This B1 Studio is dedicated to the memory of
Caja Hoffmann (M.Arch. 99)
1967-2018

Dalhousie University
School of Architecture

ARCH 3001.06 | B1 Design
Course Outline
Fall 2018

Term Coordinators
Christine Macy and Cristina Verissimo

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Peter Braithwaite
Chad Jamieson
Amber Kilborn
Talbot Sweetapple
Cristina Verissimo

Allegorical engraving of the Vitruvian primitive hut, Charles Eisen.
From Marc-Antoine Laugier, Essai sur l’architecture, 1755.
Your first term in Architecture has been designed to offer you a comprehensive and immersive experience of architectural design, advanced through an integrated suite of courses: design studio, building technology, and architectural representation. In the design studio, you will learn architectural design skills and put them to practice. In the building technology course, you will learn to make your designs work with gravity, wind, sunlight and rainwater. In the representation course, you will learn to visualize and communicate your design ideas. Architectural history and case studies in design studio will help you to learn from 2,500 years of accumulated knowledge about human settlement, while professional practice will introduce you to an architecture career today.

**Sketchbook and process portfolio**

All architects develop and communicate their ideas through drawing. Whether you already enjoy drawing or you are new to visual thinking, two very important tools for your development as a designer are the sketchbook and the portfolio.

The *sketchbook* is a small and portable way to immediately capture your thoughts, observations and reflections about architecture. Make it your permanent companion. Write down and draw what you see in lectures. Use it to record your thoughts and observations during site visits. Use it to explore design ideas in a sketch format. Record the results of your desk crits and reviews. Take it home to put down your design ideas, or make notes on what you want to work on tomorrow.

The *portfolio* is also a record of your work, but one that requires some thought about what you put in it, in relation to the design ideas you are exploring. In your courses, you will encounter a wide range of references that you may find useful or inspiring as you develop your designs. These might be photographs, site maps, projects by other architects, poetry, written or photographic descriptions that evoke a sense of place or an effect you would like your design to achieve. As you work on your design, you will make many sketches and architectural drawings of your project as it evolves. These might include impressions of a building from a distance, how it meets the ground or landscape, the play of light on surfaces, or how one material meets another. You might study the structural system that supports a building, or how water is led away from a building. These sorts of studies should find their way into your process portfolio. You may also paste pages from your sketchbook directly into the process portfolio!

Add to your process portfolio continuously throughout the term, preferably each week. It will help you to develop the habit of thoughtful exploration and reflection in your daily work. A good portfolio is one that tells a story about your path in architecture.

