

Dalhousie University - School of Architecture

**ARCH 5011.06 Coastal Studio**

**Monday and Thursday, 2:00-5:30 ADT Summer 2024**

**Brightspace:** <https://dal.brightspace.com/d2l/home/TBA>

**Instructors**

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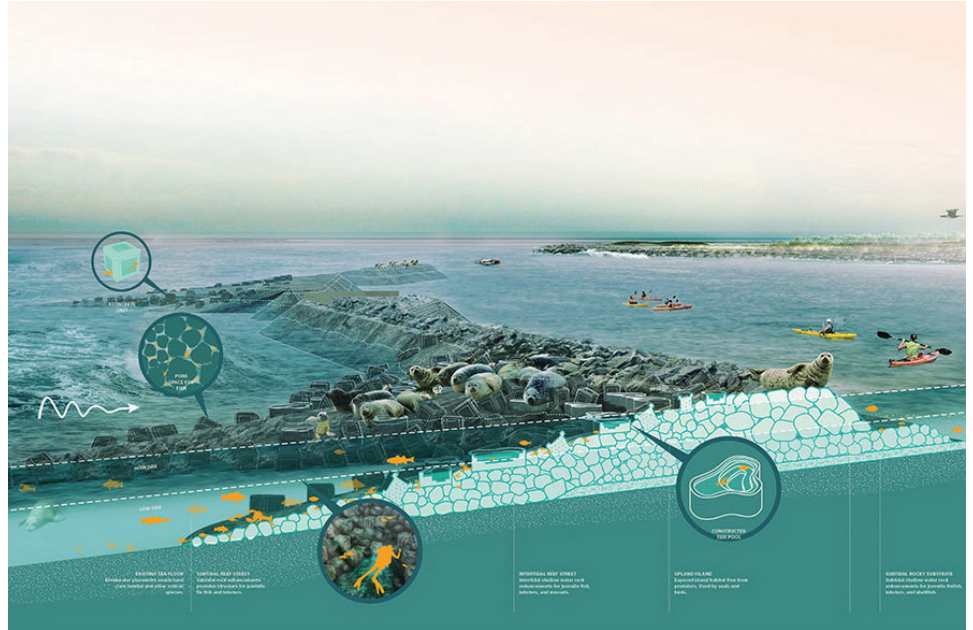
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**ARCH 5011.06 Coastal Studio**

ARCH 5223.03: Net Positive Architecture is a co-requisite technology course.



Living Breakwaters, Scape Landscape Architecture.

## CALENDAR DESCRIPTION

This studio investigates building on the coast. It explores conjunctions of ecology, culture, and traditional technical knowledge. Through participatory design, students work with a coastal community to develop innovative responses to situations with sensitive ecologies, extreme climate, and local cultural traditions.

## ADDITIONAL DESCRIPTION

Through the lens of net-positive architecture and the experience of the coastal landscape and communities, students will develop a sophisticated and ecologically-grounded understanding of place and culture. From this, students will formulate a series of architectural interventions that explore the procession, place, program and impact of a trail system along the Nova Scotia coastline.

A ½ day kayak tour of a coastal waterway and island chain is a critical component of this studio. Other tour locations will inform students of critical aspects of design and detailing of Net Zero buildings.

## LEARNING OBJECTIVES

- Develop an understanding of a net-positive approach to design;
- Plan for the environmental impacts and net-positive strategies in the context of community and remote (off-grid) building sites;
- Develop architectural interventions of a LAUNCH that enhance the experience of a TRAIL;
- Explore building design in the context of a unique, local, coastal community



District: Blue Rocks, Nova Scotia.



Fundy Tidal Interpretive Centre, South Maitland, Nova Scotia.

## SITE

Blue Rocks community and the surrounding waterway, Lunenburg County, Nova Scotia.

