UNIVERSITY OF CALGARY
SCHOOL OF ARCHITECTURE,
PLANNING AND LANDSCAPE

Fall 2025

Land Acknowledgement: https://www.ucalgary.ca/indigenous/cultural-teachings/territorial-land-acknowledgement

Course Number: DSGN 402

Course Name: Transscalar Studio III (Medium): 51.0447° N, 114.0719° W

Classroom: [redacted]

Instructor: Isabel Ochoa Quintero

- Email: Isabel.ochoaquintero@ucalgary.ca
- Office Hours and Location: By appointment only
- Instructor Email Policy: Please note that all course communications must occur through your @ucalgary email, and I will respond to emails sent via students' @ucalgary emails within 48 hours excluding weekends and statutory holidays.

Class Dates: All in-person instruction: Tuesdays and Fridays, September 2nd – December 5th, 1:00pm to 4:50pm

Course Description:

DSGN 402 foregrounds the relationship between structure and light as a key driver of architectural production. The studio examines a guiding question:

Due to our range of solar and climactic conditions, daylight presents a unique dilemma for architects working in high latitudes - *How do we develop architectural forms that are able to collect, preserve, and allocate illumination in the North?*

In this studio, daylight will be approached as an essential component in our environmental infrastructure, supporting and regulating environmental conditions necessary for human comfort and building performance.

DSGN 402 approaches design as a practice-based discipline, examined primarily through a range of architectural model-making and visual communication exercises. The studio guides students through the hands-on application of material and structural principles to the conception of spaces, building elements and tectonic components. The term is organized into three phases. The studio will engage with the Y3 BDCI theme of *Infrastructure x Mythology* by utilizing existing typologies/archetypes as frameworks for the design development of a small building:

P1: Focuses on establishing a set of organizing principles for a roof design through detailed typological studies of existing daylighting, material, and structural strategies.

P2: Focuses on infrastructural thinking in the analysis of an existing project. Students will be asked to apply graphic storytelling to critically position a hierarchy of concepts in a 'reverse competition' exercise.

P3: Asks students to synthesize these explorations into an infrastructural proposal that responds to site conditions and programmatic requirements.

- Research Methods:
  - Critical analysis of design precedents will be used to gain an understanding of contemporary approaches to designing structures, daylighting, and site.
  - Architectural model making will be used as a representational tool to understand volume, scale, site, openings, materials and construction methods. A large emphasis will be placed on the craft of architectural model making so that students can become adept at experimenting and iterating within the design process.
  - Architectural drawing will be used to develop design ideas and effectively convey spatial information. Throughout the course, students will receive tutorials in 3D modelling, digital drawing, and architectural rendering. These tutorials will provide students with a practical understanding of architectural drawing conventions and digital workflows specific to the key themes covered in the course.
- Academic Calendar description: Link
- Course Hours: 6 units (0-4)

Requisites: See Section 3.3.5 of the Academic Calendar for more information regarding School of Architecture, Planning and Landscape courses.

- Prerequisite(s): Design 301 or 303; and 304 or 306; and admission to the Bachelor of Design in City Innovation program.
- Corequisite(s): Credit for Design 402 and either 401 or 403 will not be allowed.

Course Delivery:

- Course modality: In-person delivery. No asynchronous desk critiques will be facilitated for student absences.

Course Learning Outcomes:

Upon completion of this course, students will know and be able to:

- Apply material, structural, and constructional principles to the conception and development of spaces, building elements, and tectonic components.
- Utilize daylighting as an effective driver and space-defining tool in the process of design.

- Demonstrate an understanding of the human scale. This includes both the relation between proportional elements in a composition and the relation between the human body and the spaces it occupies, both physically and visually.
- Develop an introductory understanding of the impact daylight and spatial planning have on multisensory perception and programmatic considerations.
- Respond to natural and built site characteristics in the development of a program and design of a project.
- Make technically precise models and drawings of a proposed design for the purposes of review.
- Demonstrate an ability to articulate a design process grounded in practice through the critical analysis of design precedents.

