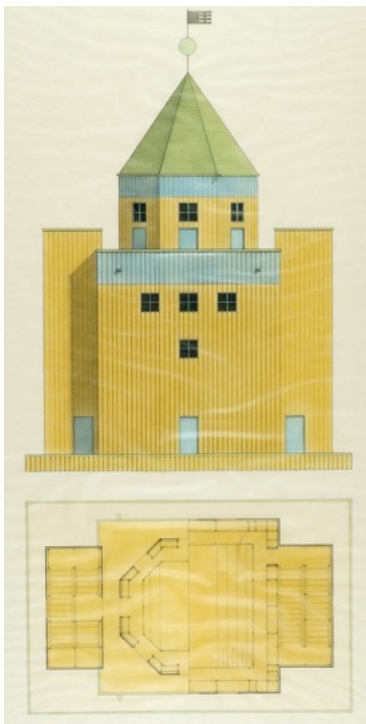


Nordic Pavilion
Venice, Italy
Sverre Fehn
1962

3 Pavilion Counterpoint



Teatro del Mondo, Venice, 1979. Aldo Rossi. This floating pavilion, created for the First Biennale in Architecture, has been pulled up to the Punta della Dogana in Venice.



In the final exercise of the term, each student designs a pavilion that is a “counterpoint” to the case study from the previous exercise. The essential characteristic of a pavilion is architectural clarity — its simplicity and precision of expression. This exercise does not ask you to compete with the case study pavilion, but to design a small building near it, to accommodate activities not currently supported. Since your counterpoint will be near a classic work of architecture, it’s important that your design intentions are clear, and sympathetic to the case study building.

Your group might begin by discussing how the case study pavilion is used today. Since it is a landmark that attracts visitors, you might ask if the needs of those visitors are being met in the current situation. Perhaps each student takes on one “support” programme element and identifies a suitable site not too distant, so that the collection of counterpoint pavilions work as an ensemble. Or alternatively, each student may wish to develop their own counterpoint solely in reference to the case study pavilion.

Programme. Determine the purpose of your counterpoint pavilion, in relation to the case study building. It must include at least 800 sf (80 m²) of all-season enclosed space with defined entry point(s) and opening(s) for light to enter the room, and essential facilities for human comfort, as required by your programme.

Site. Situate your design in relation to the case study pavilion and consider the site design as part of your project.

Construction. A clear structural strategy and careful consideration of building materials are fundamental components of a well-designed counterpoint pavilion.

Three scales of design. Good architectural design involves developing a project at multiple scales: the scale of the city or site (XL), the scale of the building or room (L-M), and the scale of the body (S). A strong architectural idea is developed at all three scales.

City scale. Relationship to the site, its local context and the larger urban context. The *parti*, or formal concept needs to work at this scale to show how the design relates to its context.

Building/room scale. Relationships between floor, wall, and roof. Composition of plan and section; development of structure and enclosure. The *parti* also works at this scale, organizing spaces in the building in relation to each other and the activities they support.

Body scale. Materials and their assembly; the sensory experience of being there; qualities of light, sound, and air.

Presentation requirements

The presentation should include the following elements, in one horizontal meter of wall space:

- The pavilion in its site and in relation to the case study building
- The pavilion in plan, section and elevation, using “layered drawing” techniques to communicate human experience — 1:50
- A significant portion of your pavilion in model, showing materials and possibly light — 1:20
- Representations of your design process, from *parti* through development
- The material palette and recalibration (from B1 Tech)
- A design statement explaining how your pavilion is a counterpoint (max. 150 words), and your B1 Professional Practice manifesto.

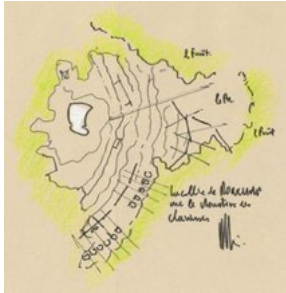
Due date and review

Pin-up work Sunday, December 8, 5:00 - 7:00 pm in the Exhibition Room.

