School of Architecture
Dalhousie University

B5 Design
ARCH 4005.06
Winter 2025

Course Outline

Description

Calendar Description

This course studies advanced principles of architectural design through the comprehensive design of a medium-sized institutional building. Elaborating on topics from the previous design courses, students organize a complex program on an urban site and develop a project that uses building technology strategically and engages relevant issues in architectural history and theory.

Additional Course Description

Students will design a medium-sized institution in an urban context. The program of a “Center for Sustainability ” will be the vehicle for study. Through research and design studies, students will propose an appropriate building form for the institution. Design propositions will consider the urban context, the program, and advances in building technology.

Urbanity
• Shaping architecture that engages with its broader context—encompassing the neighborhood, institutions, and educational spaces—serves as a platform for dialogue and exchange between the university and the community, while anticipating future growth and development.
• Analyze the urban context by exploring its history, current daily use, and future potential.
• Foster connections between the university and the surrounding community through thoughtful design.
• Incorporate sustainable site systems, such as water, wind, and natural light, alongside energy-efficient materials and building technologies.

Place-making
• Making rooms and assemblies of rooms that foster the program and its social and functional ethos.
• Defining unique and innovative programmatic relationships
• Defining an attitude towards scale, light, proportion and materiality.

Building Well
• Promoting sustainability through responsible siting, energy initiatives, and use of material resources
• Responding sensitively to climatic conditions.
• Defining structural, envelope, and energy systems in relation to urban and programmatic intentions.
• Responding to current social issues of inequalities with people of disabilities, race, and gender.

Comprehensive design studio is the academic environment that comes closest to the practice of architectural design in an office. As such, it should cover theoretical and practical concerns, technological and programmatic demands, and formal and contextual expectations - at various architectural scales, including the **urban**, the **building**, the **room**, and the **detai**l.

Architects are called on to comprehend the technical aspects of design, systems and materials, and to apply that comprehension. Additionally they must appreciate their role in the implementation of design decisions and the impact of such decisions on the environment.

General Learning Objectives

Students will build on abilities developed during previous studio work, advancing their design skills and knowledge by focusing on site analysis and proposition, program interpretation, and technical resolution. Students will develop both conceptual and technical design skills that will increase their understanding of the relation between design intent and material resolution. These skills will be applied to the development of a comprehensive architectural design project.

Social
• Learn about and propose relevant social and cultural themes.
• Improve research skills with focus on case study precedents and historical site analysis.
• Identify needs, actions, movements, and organize them into program concepts.
• Demonstrate design ambitions that improve societal issues around equality,diversity, and inclusion.

Contextual
• Show how the program can engage its urban and natural contexts.
• Give architectural qualities to spaces for particular activities.
• Propose formal organizations and structural systems that respond to the context, site and program.
• Enhance innovative design thinking and resolution at various scales.

Technical
• Develop an attitude towards sustainable architecture.
• Ability to assess, select, and integrate structural systems, environmental systems, life safety systems, building envelopes, and building service systems into building design.
• Show how the material composition relates the parts to the whole and conveys an understanding of construction sequence.

These objectives will equip students with the ability to think critically, integrate complex systems, and develop environmentally responsive designs that address both urban and programmatic challenges.

1. Analyze and Interpret the Urben Condition
• Conduct thorough site analysis, mapping environmental, social, and historical factors that inform urban and programmatic design decisions.
• Develop a critical understanding of how a building interacts with its surrounding urban fabric, particularly within a mixed-use, transitional area.

2. **Develop Urban and Programmatic Design Strategies**
• Synthesize insights from site analysis to create integrated urban design and programmatic strategies.
•Articulate how spatial relationships, massing, and programmatic placements support the site’s role as a gateway and encourage connections between the campus and the surrounding city.

3. Design Integrated Building Systems
• Identify and design appropriate structural, envelope, mechanical, and electrical systems that respond to environmental, programmatic, and sustainability goals.
• Demonstrate understanding of how building systems interact and influence spatial qualities, occupant comfort, and environmental performance.

4. Apply Sustainable Design Principles
• Incorporate passive and active environmental strategies that reduce energy consumption, promote resource reuse, and support sustainability.
• Use sustainable design techniques in envelope, material selection, and renewable energy integration to meet environmental goals.

5. Communicate Design Concepts and Technical Integration
• Produce accurate and detailed 2D drawings, diagrams, and models that effectively communicate complex systems integration.
• Demonstrate conceptual clarity and coherence through visual and written representations that show the evolution from urban strategy to detailed design.

6. Evaluate and Refine Design through Iterative Process
• Use an iterative methodology to refine design solutions, responding to feedback and evolving technical requirements.
• Develop a clear, cohesive design rationale that links urban, programmatic, and technical aspects into a unified architectural response.

Course Format

Course Format
There will be thematic lectures for the whole class throughout the term. There will be two assignments. Throughout the term, students are required to compile a process portfolio (for all B5 courses) The students will hand in a final PDF of the work. Refer to Process Portfolio Guidlelines on Brightspace. .