Learning Resources:

- Required readings, textbooks, and learning materials:
    - Although there are no required textbooks for this course, students are strongly encouraged to reference the following texts as a way of developing architectural literacy within the key topics explored:
        - Deplazes, Andrea. *Constructing Architecture - Materials, Processes, Structures: A Handbook.* 5th ed., Walter De Gruyter GmbH, 2023.
        - Moussavi, Farshid. *The Function of Form*. 2nd ed., *Actar D*, 2023.
        - Moussavi, Farshid. *The Function of Ornament*. 2nd ed., *Actar D*, 2021.
        - Plummer, Henry. *The Architecture of Natural Light*. 1st ed., *Thames & Hudson*, 2009.
        - Zimmermann, Astrid. *Constructing Landscape: Materials, Techniques, Structural Components*. 1st ed., *Walter De Gruyter GmbH*, 2015.
- Technology requirements:
    - A laptop with a Windows operating system, as well as the latest security and malware updates.
    - Although students may choose to complete their coursework in any architectural representation software of their choice, the course will provide instruction in the following software:
        - Rhino 7 or Rhino 8 will be used to provide instruction in Computer Aided Drafting (CAD) and Computer Aided Modelling (CAM).
        - Adobe Creative Cloud will be used for editing raster graphics and vector graphics.
        - V-ray for Rhino and/or Enscape will be used for rendering. Students may use the V-ray free trial to complete a portion of the course work. To do so, please wait until prompted by the instructor to begin the trial period so that it aligns with the scheduled course requirements.

- BDCI Makerspace Training Requirement:
    - If a course requires the use of the BDCI Makerspace, students must complete all relevant online University of Calgary safety courses and the online Trajectory Safety training course to be granted access to the BDCI Makerspace.

Special Budgetary Requirements:

Students can expect to spend ~300-400CAD on model-making materials and plotting for the term.

Design Studio Health and Safety:

Studios at SAPL are designated as lab-like environments under the University of Calgary's Environmental Health & Safety (EHS) requirements. All students and instructors must comply with both university-wide safety standards and the SAPL-specific studio rules outlined below. These rules are in place to ensure a safe, functional, and respectful working environment for everyone. Failure to comply may be considered Academic or Non-Academic misconduct and be subject to disciplinary action, including loss of studio and/or workshop privileges under the SAPL demerit system.

Conduct & Culture

- No horseplay, pranks, or behavior that could distract or endanger others. Keep voices and music at levels that don't mask hazards or emergency instructions.
- All posted door placards and safety signage must be followed at all times.

Fire Safety, Exits & Evacuation

- Keep aisles, doors, and all emergency equipment fully clear at all times; do not block exits with models, carts, or materials. Obey Emergency/Fire Wardens during drills and alarms.
- Nothing may be stored on top of lockers (fire code/OH&S).
- During an evacuation: leave immediately, use stairs, go to the assembly point, and wait for the all-clear.

Prohibited & Restricted Items in Studios

- No flammable sprays or solvents (e.g., spray paint, spray glue, fixatives) may be used or stored in studios. Use only in a designated spray booth with ventilation.
- Freshly laser-cut plastics must not be stored in studios due to off-gassing; allow time for ventilation per shop guidance.
- No concrete powder storage in studios.
- No small kitchen appliances (kettles, coffee makers, hot plates, etc.).
- No drugs or alcohol may be consumed or stored on campus.

Materials

- Use only materials approved for studio use. If you have any questions, please ask your instructor, workshop personnel, or the Manager of Faculty Operations.

- Store materials neatly; dispose of hazardous waste per posted instructions—never in regular bins.

Housekeeping & End-of-Term Cleanout

- Maintain a clean, orderly workstation; manage offcuts and trip hazards promptly.
- End of term: remove all models and supplies from studios and model storage by posted deadlines—items left will be discarded.

Layout, Furniture & Power

- Do not relocate furniture to other areas or reconfigure studio layouts without authorization from Faculty Operations.
- Each student may have one locker only.
- Nothing may be hung from ceilings except approved extension cords for power. If you need additional power, contact a technician or Building Operations; do not DIY electrical setups. Personal heaters require Faculty Operations approval.

Working Hours, Security & Working Alone

- After hours: do not admit unknown persons; theft and damage have occurred this way.
- If anyone is actively building/cutting/gluing, studio lights must remain on for safety.
- Working alone: follow UCalgary's Working Alone Standard—use the UCSafety App check-in feature or an approved plan, especially after hours.

PPE & Personal Safety

- Tie back long hair; avoid loose clothing, scarves, dangling jewelry, and headphones when performing tasks that could snag. Wear eye protection when there's risk from cutting/sanding/particulates; use respiratory protection/booths where required.
- Closed-toe footwear is mandatory; hearing/respiratory protection as task-appropriate. (See posted signage and SDS guidance.)

Tools & Equipment in Studios.

- Use tools only for their intended purpose and only those permitted in studios by your instructor and posted rules. High-risk tools (e.g., power tools) are not operated in studios without coordination with workshop personnel.
- Report damaged or malfunctioning furniture or equipment immediately—do not attempt repairs yourself.