The format used at Dalhousie School of Architecture is a 24" x 36" portfolio. This large format encourages you to assemble a wide range of work on a single page, helping you to make connections and linkages between different drawings and images, to edit them, and show how architectural ideas evolve. When you meet with your tutor each week, use the process portfolios to show the tutor what you have been working on. The process portfolio will be reviewed at midterm and the end of term and its contents and format will constitute 10% of your final mark in B1 Design.
<table>
<thead>
<tr>
<th>Day</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Room Village Landscape</strong></td>
<td><strong>Purpose of architecture (CM)</strong></td>
<td><strong>Line (RM- Workshop Ex Rm)</strong></td>
<td><strong>City walk for glossary</strong></td>
<td><strong>Studio</strong></td>
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<td></td>
<td><strong>Intro to B1 Tech</strong></td>
<td><strong>Introduction Asst 1 Illustrated glossary</strong></td>
<td><strong>Progress pin-up Ex Rm</strong></td>
<td><strong>Field Trip to Peggy’s Cove 9:00 am - 3:00 pm</strong></td>
<td>**Print</td>
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<td></td>
<td><strong>Water Thinking</strong></td>
<td><strong>Pre-history and Ancient Near East</strong></td>
<td><strong>Progress pin-up Ex Rm</strong></td>
<td><strong>Seminar 1</strong></td>
<td><strong>1 Progress Pin-up</strong></td>
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<td></td>
<td><strong>Anchorage</strong></td>
<td><strong>Ancient Egypt</strong></td>
<td><strong>2: Concept Model</strong></td>
<td><strong>Elements of arch’l form (TS)</strong></td>
<td><strong>Seminar 2</strong></td>
</tr>
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<td></td>
<td><strong>Construction Sequences</strong></td>
<td><strong>Aegean and Ancient Greece</strong></td>
<td><strong>Design Statement workshop</strong></td>
<td><strong>Design in context (CV)</strong></td>
<td><strong>Wood Shop Tutorials 8:00 am - 12:45 pm Schedule tba</strong></td>
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<td></td>
<td><strong>Thanksgiving Day</strong> (no class)</td>
<td><strong>Seminar 3</strong></td>
<td><strong>Etruscans and Ancient Rome 9:30 am</strong></td>
<td><strong>Portfolio Review 1</strong></td>
<td><strong>Building Quiz</strong></td>
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<td><strong>Portfolio Review 1</strong></td>
<td><strong>Studio desk crits</strong></td>
<td><strong>Seminar 4</strong></td>
<td><strong>Case Studies I</strong></td>
<td><strong>Office Quiz</strong></td>
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<td></td>
<td><strong>Materials in Light</strong></td>
<td><strong>Mid-term quiz</strong></td>
<td><strong>Photo workshop</strong></td>
<td><strong>Case Studies II</strong></td>
<td><strong>Laboratory Quiz</strong></td>
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<td></td>
<td><strong>Bracing, Bearing, and Span</strong></td>
<td><strong>Byzantium &amp; Islam</strong></td>
<td><strong>Seminar 5</strong></td>
<td><strong>Actions and Connections</strong></td>
<td><strong>Structures Quiz</strong></td>
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<td><strong>Demonstrating Stability</strong></td>
<td><strong>Photo workshop</strong></td>
<td><strong>Project 2 Presentation</strong></td>
<td><strong>The Making of Architecture</strong></td>
<td><strong>Equilibrium</strong></td>
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<td></td>
<td><strong>Some Structural Arithmetic</strong></td>
<td><strong>Seminar 6</strong></td>
<td><strong>Portfolio Review 2</strong></td>
<td><strong>The Architect</strong></td>
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<td></td>
<td><strong>3: Pavilion Counterpoint</strong></td>
<td><strong>China and Japan</strong></td>
<td><strong>Portfolio Due</strong></td>
<td><strong>Lab 5 Richness of Light</strong></td>
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<td></td>
<td><strong>From parti to project (PB)</strong></td>
<td><strong>5: Tone</strong></td>
<td>**Mon Dec 10 and Tues Dec 11 @ 9am</td>
<td><strong>Pin-up Sunday Dec 9 @ 5pm</strong></td>
<td><strong>Lab 6 Finding Structure</strong></td>
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<td></td>
<td><strong>4: Photo (KK)</strong></td>
<td><strong>Seminar 7</strong></td>
<td><strong>SRIs for all B1 courses (tba)</strong></td>
<td><strong>Lab 7 Actions and Connections</strong></td>
<td><strong>Lab 8 Structural Investigations</strong></td>
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<td></td>
<td><strong>5: Photo workshop</strong></td>
<td><strong>Seminar 8</strong></td>
<td><strong>Seminar 9</strong></td>
<td><strong>Lighting Quiz</strong></td>
<td><strong>Measuring Light</strong></td>
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<tr>
<td></td>
<td><strong>6: Composition/portfolio</strong></td>
<td><strong>Seminar 10</strong></td>
<td><strong>Asst 6 Pin-up Ex Rm</strong></td>
<td><strong>Redesign Review</strong></td>
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<td></td>
<td><strong>Asst 4 due</strong></td>
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**Notes:**
- Week 1: Sept 10-14
- Week 2: Sept 17-21
- Week 3: Sept 24-28
- Week 4: Oct 1-5
- Week 5: Oct 8-12
- Week 6: Oct 15-19
- Week 7: Oct 22-26
- Week 8: Oct 29-Nov 2
- Week 9: Nov 5-9
- Week 10: Nov 12-16
- Week 11: Nov 19-23
- Week 12: Nov 26-Dec 30
- Week 13: Dec 3-7
- Week 14: Dec 10-14