Each of the five instructors will lead one of the studio groups. Within each studio group, the instructor will define interim exercises, and seminars, to guide the students toward achieving the class-wide expectations at the mid-term review (assignment 1) and the final review (assignment 2)

- Lectures
- Field Trips
- Group seminars with Guests
- Individual design tutorials
- Group Pin-ups

Term Integration
The course is integrated with B5 BSI, B5 Representation, and B5 Theory. The integration mainly takes form in the use of the design project as the subject for the course work.

Program Placement
B5 Design is a culmination of BEDS design courses; and part of an integrated set of courses in the B5 term to develop integrated strengths in design, humanities, technology, and representation as a platform for advanced studies in the MArch program.

COMMUNICATE CONCEPTUALLY

COMPREHENSIVE DESIGN

SUSTAINABLE/ ECOLOGICAL THEORIES

EMBRACE EQUALITY AND DIVERSITY AND INCLUSION

SCALE AND COMPLEXITY

SITUATING IN AN URBAN SETTING

COLLABORATIONS WITH ALLIED DISCIPLINES

INTEGRATE SYSTEMS

DESIGN EFFICIENCY AND ECONOMY IN DESIGN

"The best way to predict the future is to design it."
Abraham Lincoln

General

Course Structure
The course meets twice a week for 3.5 hour sessions. These sessions will be dedicated to lectures, desk critiques,seminars, and informal reviews. There will be 2 group reviews of student work during the term.

Hours per Week
You are expected to work approximately 18 hours/week on Design assignments. This may be distributed unevenly across the term. If you experience difficulty working within this window of time communicate this with your instructor, term coordinator, and/or class representative.

Equipment/Software
As there maybe time when you will be working online it is expected that you have adequate computer resources and appropriate programs to carry out your work. **https://tinyurl.com/dal-design-software**

Students will also be expected to learn an array of illustrative programs such as Sketchup, Revit, Rhino, Prezi, Indesign, Photoshop, etc. .Many of these programs can be learned though Lynda.com e-learning courses. This learning is free with your Halifax Public Library card.**https://www.lynda.com/portal/sip?org=halifax.ca**

Communications
Students will be working in the studio. Some lectures, seminars desk crits may be delivered online. Therefor it will be important to learn multiple communication platforms.

Students are not permitted to record tutorial sessions without permission. Students are encouraged to take notes and sketch during sessions.

Brightspace
Course material including lectures, readings, and digital files will be available on Brightspace. **Additional Support**
The School of Architecture Computer Help Desk offers computer software support.

Lectures
Lecture slideshows will be provided on Brightspace. Lecture notes will not. Lectures may be recorded.

Lectures
Lectures willl take place Tuesday, 2:00–3:30 in the lecture hall.

Tutorials
Tuesday and Friday, 2:00–5:30
Medjuck Building, rooms TBA

Feedback
Your weekly desk-critiques and seminars are on-going and in-depth opportunities for feedback. It is recommended that you complete each discussion with your instructor by writing out what you heard as feedback and what is expected of you at your next meeting. Have your instructor review this and make sure that you are both are in agreement.

In addition, the comments received during your Mid-Term, and Final Reviews are feedback on the progress and development of your work. It is recommended that you have a classmate take notes for you during your presentations for you to reflect on later. You are responsible for preparing in advance, a summary of your review, next steps you are considering, and any questions you may have. There will be a rubric with remarks emailed after midterm and final review.

SLEQ
SLEQs will be completed on TBD. An email invitation will be sent out prior.

Process Portfolios
Keep work up to date before every studio session. You will upload a PDF of your Final Reviews to Process Portfolio folders through the Assignments tab on Brightspace. Please see assignment descriptions for submission times.

Title your file
B5-portfolio-[LastName]-[FirstName]-[submission number].pdf
e.g., B5-portfolio-trudeau-justin-1.pdf

Citing Sources
You must cite all major references for your work. This includes both literature sources and design sources (buildings and projects by others). Please refer to School of Architecture guidelines for citing sources: tinyurl.com/dal-arch-writing

Self Plagiarism
Self-plagiarism is the “reuse of significant, identical, or nearly identical portions of one’s own work without acknowledging that one is doing so or citing the original work.” (https://en.wikipedia.org/wiki/Plagiarism). You cannot submit the same model, drawing, or written work for evaluation in two different courses. You may include work from a different assignment for reference, but this needs to be cited as work from another course.

University Policies
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 for links to university policies and resources (http://tinyurl.com/dal-arch-regulations):

- 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

Equity, Diversity, and Inclusion
The Faculty of Architecture and Planning is committed to recognizing and addressing racism, sexism, xenophobia and other forms of oppression within academia and the professions of architecture and planning. We, the faculty, are working to address issues of historic normalization of oppressive politics, segregation, and community disempowerment, which continues within our disciplines today.