Review Monday, December 9, 9:00 am - 6:00 pm. Portfolio due Tuesday, December 10, 5:00 pm, in designated rooms tba.

Evaluation

Assignment 3 represents 35% of the course mark. Applicable rubric: 3: *Pavilion Counterpoint*.

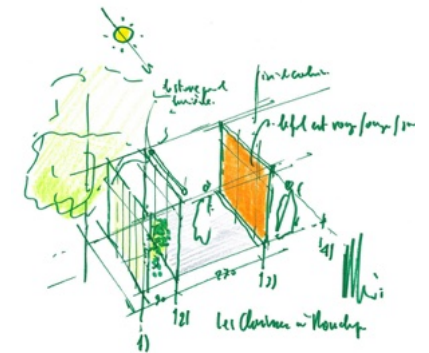
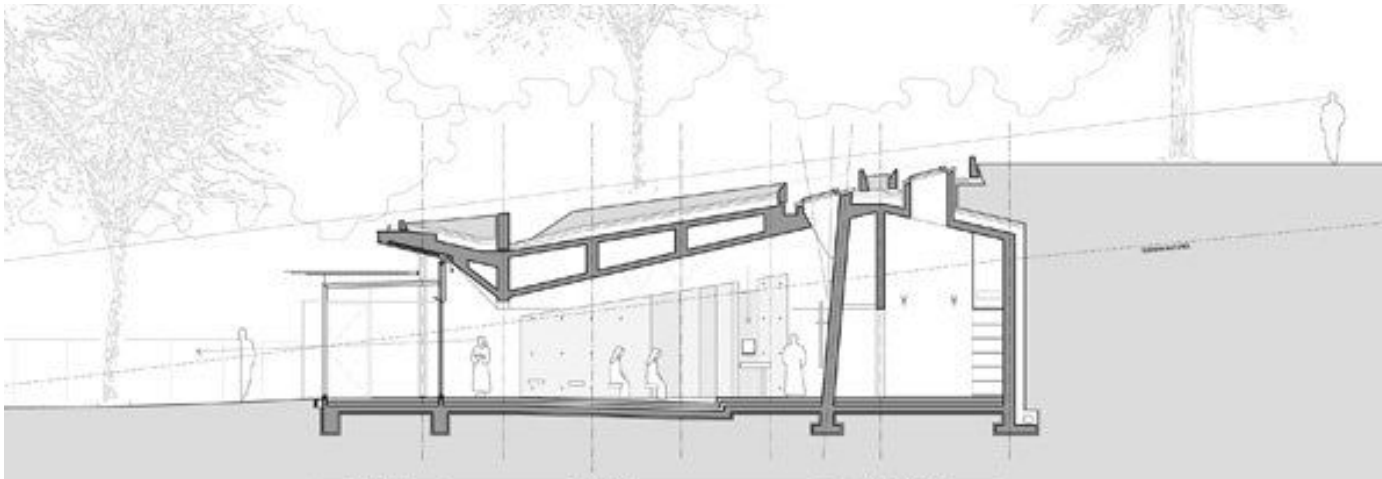
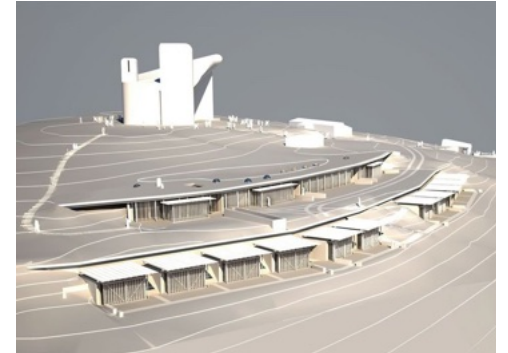
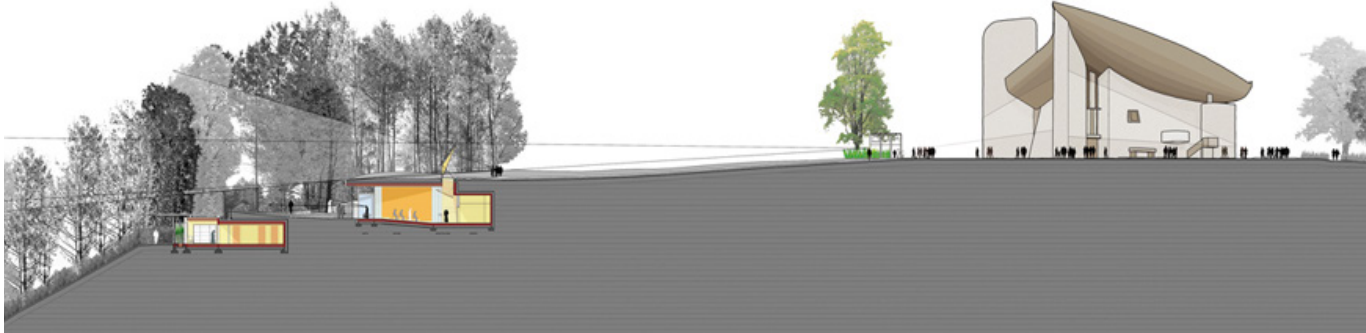