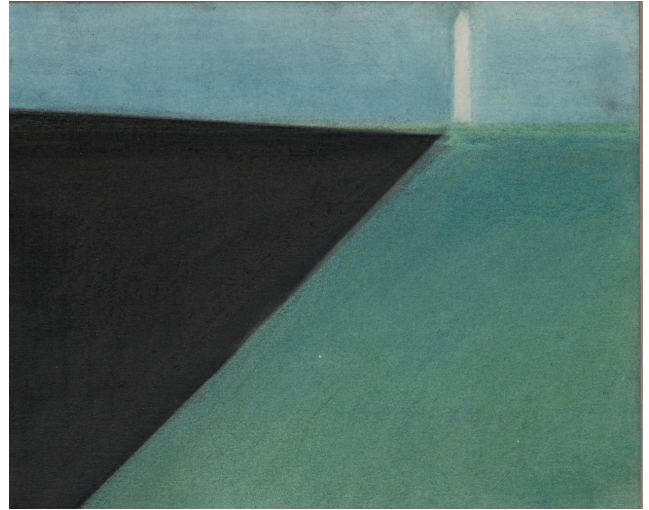
## PROGRAM

Students will design an architectural intervention - the LAUNCH - along the coastline. The LAUNCH will be in the community of Blue Rocks, Nova Scotia. Students will be exposed to sites in the surrounding waterways and island chains. The program of the LAUNCH intervention will be chosen by the student. This will include defining user requirements and affiliated spaces, and opportunities for showcasing green building systems. The student will be critiqued on how well it engages and creates positive value for the user, local community, and the natural environment.

## NET POSITIVE ARCHITECTURE APPROACH

The objective is to shift the design ethos from the 'green' notion of 'impacting less' to one of producing an ecological and socially-beneficial net-positive architecture. The basis for this 'positive' approach, from the first stage of an integrated analysis and framework to final design details, will form this term's work.

In conjunction with the ARCH 5223.03 Net Positive Architecture course, students will research key green-building systems and sustainability practices to inform an ecological basis for design decisions, program definition and integration into landscape and community. A net-positive approach uses a variety of innovative strategies and approaches – from the "high tech" and "futuristic" to deliberate and timeless forms of ecological planning.



Vietnam War Memorial, Maya Lin.

### **Net Positive - Context**

From early forms of carbon-based energy production to current renewable energy options the historical use of energy will be presented and discussed.

### **Net Positive – Conceptual Design**

Following Passive House principles, students will understand how early design decisions will influence building performance and obtain strategies to implement systems to achieve net positive buildings.

### **Net Positive – Detailed Design**

Daylighting strategies and the impact that they have on the building will be studied. Techniques to deliver high-performance buildings with consideration for water efficiency, material efficiency and energy consumption will be covered.

### **Net Positive – Construction**

Materials selection, building assembly and the impact of this choice environmentally will be reviewed with emphasis on local climate, durability, appropriate technologies and life cycle consideration. Methods to analyse the effectiveness of reuse, recycling, salvage, deconstruction vs. demolition will be discussed.

### **Net Positive - Verification**

A review of current assessment programs including LEED, Green Globes, Zero Carbon Building (ZCB), Living Building Challenge and Passive House will be covered. These programs are an industry standard to achieving third-party verification and qualification for design projects and will be critically assessed with respect to the Net Positive Architecture topics covered in this course and the integrated design studio.





Edge: Blue Rocks Nova Scotia.

## THE ARCHITECTURE OF A TRAIL

A TRAIL is a collection of spaces woven together through the assemblies of place: paths, edges, rest stops, nodes, landmarks, views. There is a linearity to a trail ... on land. Therefore, what defines a TRAIL on the ocean? Without the confines and linearity of a terrestrial path, a waterway has almost limitless physical trajectories. So how does one define the path on the water? This is one of the primary questions of this studio.

The studio will start with detailed MAPPING and an integrated design process where meeting with local community and business members will initiate the project. The kayak tour of the coastal waterways around Blue Rocks, led by local guiding company, Pleasant Paddling, will give students the opportunity to explore potential sites and experience a LAUNCH site from the water.