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“The architect should be equipped with knowledge of many branches of study and varied kinds of learning.””
Vitruvius

Assignments

Assignment 1

1A Urban Design

1B Program Strategy

Assignment 1 is a two-part exploration into designing the Dalhousie Center for Sustainability, addressing both urban design and programmatic strategy at distinct yet interrelated scales. This assignment emphasizes a critical look at the site's urban condition and encourages strategic thinking that intertwines the broader urban environment with specific programmatic needs.

Part 1A: Urban Design focuses on the site's integration within Halifax's urban context, examining aspects like massing, street interface, and the site's role as a campus gateway. Students will conduct site analysis and develop conceptual urban design proposals that respond to the physical, social, and geographical conditions of the area.
Part 1B: Programmatic Strategy centers on organizing key programmatic elements within the site. Emphasis is placed on strategic placements that enhance internal circulation, relationships between program components, and contextual considerations like natural light and acoustics.

These two parts, although at different scales, should inform one another, with work progressing in parallel. Urban strategies developed in Part 1A will provide a foundation for programmatic decisions in Part 1B, while programmatic requirements may influence urban-level considerations.
Through this assignment, students will engage in critical readings of the environment, generating conceptual proposals that reflect thoughtful responses to urban and programmatic challenges. The resulting strategies will demonstrate each student's voice, offering unique perspectives on the intersection of urban design and programmatic function.

Assignment 2

Comprehensive Design

Building upon the foundational work from Assignment 1, Assignment 2 will guide students through a comprehensive design process. In a comprehensive design studio, students are expected to develop fully integrated building solutions that address both architectural form and technical performance. As the project scale increases, so do the complexities of systems integration, requiring students to thoughtfully design and coordinate structural, envelope, mechanical, and electrical systems to create a sustainable, efficient, and functional building.

This assignment challenges students to develop a cohesive, detailed architectural proposal that integrates complex building systems and aligns with sustainable design principles. By synthesizing technical knowledge and design thinking, students will create a functional, environmentally responsible building that meets the demands of a comprehensive design studio.

This assignment will allow students to make critical readings of physical, social, and environmental conditions, demonstrating their unique perspectives on sustainable urban and programmatic strategies. Through thoughtful integration of site dynamics and programmatic needs, students will articulate a conceptual strategy that reflects their understanding of urban design in the context of a sustainability center.

"I don't think that architecture is only about shelter. It's about a celebration of spaces."
Zaha Hadid

Assignment 1

1A Urban Design

1B Program Strategy

Assigned:	Tuesday, Jan 8th
Due:	**ALL WORK FOR ASSIGNMENT 1 TO BE UPLOADED TO BRIGHTSPACE BY 9PM ON FEB. 14th**
Review Presentation:	**FEB. 11TH 2:00 - 6:00 pm**

1A: URBAN DESIGN

Each student will develop a conceptual urban design proposal for the Dalhousie Center for Sustainability that responds to the site's unique urban context and addresses broader connections to the campus and surrounding city.

1. Site Analysis and Contextual Understanding
• Conduct an in-depth site visit to observe and document the current urban form, including building scales, street patterns, pedestrian and vehicular traffic, and adjacent land uses.
• Mapping Exercises: Create layered maps to analyze key dynamics such as pedestrian flow, vehicular traffic, sunlight/shadow patterns, wind direction, and views. These maps will inform your design decisions and provide a comprehensive understanding of site conditions.
• Historical and Social Context: Research the historical significance and social context of the Rosina site and surrounding neighborhoods. Consider how these factors may influence a design that is both forward-looking and contextually sensitive.

2. Conceptual Proposals and Massing Studies
• Develop conceptual massing strategies that respect the scale and rhythm of surrounding buildings while establishing the site as a gateway to the campus.
• Consider the urban interfaces along Queen and Morris Streets. Propose public-facing program elements that will encourage interaction and activate these streets.
• Explore urban connections between the site, campus spaces, nearby neighborhoods, and green areas, with attention to pedestrian-friendly pathways and open spaces.

HAND IN FRIDAY FEB14 TH 9:00PM
PRELIM. REVIEW TUESDAY FEB 11TH 2:00 - 6:00 PM

3. Methodology
• Use an iterative design process that includes sketching, diagramming, and 1:1000 scale physical or digital models to test and refine your proposals.
• Models should examine key aspects, including:
-Urban Connections: Linkages to nearby pathways, campuses, and public spaces.
-Massing and Scale: Responses to the site's gateway role and surrounding context.
-Climatic Responsiveness: Orientation, placement, and form to optimize natural light, ventilation, and protection from wind.