**Room Village Landscape**
- Purpose of architecture (CM)

**Intro to B1 Tech**
- Line (RM- Workshop Ex Rm)
- City walk for glossary

**Water Thinking**
- Pre-history and Ancient Near East
- Progress pin-up Ex Rm

**Anchorage**
- Ancient Egypt
- Design Statement workshop

**Construction Sequences**
- Aegean and Ancient Greece
- Design in context (CV)

**Materials in Light**
- Mid-term quiz
- Portfolio Review 1

**Bracing, Bearing, and Span**
- Byzantium & Islam
- Project 2 Presentation

**Demonstrating Stability**
- Photo workshop
- Portfolio Review 2

**Some Structural Arithmetic**
- China and Japan
- Portfolio Due

**3: Pavilion Counterpoint**
- From parti to project (PB)
- Portfolio Review 1

**4: Photo (KK)**
- Seminar 4
- Case Studies I

**5: Photo workshop**
- Seminar 5
- Case Studies II

**6: Composition/portfolio**
- Seminar 6
- The Making of Architecture

**Asst 4 due**
- Seminar 7
- Tutorial on Manifesto

**Asst 5 due**
- Seminar 8
- Tutorial on Manifesto

**Asst 6 Pin-up Ex Rm**
- Seminar 9
- Manifesto Pin-up Ex Rm

**SRIs for all B1 courses (tba)**

**SRIs for all B1 courses (tba)**

**Monday:**
- Tech
- Design
- History
- Rep

**Tuesday:**
- Tech
- Design
- History
- Rep

**Wednesday:**
- Tech
- Design
- History
- Rep

**Thursday:**
- Tech
- Design
- History
- Rep

**Friday:**
- Tech
Course description
ARCH 3001 Design is a studio-based architectural design course that introduces principles of architectural design, focusing on elementary building types of room and pavilion. As the first studio in the architecture programme, it serves as a foundation for future studios, introducing you to fundamental architectural principles and 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 the settlement and the shelter – that is, of situation and enclosure. The course also develops design skills such as problem definition, building organization and geometry, structural and material development, the use of scale, and design methods and visualization in drawing and modeling.

Learning objectives
The development of competence and skill in analyzing sites and buildings. Active observing through sketching is the foundation of architectural skill and knowledge, and it is developed through practice. 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 buildings are sited and oriented to protect from the elements, and how they are 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.

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 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.

The development of competence and skill in design communication, both to advance your design work and to communicate it effectively to audiences, whether they are reviewers, client groups, or the public.

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 is advances in parallel with your history, representation and building technology courses. It shares some assignments with Building Technology and Representation. See Assignments for details.
Course format and weekly meeting times
The course meets Monday and Thursday afternoons, from 2:00pm to 5:30 pm, for lectures, studio and reviews. Unless otherwise indicated, students will be working at their studio desk during class time, to be available for group work and desk crits. There will also be field trips on the first two Wednesdays of the term, to study the project site.

Reading
Books available for purchase in the Dal Bookstore, by the third week of the term.


Recommended:

Required equipment, materials, travel
Equipment and materials. Each student will need basic drawing equipment for the first year of architectural studies. The first year program develops manual design skills such as sketching, drafting, and model-making. These will continue to be the foundation of design thinking throughout your studies, however by the third term you will increasingly use digital design tools. Equipment fundamentals include:

- 36” parallel rule
- adjustable triangle
- two architectural scales (metric and imperial)
- drafting pencil and leads (B, HB, F, H, 2H)
- rubber or kneaded eraser
- sharpies, fine-point felt-tip markers
- conté crayon, black or brown
- rolls of tracing paper (white or yellow, various widths)
- 24” x 36” paper pads for conté crayon
- 24” x 36” vellum
- 24” x 36” portfolio (covers made from wood or stiff card)
- x-acto cutting knife and blades
- metal cork-backed straightedge for model-making

Field Trip. On the first two Wednesdays of the term, the class will make a field study of Peggy’s Cove, a local fishing village that is the site for Project 1. To participate, students must submit a completed travel form and the field trip fee of $30 to Ken Rice in the Faculty office, by Tuesday September 11. The form can be downloaded from the ARCH 3001 Brightspace site.
Assignments and assessment

Assignments
The course is organized around three projects, all of which are assembled and arranged in a process portfolio along with the other work of the term. Two of the projects are done with a partner or a small group, the final project is individual work. Weighting of the course components is indicated below.