Ronchamp Monastery and gatehouse, France. 2011.
Renzo Piano Building Workshop (RPBW).

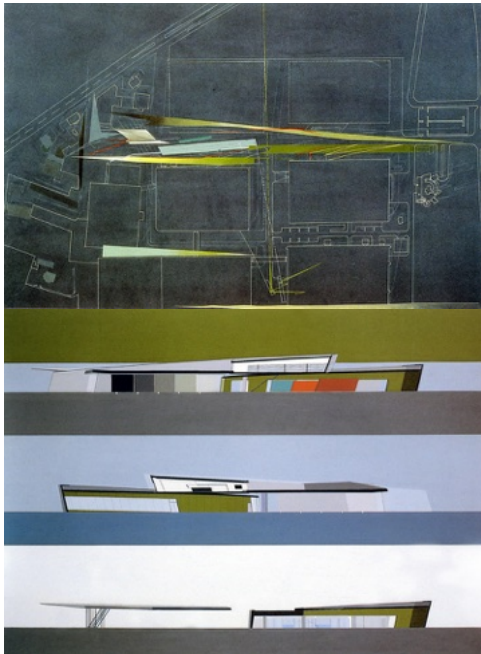
This project is a "counterpoint" to Le Corbusier's Ronchamp chapel. RPBW describes the aim of the project on their website:

"The Chapel of Notre Dame du Haut in Ronchamp was designed by Le Corbusier and is one of the 20th-century's most important work of architecture. For years now, it has been a heavily frequented site of international cultural tourism. It was so frequented that the site needed urgent attention in order to restore the spiritual and religious dimension originally intended for Ronchamp by its architect. In a wider effort to improve the area, the Œuvre Notre Dame du Haut commissioned Renzo Piano Building Workshop to design a convent for the Poor Clare sisters, as well as a small new building to welcome visitors, the Porterie (gatehouse). Hugging the hill's slope, the new buildings are protecting architecture with a resolved interior featuring large picture windows that frame the woods and its light."

Here we see Piano's freehand design studies, along with drawings and models from the Building Workshop.



Detailed learning objectives in relation to assessment rubrics



Zaha Hadid, Vitra fire station, 1994, Weil am Rhein, Germany. Top to bottom drawings: aerial view landscape, painting; longitudinal sections; location drawing. Pencil and acrylic on paper.



This section of the course outline presents greater detail on the learning objectives (set out on page 2), and relates them to the criteria used for assessment of your work practices and outcomes (summarized on pages 14-15).

1. Core design skills - Assignment 1

To demonstrate competence in core design skills, the work should show:

- awareness of spatial and formal order;
- ability in spatial composition — particularly dimensions, proportion and scale in relation to the human body; formal structuring strategies such as the unit, aggregation and overall geometry; and balance and unity in the work;
- engagement with the dynamic processes of a site, program, light, wind, and environment, particularly in terms of interior-exterior relationships, and the visual impact of light;
- effective use of visual communication techniques such as modelling, sketching, orthographic drawing, and photography.