1B:PROGRAM STRATEGY

Each student will produce a programmatic strategy for the Dalhousie Center for Sustainability, focusing on strategic placement and internal relationships of key programmatic components within the site.
Instructions:

1. Programmatic Placement and Urban Integration
• Use the provided program as a foundation to develop a spatial layout that strategically supports urban integration.
• Propose programmatic placements that enhance street-level engagement and define relationships between public, semi-public, and private zones.
• Natural Light and Acoustics: Strategically locate areas that benefit from natural light and adjust programmatic placements to address sound insulation needs
2. Hierarchy of Space and Conceptual Progression
• Establish a clear hierarchy of spaces, from public to private zones, and design an intuitive entry sequence that guides users through the building.
•Develop a conceptual procession that reflects the center's sustainability theme, with spaces transitioning from active, collaborative zones to quieter, research-focused areas.

3. Methodology
• Use an iterative process to explore program-to-site relationships, creating a series of color-coded models at the program-to-site scale. These models should clarify:
• Public, Semi-public, and Private Zones: Use distinct colors to differentiate spaces, enhancing legibility.
• Circulation and Connections: Highlight main circulation paths, vertical connections, and transitions between program elements.
•Contextual Adjustments: Represent adjustments made for natural light exposure, acoustic requirements, and views to demonstrate alignment with site-specific conditions.

Deliverables for Assignment 1
• A series of layered maps and diagrams illustrating site context and dynamics.
• Iterative conceptual massing models at a 1:500 to1:1000 scale that demonstrate urban connections, massing strategies, and responses to climate.
• A set of color-coded models that articulate your programmatic strategy and visualize internal and external connections.
• A conceptual ground floor plan 1:200+/- highlighting interior to exterior spaces integration
• Preliminary Floor Plans(s) 1:200+/- articulating program organization
• A summary report (300-500 words) detailing your rationale for your urban strategies and program placements, hierarchy of space, circulation, and contextual considerations.

Format your work on multiple 24" x 36" (11x17) for hand in (screen dimension) This will also be appropriate scale for print
When uploading to brightspace keep file under 25 MB.

Additional Guidelines
1. Conceptual Framework Development
• Early in the process, each student should develop a guiding conceptual framework that reflects their design approach. This framework will serve as an anchor throughout both urban and programmatic stages, ensuring consistency and a clear design rationale.

2. Comparative Case Studies
• Briefly research and compare similar urban-campus projects or sustainability centers. Identify successful strategies in urban integration, programmatic layout, or environmental responsiveness to inform your design.

3. Environmental Responsiveness
•Given the center's sustainability focus, incorporate passive design strategies and environmental responsiveness, including building orientation, green spaces, and natural ventilation.

"To create, one must first question everything.""
Eileen Gray

Assignment 2

Comprehensive Design

Assigned: Tuesday, Feb. 14th
Due: **ALL WORK FOR ASSIGNMENT 2 TO BE UPLOADED TO BRIGHTSPACE BY MIDNIGHT ON April 8th**
Presentations: **APRIL 9TH AND 10TH 9:00 AM - 6:00 PM**

Assignment Objectives:

Students will use their urban and programmatic strategies from Assignment 1 as a basis for developing a holistic, detailed building design. Emphasis will be placed on achieving an integrated approach to building systems that considers environmental impact, programmatic needs, and occupant comfort. The design should align with the over arching goals of sustainability, focusing on energy reduction, resource reuse, and system resilience.

1. Structural System
• Design an appropriate structural system that responds to environmental conditions (wind, seismic forces, etc.) and programmatic needs.
•Select materials and systems that align with sustainable design goals, considering both durability and environmental impact.
• Ensure the structural system supports the architectural vision and spatial qualities intended for the center.

2. Envelope System
• Develop an envelope design that mediates between the external environment and internal program elements.
•Address factors such as natural light, wind, and shadows, while optimizing energy efficiency and occupant comfort.
• Consider materials, insulation, and facade strategies that reduce energy use and support passive environmental control.

3. Mechanical and Electrical Systems
• Design a mechanical and electrical system at the conceptual level, that is responsive to building use, occupancy levels, and the envelope design. Consider energy-efficient heating, ventilation, and cooling systems. Consider Integration with other systems.
• Explore renewable energy sources (e.g., solar panels on the roof terrace) to reduce the building's carbon footprint.

DUE THURSDAY APRIL 12TH 11:59PM
FINAL REVIEW WED APRIL 13TH & THUR APRIL 14TH

4. Life Safety and Sustainability Considerations
• Address life safety requirements, including egress routes, fire protection systems, and accessibility, as integral components of the design.
• Design every system with sustainability in mind, prioritizing strategies that reduce resource consumption, support reuse, and promote resilience.

Design Methodology and Approach:

To effectively integrate these systems, students should approach the design through an iterative process. As new systems are layered onto the architectural concept, students should adjust and refine their designs, evaluating how each decision impacts the building's overall performance, environmental impact, and user experience.

Research and Supplementary Content
Students are encouraged to explore precedent studies on sustainable building systems, research innovative materials and technologies. Students are encouraged to conduct environmental simulations using digital tools to simulate lighting, thermal comfort, and airflow within spaces.