<table>
<thead>
<tr>
<th>Project or required component</th>
<th>Participants</th>
<th>% of mark</th>
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<tbody>
<tr>
<td>• Project 1: Room Village Landscape (study of a fishing village and design of a new room)</td>
<td>Team of two</td>
<td>25%</td>
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<tr>
<td>• Project 2: Case Study Pavilion (study of an exemplary pavilion)</td>
<td>Team of 4-5</td>
<td>20%</td>
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<tr>
<td>• Project 3: Pavilion Counterpoint (design of a pavilion that complements the case study)</td>
<td>Individual</td>
<td>35%</td>
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<tr>
<td>• Collaborative assessment (after Projects 1 and 2)</td>
<td>Individual</td>
<td>10%</td>
</tr>
<tr>
<td>• Process portfolio (evaluated at midterm and end of term)</td>
<td>Individual</td>
<td>10%</td>
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Group assignments
Projects 1 and 2 involve group work. Group work requires team-building skills such as shared responsibility, good listening skills, adaptability and willingness to engage in a collaborative effort. In an effective team, the members agree on a shared goal and each member has a clearly defined role. Professionalism, respect and inclusion are essential aspects in all your interactions in the School, and are particularly important when collaborating with classmates. Some self-reflection is needed throughout the process, to identify what is working and why, what is not working and why, and ways the team can be more effective or efficient working as a group. Each student provides a summary and evaluation of their collaborative work at the end of each collaborative assignment.

Academic integrity
Architectural design is an applied art, employing knowledge and precedents developed by others in new contexts. When using the work of others, students are expected to recognize and attribute ideas and influences that have informed their work. Using the work of others without attribution is an infraction of the University’s academic integrity policy.

Attendance and participation requirements
Students are expected to work in studio at their designated seat and to be present during the scheduled studio afternoon time period. Studio culture is an important part of an architectural education, and working in studio will help you to collaborate with classmates in group assignments, learn from each other, discuss your work with your tutor each week, and keep your portfolio updated.

Reviews
Students are required to present their work in a review. The review format will vary throughout the term and may include: a ‘round robin’ review (in which students present sequentially to several reviewers); informal discussions around a project; 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. In this case, the course coordinator will make special arrangements for an individual review. It is not permitted to miss a review without presenting a Student Declaration of Absence.

Components that are required but not assessed
To obtain access to fabrication shops and make best use of our digital printing equipment, entering BEDS students are required to take tutorials in the first term: Wood Shop, Print Shop, Modelmaking, etc. These are scheduled on Friday mornings during the first half of the term.
**Assessment process**
Grading is done by each tutor, but in consultation with other tutors. The course coordinators ensure fairness across the class sections, which may lengthen the time for timely feedback on the work.

**Grading format**
After each review, students will receive a letter grade; and detailed rubric evaluations are provided on Brightspace. Additionally, the project reviews provide each student or team with extensive qualitative comments, while the two process portfolio reviews during the term provide individual oral feedback to each student. Students are welcome to record oral feedback.

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<thead>
<tr>
<th>Grade</th>
<th>Point</th>
<th>Percent</th>
<th>Definition</th>
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<tbody>
<tr>
<td>A+</td>
<td>4.30</td>
<td>90–100</td>
<td>Excellent</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
<td>85–89</td>
<td></td>
</tr>
<tr>
<td>A−</td>
<td>3.70</td>
<td>80–84</td>
<td></td>
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<tr>
<td>B+</td>
<td>3.30</td>
<td>77–79</td>
<td>Good</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td>73–76</td>
<td></td>
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<tr>
<td>B−</td>
<td>2.70</td>
<td>70–72</td>
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<tr>
<td>C+</td>
<td>2.30</td>
<td>65–69</td>
<td>Satisfactory</td>
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<tr>
<td>C</td>
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</tr>
<tr>
<td>C−</td>
<td>1.70</td>
<td>55–59</td>
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<tr>
<td>D</td>
<td>1.00</td>
<td>50–54</td>
<td>Marginal Pass</td>
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<tr>
<td>F</td>
<td>0.00</td>
<td>0–49</td>
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<td>INC</td>
<td>0.00</td>
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<td>Incomplete</td>
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<tr>
<td>W</td>
<td>neutral</td>
<td></td>
<td>Withdrew after deadline</td>
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<tr>
<td>ILL</td>
<td>neutral</td>
<td></td>
<td>Illness, compassionate reasons</td>
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**Mid-term standing**
In Week 6 (October 15 and 17), each student will review their portfolio with a team of tutors. This oral review constitutes qualitative feedback on the progress of the student’s design work and their portfolio as a whole. By Week 7 (October 22-26), students will receive a letter grade for Project 1. Students will receive a letter grade on Project 2 during Reading Week 10 (November 12-16). For detailed rubric evaluations, please go to Brightspace.