2. Design research - Assignment 2

To demonstrate competence, design research should show a basic understanding of the following aspects:

observation and documentation of a site

- through sketching, an analysis of the site's features, constraints, opportunities, and characteristics

analysis of case study buildings

- how architecture supports human activities and conveys meaning
- the composition of formal and spatial orders and the use of materials, appropriate to the life taking place in the building
- how a building is sited and oriented to protect from the elements
- how it is articulated to create a pleasing interior 'environment' in terms of views in and out, daylight, shade, warmth and ventilation
- how the building stands up (its structure, elements and materials) and how it was built.

using your research findings in the design work

- what are your research findings and conclusions?
- develop your design parameters based on your research findings

3. Building design - Assignment 3

To demonstrate competence, the design of a building should show a basic understanding of the following aspects, integrating knowledge from your building technology and history courses, through architectural characteristics such as:

program and habitation

- supporting human activities through effective organization of the size, shape, and location of rooms in a small building
- civic presence and symbolic expression of the building
- attention to accessibility and universal design
- attention to the needs of individuals, social events and urban orders

site and context

- the building's siting, orientation and massing, in relation to its site, to protect from the elements and provide for a pleasing interior 'environment' (views in and out, daylight, shade, warmth and ventilation)

aesthetics and cultural issues

- composition of formal and spatial orders and the use of materials, appropriate to the building's context and the life taking place in the building
- awareness of the history of the place as well as buildings with a similar form, program, or site

structure, construction and materials

- the building's structural strategy and structural elements developed in plan/section/volume
- construction details and use of materials in support of its composition and design strategy

4. Design development and communication - All assignments

To demonstrate competence, representation of the design work to yourself and others should show a basic understanding of the following aspects, integrating knowledge from your representation course:

basic representational skills

- use of plan, section, elevation, axonometric and/or perspective to develop the design
- use of various techniques as needed, such as line drawing, tonal/colour rendering, and selection of media
- craft in model construction and/or computer modeling
- design development at the three scales of site, building, and detail

strategic use of representations

- framing, editing, and focus in developing and communicating the design concept through drawings and models
- composition, editing, and emphasis in a full presentation

design presentation in periodic reviews

- organized presentation of your research, findings, design parameters or goals
- organized presentation of your building design and its context
- clear verbal presentation

5. Design process, self-reflection and collaborative skills - All assignments

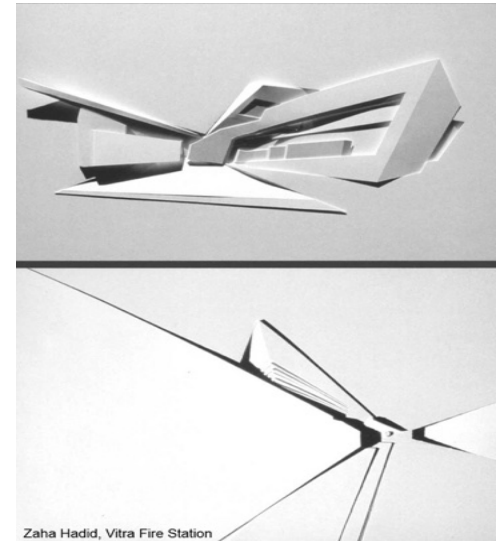
To demonstrate competence, your own design process should encompass the following basic skills:

self-reflection on the design process

- weekly assembly of the design work in your process portfolio
- reflection on your design work to determine what is working well and why
- development in design skill over the course of the term, evident in the process portfolio

collaboration with others

- awareness of collaborative problem-solving techniques
- recognition of problems encountered in teamwork
- ability to identify strategies for improved collaboration in future projects



Zaha Hadid, Vitra Fire Station

Zaha Hadid, Vitra fire station, 1994, Weil am Rhein, Germany. cardboard models.

A design is never complete and every presentation is a work in progress.

We will be looking for hand-drawings in pencil and plans drawn to scale that are worked-over and revised, built up over time. Draw in people to study views and sightlines. Draw in sunlight and wind, to show how your design modulates these. Also, quick little study models — if done carefully to scale — are wonderful tools to study and develop your design ideas.