Final Deliverables:

1. 2D Drawings (Scale 1:200 +/-)

- Ground Floor Plan: Clearly articulate spatial arrangements, programmatic zones, and clear structural layout
- Additional Floor Plan: Focus on a floor that best represents programatic complexity, showing system integration.
- Elevations (Queen Street and Morris Street): Show the building's facade and context, including facade strategies such as shading devices, fenestration, and material choices.

2. Building Diagrams

- Egress and Life Safety: Diagram showing all egress routes, fire exits, and accessibility features.
- Systems Integration: Diagrams detailing how each system—structural, mechanical, electrical—is integrated into the overall building design.

3. Critical Section (Scale 1:50+/-)

- A longitudinal or cross-sectional drawing that illustrates key spatial qualities, supported by strategies for structural, mechanical, and environmental systems.
- Include annotations that describe the interaction between systems and how they contribute to sustainability and user comfort.

4. Sectional Model (Digital or Physical Scale 1:25+/-)

- Produce a sectional model that emphasizes systems integration, showing how structure, envelope, and mechanical/electrical systems interact within a critical section of the building.

5. 3d visualization

produce a series of 3D visualizations to:
- Depict Spatial Relationships: Showcase the organization and flow of spaces within the design, emphasizing how users interact with them.
- Explore Light and Shadow: Illustrate how natural and artificial light influence the atmosphere and functionality of the spaces.
- Convey Material Qualities: Highlight the texture, color, and finish of materials to demonstrate their integration into the overall design concept.

Notes
1. Deliverables: The prescribed scales and quantities are minimum requirements for the whole class, intended to describe the architectural project. Within each studio group, additional representations may be suggested. Each student is expected to represent the project with the course objectives in mind.
2. Diagrams can be 2D or 3D drawings, computer models, physical models, etc.

3. Format your work on multiple 24" x 36" for hand in (screen dimension) This will also be appropriate scale for print . When uploading to brightspace keep file under 25 MB

"A great building must begin with the unmeasurable, must go through measurable means when it is being designed, and in the end must be unmeasurable."
Louis Kahn

Evaluation

Each assignment will be evaluated collectively by all five instructors, based on its demonstration of architectural knowledge, evidence of design skill, legibility and technical resolution.

Late assignments for both Assignment 1 and 2 will be accepted with 5% deducted per day late.

* For example, if an assignment is evaluated at 75% before applying a 3%-per-weekday deduction, it would receive 72% for being 1–24 hours late; 69% for 25–48 hours late; etc.

Note:
The following University or School policies take precedence over course-specific policies:
· No late assignments are accepted after the last day of weekly classes (the Friday before review week).
· With a Student Declaration of Absence (maximum two per course), an assignment may be submitted up to three weekdays late without penalty. An SDA cannot be used for the final assignment.
· With a medical note submitted to the School office, a course assignment (including a final assignment) may be submitted more than three weekdays late without penalty. The number of weekdays depends on how long you were unable to work, as indicated in the medical note. If more than one course is affected, you should consult with the Undergraduate/Graduate Coordinator to set a new schedule of due dates.
· A student with an accessibility plan that allows for deadline extensions does not need to submit an SDA.

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Grade	Grade Point Value	Percent	Definition	Notes
A+ A A-	4.3 4.0 3.7	90-100 85-89 80-84	Excellent	Considerable evidence of original thinking; demonstrated outstanding capacity to analyze and synthesize; outstanding grasp of subject matter; evidence of extensive knowledge base
B+ B B-	3.3 3.0 2.7	77-79 73-76 70-72	Good	Evidence of grasp of subject matter, some evidence of critical capacity and analytical ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.
C+ C C-	2.3 2.0 1.7	65-69 60-64 55-59	Satisfactory	Evidence of some understanding of the subject matter; ability to develop solutions to simple problems; benefitting from his/her university experience
D	1.0	50-54	Marginal Pass	Evidence of minimally acceptable familiarity with subject matter, critical and analytical skills
F	0.0	0-49	Inadequate	Insufficient evidence of understanding of the subject matter; weakness in critical and analytical skills; limited or irrelevant use of the literature assignments.
INC	0.0		Incomplete	
W	Neutral and no credit obtained		Withdrew after deadline	
ILL	Neutral and no credit obtained		Compassionate reasons, illness	

University Grade Standards (Undergraduate)
Assignments will be evaluated according to the University Undergraduate Grading Standards.

Assignment 1 - 40%

• **Level of Engagement:** demonstrated by Participation in discussions, attendance, preparedness for tutorials, collaboration:

• **Depth of Site Analysis and Understanding***:* Quality of observations, mapping, and responsiveness to site-specific factors.

• **Program Analysis.** clear understanding of program intent and relationships.

• **Clarity and Creativity in Conceptual Proposals:** Effectiveness of urban design and programmatic strategies in creating a cohesive, functional, and context-sensitive proposal.