This studio will examine how the LAUNCH can enhance the local community, economy and the experience of visitors/tourists. There is opportunity for these interventions to heighten our awareness of local ecology, landscape and history. Departing from the LAUNCH, the beginning and the end of the TRAIL is fabricated through the experience of the kayaker. Those that live on shore are part of this TRAIL as contributors, as the facility is a magnet. Being a public or "social" destination – an armature for a culture – the LAUNCH contributes to the unity of place for kayakers and townspeople alike.

The opportunity to get on the water uniquely will expose the studio to the facilities of the shore, built and natural and the existing follies of the trail: islands, shoals, beaches, wharfs, trawlers, tides. Traversing a coastal TRAIL in a small slow-moving craft, such as a kayak permits individuals to develop a strong narrative as the pace of paddling affords a very observant relationship with the shoreline. This pace of traversal exposes users to grand and marginal spaces; they can go where they please. Routes are chosen due to a shift in the elements, exhaustion combined with currents, or the glint of light catching your eye on the horizon. A crucial goal of this studio is to determine how architecture can help foster an experience on and around the path; one that is facilitated by a series of built interventions (or subtractions) that create a meaningful dialogue between the traveler, landscape and the communities to which it serves.

Nevertheless, the architecture of the LAUNCH will inform the TRAIL and vice versa.



Landmark: Blue Rocks Nova Scotia.

## PRECEDENT STUDY

The first lecture will present the impact of a TRAIL on a community. This will include a historical compilation of migration (movement and impact of population), the ecosystem, the type of LAUNCH and TRAIL utilized to support the success of the location.

A list of precedents will be provided to student, including but not limited to the following:

- Camino de Santiago, Spain
- Swiss Way, Switzerland
- Tour du Mont Blanc, France, Italy, Switzerland
- Norwegian Scenic Tourist Route
- Fort Needham Memorial Park Master Plan, Halifax
- Highline Park, NYC
- Red River Warming Huts, Winnipeg
- La Promenade Samuel De Champlain, Quebec City
- Storm King Art Center, New York

## TOURS

Three tours during the course of the program.

Tour #1 – Design Site Tour Blue Rocks (kayak tour) and Solterre's off-grid Concept House

Tour #2 – Lunenburg area tour and Eastern Points Island boat trip

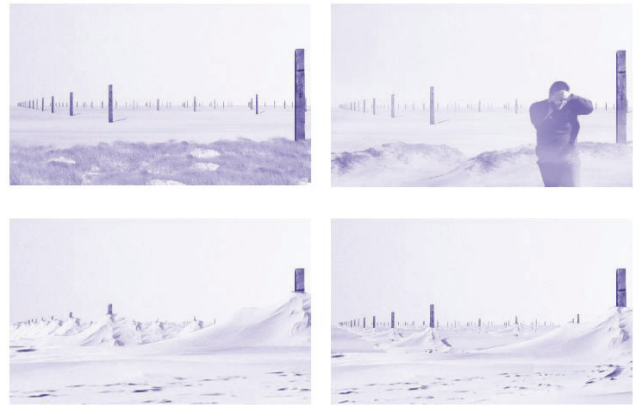
Tour #3 – Construction project tours (high-performance, Net Zero projects)

## CLASS FORMAT

Classes will consist of lectures, site tours and student-led presentations. All classes will be in-person. Students are expected to attend. Lecture slides will be made available.

## WEEKLY HOURS

For this 6.0 credit-hour course, an average of 18.0 hours per week is expected for all course-related activities, including classes.



Forces of Nature, Rietveld Landscape.