**Student ratings of instruction**
In Week 12, Wednesday November 28 has been set aside for you to complete all student ratings of instruction (SRIs) for B1 courses. SRIs are helpful for the course instructors to 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.
Criteria for assessment

This section of the course outline presents the criteria used for assessment of your work practices and outcomes. It is directly related to the course learning objectives set out on page 4. For standards used in the assessment of your work, please refer to the rubrics provided on Brightspace.

Design research
To demonstrate competence, pre-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

Building design
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
Design communication
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

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

University policies and resources
This course is governed by the academic rules and regulations set forth in the University Calendar and the Senate.

See the School’s “Academic Regulations” page (http://tinyurl.com/dal-arch-regulations) for links to university policies and resources:
• Academic integrity
• Accessibility
• Code of student conduct
• Diversity and inclusion; culture of respect
• Student declaration of absence
• Recognition of Mi'kmaq territory
• Work safety
• Services available to students, including writing support
• Fair dealing guidelines (copyright)
• Dalhousie University Library
Project 1  Room Village Landscape

Project description
Our first project starts with a fundamental building block of architecture — the room. The room supports some kind of human activity. We also start with a landscape — we need to discover where on the site one can be sheltered from the elements, and what opportunities we have to capture sunlight, views, and create outdoor work and living space.

In this way, a settlement emerges — out of meeting needs and sharing resources (like a harbour, and roads).

This exercise has two parts:

• A study of the fishing community: what is the land-form? what is the settlement form? what are the spaces of outdoor activity? of circulation? What purposes do the buildings have? Is there a hierarchy of size and significance? How does each building relate to their site? What are they made of?

• A proposal for a new room, of your own design. You determine where it will be located (i.e. its site), and the purpose of the room (i.e. its ‘programme’); also its size and what it is made of.

The goal is for you to develop design intentions, learn how to communicate these intentions to yourself and to others — using the architectural language of drawing and models — and to practice architectural design.

Project format
In this exercise, you will work with a classmate to complete both parts of the exercise. Your presentation should include the following elements:

• Location plan, showing the room in its village and landscape setting — scale 1:500
• Site plan, showing the immediate context of the room — scale 1:200
• The room drawn in orthographic projection, showing its plan, section & elevation — scale 1:50
• A sketch model, showing darkness & light — 1:50 (include process studies and work from the Technology labs)
• A statement of design intentions (max. 150 words)

For your presentation, each team will have at least 1.5m length of wall space for your project, and the height from floor to the top of the rolling partition.

Due dates and reviews
Process pin-up Thursday, September 20, 2:00 pm in the Exhibition Room.
Final review Thursday, October 11, 2:00 pm. Pin-up work Wednesday, October 10, 7:00 pm in the Exhibition Room.
Please hand in your process portfolios on Friday October 12, 5:00 pm in the Faculty Lounge.

Evaluation
Project 1 represents 25% of the course mark. Applicable rubrics: Design Research 30%; Building Design 45%; Design Communication 25%.

The collaborative assessment represents 5% of the course mark, using the rubric Collaboration with Others.

The mid-term process portfolio represents 5% of the course mark, using the rubric Reflection on the Design Process.
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.
We study works of architecture as examples of design intentions made real by specific 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 — as a resource and a teacher. We study works of architecture to tap into this history, learn from it, and contribute to it.