• **Conceptual Coherence:** Consistency in applying a guiding conceptual framework across both urban and programmatic designs.

• **Environmental Sensitivity:** Responsiveness to natural light, acoustics, and sustainable design principles.

• **Quality of Deliverables:** Completeness and clarity of models, diagrams, and reports, with a focus on clear visual communication and structured design rationale

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ARCH 4005.06
RUBRIC

Assignment 1 - Urban Design and Program Strategy 35%

	E	EG	G	GS	S	MP
level of engagment						
site analysis and urban strategies						
program analysis and propositions						
concepecptal coherence						
clarity and creatiivity						
Environmental Sensitivity						
Quality of deliverable						
Grade / 40	0					

REMARKS:

Approx
E- Excellent 95% +/-
E/G = Excellent Good 85% +/-
G good 75% +/-
GS Good Satisfactoey 70%+/-
S = Satisfactory 60% +/-
MP= Marginal Pass 53% +/-

Assignment 2 - Comprehensive Design 65%

	E	EG	G	GS	S
level of engagment					
design process					
Sustainability					
Systems integration					
representation					
final resolution					
Grade / 60	0				

REMARKS:

Assignment 2 - 60%

Level of Engagement: Actively participates in discussions, attends sessions punctually, arrives prepared for tutorials, and collaborates effectively with peers.

• **Conceptual Thinking**: Exhibits originality and creativity in addressing design challenges.

• **Design Process and Development**
Demonstrates systematic design exploration, clear concepts, effective research integration, and responsiveness to feedback.

• **Sustainability:** Incorporates innovative strategies for environmental sustainability in materials, systems, and overall design.

• **Systems Integration:** Integrates structural, mechanical, and environmental systems with precision in technical documentation.

• **Communication and Representation:** Effectively conveys design intent through high-•quality visuals, clear presentations, consistent graphics, and well-crafted models.

• **Final Project Resolution:** Achieves cohesive design by integrating conceptual, technical, and aesthetic elements while addressing all programmatic requirements. Level of Engagement

• **Project Completeness:** Addresses all programmatic requirements and resolves all major design issues.

"To create, one must first question everything.""
Eileen Gray

Dalhousie University, School of Architecture
B5 Design - Winter 2025
ARCH 4005.06

Schedules

TERM DUE DATES 2025 draft 1

B5 INTRODUCTION
MONDAY JAN.6TH 9:30
ROOM TBD

WEEK	MONDAY		TUESDAY		THURSDAY		FRIDAY
	THEORY	REP	BSI	DESIGN	BSI	THEORY	DESIGN
1 Jan 6				COURSE INTRODUCTION			
2	PROFESSIONAL PRACTICE	PROFESSIONAL PRACTICE	PROFESSIONAL PRACTICE	PROFESSIONAL PRACTICE	PROFESSIONAL PRACTICE	PROFESSIONAL PRACTICE	PROFESSIONAL PRACTICE
3		DUE DATE					
4	PROJECT METHODS						Munro Day No Class
5					ASSIGNMENT 1 DUE		
6				ASSIGNMENT 1 PRELIM REVIEW 2:00PM - 6:00 PM			ASSIGNMENT 1 HAND IN
7	Winter Break No Class	No Class	No Class	No Class	No Class	No Class	No Class
8	RESEARCH 2						
9		DUE DATE					
10	RESEARCH 3						
11			ASSIGNMENT 2 DUE				
12	RESEARCH 4						
13		DUE DATE			No Class	No Class	Good Friday No Class
14	No Class	No Class	No Class		DESIGN STUDIO - ASSIGNMENT 2 FINAL REVIEW		

* This is a general deadline Guide , refer to the specific course outline for detailed schedule of deadlines and review dates

DESIGN STUDIO SCHEDULE

WEEK	TUESDAY	FRIDAY
1	COURSE INTRODUCTION *Lecture Site*	Studio
2	PROFESSIONAL PRACTICE	PROFESSIONAL PRACTICE
3	*Lecture the program*	Studio
4	Studio	Munro Day No Class
5	Studio	Studio
6	ASSIGNMENT 1 PRELIM REVIEW 2:00PM - 6:00 PM	Studio ASSIGNMENT 1- HAND IN
7	No Class	No Class
8	*Lecture Systems*	Studio
9	*Lecture Sustainability*	Studio
10	*Lecture Detail*	Studio
11	Studio	Studio
12	Studio SRI 3:00-3:15	Studio
13	Studio	Studio
14	FINAL REVIEW THURSDAY APRIL 9TH & FRIDAY APRIL 10TH	

- Lectures Start at 2:00and last for 45 mins and will be typically followed by Studio time

Program

The Dalhousie Center for Sustainability will anchor a new innovation district on the Sexton Campus, known as the Rosina site. As a core addition to Dalhousie's focus on interdisciplinary education, this center is envisioned as center for sustainable innovation that engages various academic disciplines. The center will actively draw in perspectives from these diverse fields, supporting a collaborative environment where students, faculty, and professionals converge to generate ideas, drive research, and launch new initiatives in sustainability.