## SCHEDULE

Week	Coastal Studio	Assignment
<b>1</b>		
06-May	Net Positive - Context: Introduction	#1 – Group Mapping
	Net Positive - Context: Site Mapping – Environmental Data Collection/Representation	
09-May	Design Site Tours (Blue Rocks and Solterre Concept House)	Kayak Tour
<b>2</b>	Design Context	
13-May	Design Program Requirements	#2 – Assign Group Design Project #1 – Due May 15 (11:59pm)
16-May	Group Presentations of Assignment #1 - Mapping	
<b>3</b>	Net Positive - Concept Design	
20-May	NO CLASS - Victoria Day Holiday	
23-May	Studio Reviews	
<b>4</b>	Net Positive - Concept Design	
27-May	Studio Reviews	
30-May	Studio Reviews	
<b>5</b>	Net Positive - Concept Design	
03-Jun	Mid-term Reviews	#2 – Due June 2 (11:59pm) Blue Rocks Island Tour
06-Jun	Site Tour, Boat Tour	
<b>6</b>	Net Positive - Detailed Design	
10-Jun	Studio Reviews	
13-Jun	Energy Modeling	
<b>7</b>	Net Positive - Construction	
17-Jun	Green Building Expert Forum	
20-Jun	Studio Reviews	
<b>8</b>	Net Positive - Collaboration	
24-Jun	Studio Reviews	
27-Jun	Studio Reviews	
<b>9</b>	Studio Reviews	
01-Jul	NO CLASS - CANADA DAY HOLIDAY	
04-Jul	Studio Reviews	
<b>10</b>	Studio Review	
08-Jul	Studio Reviews	
11-Jul	Studio Reviews /SLEQ	
<b>11</b>	Final Design Presentation	
15-Jul	Attend B3 Reviews	#3 - Final Design Due July 14 (11:59pm)
17-18 Jul	Final Reviews	

## REQUIRED READING AND TRAVEL

Corner, James. 1999. "Eidetic Operations and New Landscapes". In *Recovering Landscapes: Essays In Contemporary Landscape Architecture*, edited by James Corner, 153-169. New York: Princeton Architectural Press.

Descombes, Georges. 1999. "Shifting Sites: The Swiss Way, Geneva". In *Recovering Landscapes: Essays In Contemporary Landscape Architecture*, edited by James Corner, 79. New York: Princeton Architectural Press, 1999.

Norberg-Schulz, Christian, and Gennaro Postiglione. 1997. *Sverre Fehn: Works, Projects, Writings, 1949-1996*. New York: The Monacelli Press.

Patkau, John. 1995. *Patkau Architects : Investigations into the Particular*. Ann Arbor: University of Michigan, College of Architecture + Urban Planning.

Rietveld, E. & R. Rietveld, 2011. "Designing Spontaneous Interactions". *OASE – Architecture Journal* 85: 33-41. <https://philpapers.org/archive/RIETPO-8>.

Withagen, Rob, and Simone R. Caljouw. 2017. "Aldo van Eyck's Playgrounds: Aesthetics, Affordances, and Creativity". *Frontiers in Psychology*, 04 July 2017, <https://www.frontiersin.org/articles/10.3389/fpsyg.2017.01130/full>.

## TRAVEL EXPENSE

Transportation to three site visits (Blue Rocks and Lunenburg vicinity, construction sites (TBD)). Car-pooling will be coordinated by group.

Guided kayak tour and rental – TBC. Estimate \$160.

## Insurance

For any off-campus travel, the student must download the Faculty's travel form from [tinyurl.com/dal-travel-form](http://tinyurl.com/dal-travel-form), fill it in, and submit it to the School of Architecture office before leaving.

## ASSESSMENT

### Course Evaluation

The studio design project will form the majority of the course weighting. Assignments within the studio will form part of the Mid-term Review and Final Review marks.

All students are required to participate in group discussions; and active dialogue is encouraged. Grading for the course will include student's individual participation and attendance.

### Format and Submission of Assignments

All design project work will be due at 11:59pm the night before each review deadline. Work is to be submitted to Brightspace. There are no acceptable excuses for not presenting work due to digital media issues.

- **Assignment #1 - Context (20%)** - Group assignment. The class will collectively work to prepare a series of maps and models that represent and interpret the site(s) - landscape and community. The base drawings and research will be utilized by the class during the course.
  - Students will deliver their research to the class via slide show. Any models or mapping completed will be shared. Each student will present a portion of the work.
  - The slide show will be a single PDF document - landscape / tabloid format.
  - Any raw files (high resolution images, CAD files) will be uploaded to a shared drive along with the slide show.