Evaluation rubrics

1 Elements of Architecture | 25%

Criterion 1 - Conceptual discovery (5 points)

Control and develop the design & visualization processes to further an analytical or constructive idea.

(Learning Objective: Core Design Skills)

Criterion 2 - Technical Skill (10 points)

- Model: neatness & precision, composition of parts.
- Photography: focus & framing, composition of photograph.
- Drawing: neatness & precision, process.

(Learning Objectives: Core Design Skills & Design Communication)

Criterion 3 - Organization of final presentation (5 points)

Organize the presentation to effectively communicate the project, its justification (intention), and its value.

(Learning Objective: Design Communication)

Criterion 4 - Process Portfolio (5 points)

- Continually record significant stages of the design process — including concepts, paths not pursued, project development.
- Design studies in drawing and model advance the student's intentions.

(Learning Objective: Design Process)

2 Pavilion Case Study | 25%

Criterion 1 - Research & Analysis (12 points)

Demonstrate architectural research and analysis using indirect observation and primary research sources, to describe and analyze the following aspects of the case study building:

- its physical, cultural, and historic context;
- its geometry and structure;
- its circulation patterns and human activities;
- its architectural composition and materials; and
- how it mediates environmental factors such as light and climate.

(Learning Objective: Design Research)

Criterion 2 - Analysis & Knowledge (8 points)

Demonstrate an understanding of the main design principles and key decisions made, in regard to:

- design intention,
- cultural or symbolic narrative, and
- familiarity with precedent buildings (of a similar form, program, or site).

(Learning Objective: Design Research)

Criterion 3 - Communication (5 points)

- Use communication techniques effectively to represent your architectural analysis, including: parti and diagrams, computer-based geometry, orthographic drawings, models, and a statement.

- Make an effective oral presentation.

(Learning Objective: Design Communication)

3 Pavilion Counterpoint | 35%

Criterion 1 - Design Translation (9 points)

- Provide a range of design options by investigating patterns of use, spatial geometries, environmental context, and material possibilities, all to enhance inhabitation in response to the case study pavilion.
- Translate initial design ideas into a coherent architectural concept.

(Learning Objective: Building Design)

Criterion 2 - Design Proposal (17 points)

- Demonstrate architectural design at the scale of the pavilion, that also addresses city and body scales.
- Design an architectural place through design of site, program, circulation sequence, material assembly and structure, thresholds and light, and volumetric space.

(Learning Objective: Building Design)

Criterion 3 - Communication (9 points)

- Use communication techniques effectively to represent your design concepts and architectural design, including: parti and diagrams, computer-based geometry, orthographic drawings, models, and a statement.
- Make an effective oral presentation.

(Learning Objective: Design Communication)

4 Collaboration Reflection | 5%

Criteria 1 to 3:

- Awareness of challenges and accomplishments in collaborative work.
- How to collaborate effectively in teamwork.
- Improving collaborative skills.

(Learning Objective: Self-reflection & collaborative skills)

5 Process Portfolio | 10%

Criterion 1: Communication (3 points)

Demonstrate completeness and clarity as a record of the term's work, in a clean graphic format.

(Learning Objective: Design Communication)

Criterion 2: Annotation (7 points)

- Evidence of self-reflection and critical response to the process of design.
- Design method demonstrates a developing understanding of the course learning objectives, and a clear development and testing of design ideas.

(Learning Objective: Design Process & Self-reflection)



In 2010, the Western Pennsylvania Conservancy held a competition for several cottages in the Bear Run Nature Reserve surrounding Frank Lloyd Wright's Fallingwater house, built in 1935 for the Kaufman family. The new cottages expand lodging capacity for participants in Fallingwater Institute's educational programs.

The finalist designs shown here include:

- 1-2 Wendell Burnette, presentation boards
- 3-4 Patkau Architects (winning entry), exterior view and section
- 5 Saucier and Perrotte, birds-eye view
- 6-8 Marlon Blackwell, site perspective, section, model
- 9 MacKay Lyons Sweetapple Architects, model