In this Case Study exercise, noteworthy buildings are studied closely to understand some basic 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 work in groups of 4-5 to complete their case study and present their findings to 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 physical model.

Working from your documentation, your group will analyze the architectural strategies employed 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: floor, wall, roof, or other; culture of construction — materials, methods, technologies; symbolism and meaning. Make the orthographic drawings the base of your analysis, and develop them as fully as possible to communicate your analytical findings. The important thing is that each drawing is focused and purposeful.

Presentation requirements
Your group’s presentation will include four parts, presented in a wall length of 2.5 meters:
- 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.

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

Due date and review
Pin-up work Wednesday, October 31, 7:00 pm in the Exhibition Room. Review Thursday, November 1, 2:00 pm.

This project will count for 20%, and the collaborative assessment will count for 5% of the course mark.

Evaluation
Project 2 represents 20% of the course mark. Applicable rubrics: Design Research 30%; Design Communication 25%. The collaborative assessment represents 5% of the course mark, using the rubric Collaboration with Others.

**RADIAL PLAN**

Beta Giyorgis Church
Lalibela, Ethiopia
under King Lalibela
12th c. BCE

**AXIAL PLAN**

Parthenon
Athens, Greece
Ictinos and Callicrates
under Pericles
432 BCE

**FREE PLAN**

German Pavilion
Barcelona, Spain
Ludwig Mies van der Rohe
1928

**PETER**

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

Naiku Shrine “Kotai Jingū”
Uji-tachi, Japan
under Emperor Temmu
680

Nordic Pavilion
Venice, Italy
Sverre Fehn
1962

**CRISTINA**

Round Stone Barn
Hancock, MA USA
Shaker community
1826

Forge, Avon Old Farms
School, Connecticut
Theodate Pope Riddle
1929

Brion Cemetary
San Vito d’Altivole, Italy
Carlo Scarpa
1969-78

**TALBOT**

Notre Dame du Haut
Ronchamp, France
Le Corbusier
1955

Buvette Cachat
Evian, France
Jean Prouvé
1956

Thermal Baths
Vals, Switzerland
Peter Zumthor
1996

**AMBER**

Los Manatiales Restaurant
Xochimilco, Mexico
Felix Candela
1958

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

**CHAD**

Burnham Pavilion
Chicago
Zaha Hadid
2009
In the final project of the term, you design a pavilion. The essential characteristic of a pavilion is architectural clarity — its simplicity and precision of expression. An architectural idea often starts with a response to the site, but it may also be a response to programme, building materials, or abstract ideas. In this assignment, your design must engage its surroundings and respond to your case study building. Since your design will be in proximity to a classic work of architecture, it’s important that your design intentions are clear.

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

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

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

Three scales of design
Architectural design considers multiple scales of investigation: the city, the building, and the body. A good architectural idea is one that has implications at all three scales.

City scale: relationship to local context & urban context. The parti.
Building scale: relationships between floor, wall, roof. Composition of plan & section; structure & enclosure.
Body scale: materials & assembly; sensory experience; light, sound, air.

Presentation requirements
The presentation should show the following aspects of design:
1) The pavilion in its site and in relation to the case study building
2) The pavilion in plan, section & elevation — 1:50
3) A significant portion of your pavilion in model, showing materials & light — 1:20
4) Representations of your design process, from parti through development
5) A statement of design intentions (max. 150 words) and the text of your professional practice manifesto.

For your presentation, you will have at least one linear meter of wall space for your project, and the height from floor to the top of the rolling partition.

Due date and review
Pin-up work Sunday, December 9, 5:00 pm in the Exhibition Room.
Review Monday, December 10, 9:00 am - 6:00 pm. May continue into Tuesday, December 11, 9:00 am - 12:00 noon.

Evaluation
Project 3 represents 35% of the course mark. Applicable rubrics: Building Design 75%; Design Communication 25%. The end-of-term process portfolio represents 5% of the course mark, using the rubric Reflection on the Design Process.

This page shows Piano’s freehand design studies along with drawings and models from the Building Workshop.
Finalist designs for the Fallingwater Cottages Competition, 2010

(Clockwise from top left)
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