- **Assignment #2 - Mid-term Review (20%)** - Individual assignment. Students will present their work to-date and engage in group critique. They are expected to demonstrate a well formulated program, site analysis / plan, and initial design ideas as models and drawings. Students are expected to engage constructively in their own critique and help in the critique of other students' work.
  - Student presentations should be limited to 5-10 minutes to allow time for constructive critique. Total critique time will be approx. 15 min. per student. Students will present their design work to date. Focus will be on:
    - Program outline and relevant precedent examples
    - Site plan / analysis
    - Preliminary design ideas for "Launch" site & TRAIL intervention
    - 'Green System' being studied for Technical Report (M1 Technology Assignment #4) and how it fits with your program
  - Slides will be presented in a single PDF document - Landscape tabloid format.
  - Working drawings and models can be presented.
- **Assignment #3 - Final Design (50%)** - Individual assignment. Students will present their final project and engage in group critique. They will be assessed for design concept, integration of net-positive and placemaking strategies, and clarity of process. Students are expected to engage constructively in their own critique and help in the critique of other students' work.
  - Presentations should be limited to 5-10 minutes to allow time for constructive critique. Total critique time will be approx. 15 min. per student.
  - Focus will be on:
    - Evidence of clear strategies in: site, program, structure, systems integration (Green System' being studied for Technical Report (M1 Technology Assignment #4)) , and building envelope.
    - Students must show the ability to make design decisions within a complex architectural project while demonstrating broad integration and consideration for the environment, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.
    - Quality of product and process, not quantity.
  - Slides will be presented in a single PDF document - Landscape tabloid format.
- **Class Participation (10%)** - Students will be evaluated based on attendance and participation in group discussions.

### Guidelines For Citing Sources

Chicago Manual of Style: author-date style. For details, see:

<https://tinyurl.com/quick-author-date>

<https://tinyurl.com/full-author-date>

### Components that are Required but not Assessed

Two days will be off-site at various building locations that demonstrate net positive architecture and technologies. Cost to travel to these locations (within 1-hour of the School of Architecture), is the responsibility of the student (car-pooling will be coordinated).

### Graduate Grade Standards for the Course

Grade	Grade Point	Percent	Description
A+	4.3	90–100%	
A	4.0	85–89%	
A–	3.7	80–84%	
B+	3.3	77–79%	
B	3.0	73–76%	
B–	2.7	70–72%	
F	0.0	0–69%	
INC			Incomplete
W			Withdrew after deadline
ILL			Compassionate reasons, illness

Other, exceptional grades are noted in the graduate calendar. Individual assignment standards and criteria are included in the assignment descriptions.

### Grading Format

Grades for assignments will be returned either directly to the student during class time or emailed to them directly. Final grades will be issued as per Dalhousie protocol.

### COURSE-SPECIFIC POLICIES

#### Due Dates and Late Assignments

Deductions for late submissions encourage time management and maintain fairness among students.

	Due date	Is a late assignment accepted?	If so, what is the deduction per weekday?*	Is there a final deadline for a late submission?	What happens after that?
Assignment 1	May 16	No			
Assignment 2	June 2	No			
Assignment 3	July 11	No			

\* 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.

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**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.

**FACULTY POLICY**

**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.

**UNIVERSITY STATEMENTS**

**Territorial Acknowledgement**

The Dalhousie University Senate acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people. The Dalhousie University Senate also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

**Internationalization**

At Dalhousie, "thinking and acting globally" enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and oriented toward solving problems that extend across national borders."

**Academic Integrity**

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect. As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

### **Accessibility**

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion please contact the Student Accessibility Centre (for all courses offered by Dalhousie with the exception of Truro). Your classrooms may contain accessible furniture and equipment. It is important that these items remain in place, undisturbed, so that students who require their use will be able to fully participate.

### **Conduct in the Classroom – Culture of Respect**

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

### **Diversity and Inclusion – Culture of Respect**

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2).

### **Code of Student Conduct**

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

### **Fair Dealing Policy**

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie.

### **UNIVERSITY POLICIES, GUIDELINES, AND RESOURCES FOR SUPPORT**

Dalhousie courses are governed by the academic rules and regulations set forth in the Academic Calendar and the Senate.