This center will serve as a meeting point—a "collision" space where cross-disciplinary teams come together to address pressing environmental challenges through design, experimentation, and prototype development. By blending core academic spaces, collaborative work zones, and research facilities, the center aims to provide a comprehensive setting for sustainability-focused projects and real-world applications. With flexible, tech-equipped spaces, this program will promote learning, discovery, and innovation, positioning Dalhousie at the forefront of sustainable development in Atlantic Canada.

Core Academic Participation

Environmental Science: To study ecosystems, climate change, and conservation.
Architecture,Landscape, Planning: For sustainable design, urban planning, and energy-efficient buildings.
Engineering: Civil, mechanical, and environmental engineering, focusing on renewable energy, green infrastructure, and sustainable systems.
Agriculture and Food Science: For sustainable farming, agroecology, and food security.
Business and Economics: Addressing sustainability in business practices, corporate social responsibility, and green entrepreneurship.
Computer Science and Data Science: To develop tools for modeling, monitoring, and managing sustainable systems.

Supporting Disciplines

Sociology and Anthropology
Political Science and Law: **Public Health**
Education
Fine Arts and Humanities

""When designing, we always think about the lives of the people who will use the building, imagining their experiences within the spaces.""
Grafton Arhitects

ROOMS

Core Academic and Learning Spaces

200-Seat Lecture Hall:
Location: Central, near main entrances. Features: Tiered seating, state-of-the-art AV equipment, acoustic optimization.

Commons Space for Experimenting:
Flexible, open floor layout for collaborative projects and hands-on sustainability experiments. Includes movable work stations, 3D printers, and prototyping tools.
Size: 3,000 sq. ft.

Classrooms:
6 mid-sized classrooms (40-60 seats each).
Flexible furniture for group work, digital presentation tools,
and natural lighting.

Seminar/Workshop Rooms:
3 seminar rooms for smaller groups (20-30 people), equipped with smart boards and video conferencing tools for interdisciplinary collaboration.

Incubation Rooms:
6 incubation rooms (individual or small team innovation spaces) for interdisciplinary student and faculty research projects. Each room: 300 sq. ft. with technology to support remote work and conferencing.

Offices and Support Spaces

Faculty Offices:30 private offices for faculty members.
Modular design, equipped with sustainable materials and ergonomic furniture.Size:

Graduate Student Offices:
Shared office spaces for 50-60 graduate students. Features individual workstations and small meeting areas. Size:

Administrative Offices:
Space for administrative staff (5-7 people). Meeting room for department-level discussions. Size

Collaborative Workspaces:
Large open areas for faculty, students, and visitors to collaborate. Includes meeting pods, standing desks, and soft seating areas. Social and Interaction Spaces

Sustainability Commons/Cafe:
An informal meeting and collaboration space for faculty and students. Incorporates sustainable design, such as reclaimed materials and a plant-filled environment.

Research and Innovation Spaces

Sustainability Labs:
4 labs dedicated to interdisciplinary sustainability research (energy, materials, water systems, etc.).Equipped with advanced tools for experimentation and research in climate and sustainability solutions.

Makerspace/Fabrication Lab:
Hands-on facility for students and faculty to prototype sustainable design solutions. Features digital fabrication tools (CNC, laser cutters) and materials suitable for low-impact projects.

Data Visualization and Modeling Lab:
Focused on sustainability modeling, this space will serve both architecture and computer science departments, equipped with large displays for urban modeling, energy simulations, and virtual design tools.

Media and Presentation Rooms:
2 rooms for showcasing sustainability projects, equipped with digital presentation technology.

Outdoor Spaces

Multi-purpose outdoor courtyards designed as extensions of the building for social gatherings, outdoor classes, and sustainability projects.
Includes solar panels, green roofs, and experimental garden spaces for urban agriculture research.

Roof Terrace/Green Roof:
Outdoor green space for relaxation and small events, integrating energy-efficient design, solar panels, and rainwater collection.

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Gross-Up Factor and Its Components
The gross-up factor is the ratio of a building's gross floor area (GFA) to its net assignable area (NAA). It includes spaces essential for building operation but not assignable, such as circulation areas (hallways, stairwells, elevators), building services (mechanical, electrical, IT rooms), restrooms, public lobbies, and structural elements like walls and shafts. It may also encompass storage, security, and maintenance spaces.

Gross-to-Net Ratio
for your Buiding we will be using a 1.5 gross up Factor

Site

The Rosina Site, located at the corner of Queen Street and Morris Street in Halifax, Nova Scotia, is a key gateway for the Sexton Campus of Dalhousie University. Positioned at the extension of University Avenue, Morris Street links the Sexton Campus with Dalhousie's Carleton and Studley campuses, establishing the site as a central node within the university's urban landscape.