Incidents, Reporting & Enforcement

- Report all injuries, near misses, and hazards immediately to your instructor and Campus Security; complete required incident reports per university procedure.

- Safety violations may be considered Academic or Non-Academic misconduct and trigger disciplinary action. Persistent non-compliance is escalated to Faculty Operations/Associate Dean.

Instructor Responsibilities (Studios)

- Instructors are responsible for monitoring and enforcing studio safety, addressing prohibited activities (e.g., sprays in studios, blocked exits), and escalating repeat violations to Faculty Operations. (Workshop personnel focus on workshop safety under the revised framework.)

Additional Classroom Conduct and Related Information:

- **Code of Conduct:** The SAPL Studio spaces and other SAPL/University-provided facilities and equipment are governed by the University's Student Non-Academic Misconduct Policy. Professional and courteous behavior is expected at all times. For more information, please refer to Appendix 1: Prohibited Conduct, including the following categories: 1. Protection of Individuals; 2. Protection of Property; 3. Protection of University Functions, Activities and Services; 4. False Information and Identification; 5. Possession or Use of Dangerous Objects, Drugs or Alcohol; 6. Aiding in the Commission of an Offence; 7. Contravention of Other Laws and University Policies; and 8. Failure to Comply with a Sanction.
- The instructor may record online Zoom sessions of technical tutorials for the purposes of supporting student learning in this class – specifically for making the recording available for review. Students will be advised before the instructor initiates a recording of a Zoom session. These recordings will be used to support student learning only and will not be shared or used for any other purpose.

Assessment Components:

The University policy on grading and related matters is described in F.1 and F.2 of the Academic Calendar. In determining the overall grade in the course, the following weights will be used:

Assessment Method	Description	Weight	Aligned Course Learning Outcome
Project 1 *– completed independently*			
P1.1	Material System	40%	1, 6, 7
P1.2	Modelling Light		1- 3, 6
Project 2 *– completed in groups*			
P2	Drawing Light	15%	1, 2, 4, 6, 7
Project 3 *– completed independently*			
P3.1	Site + Tessellation	45%	1, 2, 4, 5
P3.2	Technical Representation		1-6

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  Collaborative Work:
  - Professional practice in architecture, design, or engineering takes place through close collaborations between teams of people. Identifying effective ways to communicate, assign responsibilities, identify milestones and achieve objectives are essential skills to succeed in professional practice. For this reason, the studio will require students to work in teams at various points throughout the term. This collaboration should allow for intensive work and iteration to take place in parallel. **All members of each group will be graded equally.**
- Assessment and Evaluation Information:
  - If a student misses (or is late for) a required component of the course for a valid excuse or absence, they must contact the instructor in writing within 24 hours to discuss applicable options to submit and/or make-up for that component.
  - Alternate arrangements for missed in-person assessments *with a valid excuse* will be made on a case-by-case basis at the discretion of the Instructor and upon review of the student's class participation and attendance record.
  - For assessments submitted online (e.g., D2L), all late assignments will lose a letter grade (e.g., A- to B-) every 24 hours after the submission date/time. Late assignments submitted more than four days late constitute an automatic zero (0).
  - Missed in-person assessments (e.g., oral presentation, exam, etc.) as a result of an *unexcused* absence will receive an automatic zero (0).
- Attendance and Participation Expectations:
  - Students are expected to attend and come prepared to meaningfully engage in all class sessions. This includes producing or preparing content necessary for discussion and contributing to individual and class-wide discussions and/or conversations/assessments with the Course Instructor.
  - **Excused Absences**: In the event of an exceptional circumstance (e.g., illness, bereavement, etc.) or an exceptional opportunity (e.g., varsity athletic competition, national conference or awards ceremony, pow wow, etc.) up to four excused absences (for courses that meet twice or more per week) and up to two excused absences (for courses that meet once per week) are allowable per semester before jeopardizing one's own course grade and ability to pass the course. However, any such arrangements must be approved by the Instructor with advance notice by the student.
  - **Unexcused Absences**: Attendance at all class sessions and participation in all assessments is mandatory. Unexcused absences in excess of two per semester (for courses that meet twice per week) and one per semester (for courses that meet once per week) are grounds for failure in the course.
  - **Total Number of Absences**: The combined total number of excused AND unexcused absences per semester cannot exceed four per semester (for courses that meet twice per week) or two per semester (for courses that meet once per week). Any number in excess are grounds for failure in the course.