- <https://academiccalendar.dal.ca/catalog/viewcatalog.aspx>
- [https://www.dal.ca/dept/university\\_secretariat/university\\_senate.html](https://www.dal.ca/dept/university_secretariat/university_senate.html)

### University Policies and Programs

- Important Dates in the Academic Year (including add/drop dates)
  - [https://www.dal.ca/academics/important\\_dates.html](https://www.dal.ca/academics/important_dates.html)
- Classroom Recording Protocol
  - [https://www.dal.ca/dept/university\\_secretariat/policies/academic/classroom-recording-protocol.html](https://www.dal.ca/dept/university_secretariat/policies/academic/classroom-recording-protocol.html)
- Dalhousie Grading Practices Policy
  - [https://www.dal.ca/dept/university\\_secretariat/policies/academic/grading-practices-policy.html](https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html)
- Grade Appeal Process
  - [https://www.dal.ca/campus\\_life/academic-support/grades-and-student-records/appealing-a-grade.html](https://www.dal.ca/campus_life/academic-support/grades-and-student-records/appealing-a-grade.html)
- Sexualized Violence Policy
  - [https://www.dal.ca/dept/university\\_secretariat/policies/human-rights---equity/sexualized-violence-policy.html](https://www.dal.ca/dept/university_secretariat/policies/human-rights---equity/sexualized-violence-policy.html)
- Scent-Free Program
  - <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>

### Learning and Support Resources

- Academic Support - Advising [https://www.dal.ca/campus\\_life/academic-support/study-skills-and-tutoring.html](https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html)
  - [https://www.dal.ca/campus\\_life/academic-support/advising.html](https://www.dal.ca/campus_life/academic-support/advising.html)
- Student Health & Wellness Centre
  - [https://www.dal.ca/campus\\_life/health-and-wellness.html](https://www.dal.ca/campus_life/health-and-wellness.html)
- On Track (helps you transition into university, and supports you through your first year at Dalhousie and beyond)
  - [https://www.dal.ca/campus\\_life/academic-support/On-track.html](https://www.dal.ca/campus_life/academic-support/On-track.html)
- Indigenous Student Centre and Indigenous Connection
  - [https://www.dal.ca/campus\\_life/communities/indigenous.html](https://www.dal.ca/campus_life/communities/indigenous.html)
  - <https://www.dal.ca/about-dal/indigenous-connection.html>
- Elders-in-Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit the office in the Indigenous Student Centre or contact the program at [elders@dal.ca](mailto:elders@dal.ca) or 902-494-6803.
- Black Student Advising Centre
  - [https://www.dal.ca/campus\\_life/communities/black-student-advising.html](https://www.dal.ca/campus_life/communities/black-student-advising.html)
- International Centre
  - [https://www.dal.ca/campus\\_life/international-centre.html](https://www.dal.ca/campus_life/international-centre.html)
- South House Sexual and Gender Resource Centre
  - <https://southhousehalifax.org/about-us>
- LGBTQ2SIA+ Collaborative
  - <https://www.dal.ca/dept/vpei/edia/education/community-specific-spaces/LGBTQ2SIA-collaborative.html>



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- Dalhousie Libraries
  - o <https://libraries.dal.ca/>
- Copyright Office
  - o <https://libraries.dal.ca/services/copyright-office.html>
- Dalhousie Student Advocacy Service (DSAS)
  - o <https://www.dsu.ca/dsas>
- Dalhousie Ombudsperson
  - o [https://www.dal.ca/campus\\_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html](https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html)
- Human Rights & Equity Services
  - o <https://www.dal.ca/dept/vpei.html>
- Writing Centre
  - o [https://www.dal.ca/campus\\_life/academic-support/writing-and-study-skills.html](https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html)
- Study Skills/Tutoring
  - o [https://www.dal.ca/campus\\_life/academic-support/study-skills-and-tutoring.html](https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html)

**Safety**

- Faculty of Architecture and Planning: Work Safety
  - o <https://www.dal.ca/faculty/architecture-planning/current-students/inside-building/work-safety.html>