The site occupies a transitional zone on the edge of residential, commercial, and institutional areas, providing a unique opportunity to blend various urban typologies and address Halifax's architectural context. Its southwestern corner, highly visible and accessible, adds prominence to the site's role as an entry point to the campus.

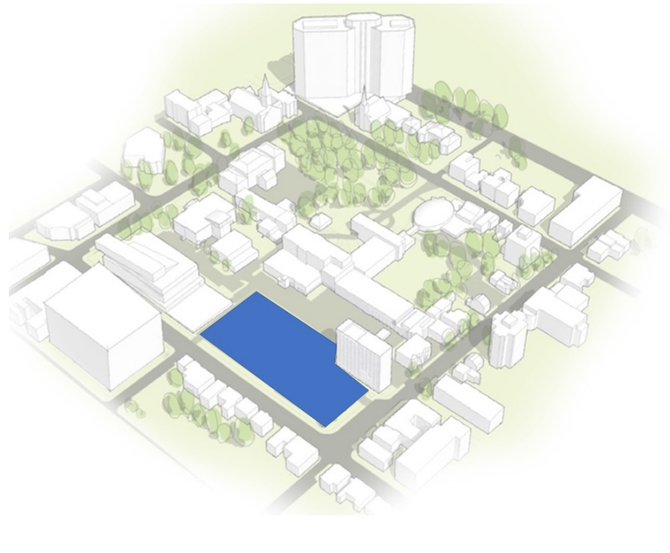
Key Urban Issues and Opportunities
Street Wall Continuity: The site must address the street wall along Queen and Morris Streets, respecting the existing urban fabric while integrating the center as a welcoming and visually cohesive part of the Sexton Campus.

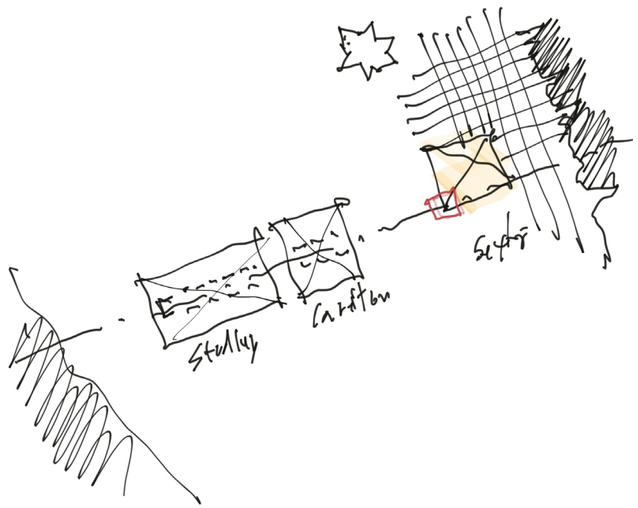
Green Space Integration: Incorporating green space that complements the surrounding urban environment and enhances the pedestrian experience, the site can act as a buffer between high-traffic areas and residential zones.

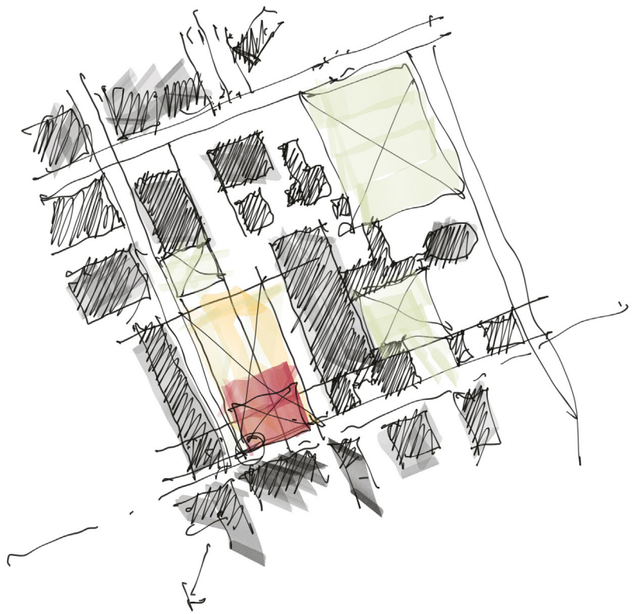
Historic Neighborhood Context: The proximity to Halifax's historic neighborhoods necessitates design sensitivity, balancing modern, sustainable elements with respect for existing architectural character.

Residential and Mid-Rise Balance: The site is adjacent to both low-rise residential buildings and mid-rise commercial and institutional structures, offering a chance to mediate these scales and create a cohesive urban transition.

Existing Building Consideration
For this study, the existing Infirmary building on-site will remain as a residence, requiring the new center's design to thoughtfully integrate with the current structure while enhancing its role within the campus environment.







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In addition to the following books, each student should assemble architectural/historical/ theoretical references that are relevant to their design intentions.

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