- Guidelines for Submitting Assignments:
  - All assignments (e.g., projects, papers, presentations, etc.) must be turned in on time.
  - Please submit all assignments electronically through Dropbox in D2L. Assignments may be submitted in PDF format (unless otherwise stated). Assignments should have a file name as follows: "Coursenumber_semester_Lastname-Firstname_assigntment-title" (e.g., DSGN201_F24_Smith-Alex_Plan-Drawings).
  - Students are responsible for ensuring that all submitted digital files are in the correct format, complete, and accessible. Submissions that are corrupt, empty, incorrect (e.g., wrong file type), or inaccessible may receive a grade of zero. It is not the Instructor's responsibility to verify or notify students of submission errors. Students are encouraged to double-check their uploads and retain confirmation of successful submission.
  - **Late Assignments:** Please see above for the course's policy on late assignments/assessments.
- Final Examinations:
  - This course has no final examination. Students are required to be present for all design reviews.
- Expectations for Writing:
  - Please see the "Copyright and Legislation" Section of the University of Calgary Policies and Supports for information on the use of AI in this course.
  - Section E.2 Writing Across the Curriculum: https://calendar.ucalgary.ca/pages/2c2d1ce47b8c4d008aec9cc3da49876e
- Criteria that must be met to pass: **Students must receive a passing grade of 50% or greater on the final term project to pass the course.**

Flexible Grade Option (CG Grade):

As per Section 3.5.1 of the Academic Calendar, the School of Architecture, Planning and Landscape will not permit the Flexible Grade Option (CG Grade) for any course offered by the School, with the exception of the following courses:

- Architecture 201
- Landscape Architecture 201
- Planning 201

Grading Scale:

Based on Section F.1.1 of the Academic Calendar

Grade	Grade Point Value	4-Point Range	Percent	Description
A+	4.00	4.00	95-100	Outstanding performance
A	4.00	3.85-4.00	90-94.99	Excellent performance

A-	3.70	3.50-3.84	85-89.99	Approaching excellent performance
B+	3.30	3.15-3.49	80-84.99	Exceeding good performance
B	3.00	2.85-3.14	75-79.99	Good performance
B-	2.70	2.50-2.84	70-74.99	Approaching good performance
C+	2.30	2.15-2.49	65-69.99	Exceeding satisfactory performance
C	2.00	1.85-2.14	60-64.99	Satisfactory performance
C-	1.70	1.50-1.84	55-59.99	Approaching satisfactory performance. **Minimum grade requirement for SAPL prerequisite courses.**
D+	1.30	1.15-1.49	50-54.99	Marginal pass. Insufficient preparation for subsequent courses in the same subject.
D	1.00	0.50-1.14	45-49.99	Minimal Pass. Insufficient preparation for subsequent courses in the same subject.
F	0.00	0-0.49	0-44.99	Failure. Did not meet course requirements.

Topic Areas and Detailed Class Schedule:

*Note that topics and schedule are subject to change:

Course Schedule Date	Topic	Learning Activity	Assessments and Due Dates
Sep 2-8	Structure and Light	Lecture, Desk Critiques	P1.1 Assigned Sep 2
Sep 9-12	The Architectural Model: Practical and Technical Development	Lecture, Desk Critiques	**P1.1 Due Sep 12**
Sep 15-19	CAD/CAM Refresher Tutorial *will extend	P1.1 Reviews, Digital tutorial	P1.2 Assigned Sep 16

	into next week if required		
Sep 22-26	Desk Critiques	Desk Critiques	
Tuesday, September 30	National Day for Truth and Reconciliation, University closed		
Oct 1-3	Desk Critiques	Desk Critiques	**P1.2 Model Due Oct 3**
Oct 6-10	Drawing Light (Part 1)	Desk Critiques, Digital tutorial	
Wednesday, October 8	City Futures: Undergraduate Design Research Symposium		
Monday, October 13	Thanksgiving Day, University closed		
Oct 14-17	Drawing Workshop	Desk Critiques	**P1.2 Photos + Drawings Due Oct 17**
Oct 20-24	Drawing Light (Part 2)	P1.2 Reviews, Digital Tutorial, Desk Critiques	P2 Assigned Oct 21
Oct 27-31	Desk Critiques	Desk Critiques	**P2 Due Oct 31**
Nov 3-7	CMH Design / Site	Lecture, Desk Critiques	P3.1 Assigned Nov 4
Nov 9-15	Term Break, no classes		
Nov 17-21	Desk Critiques	Desk Critiques	**P3.1 Due Nov 21**
Nov 24-28	Interim Reviews	P3.1 Reviews *IO Away Nov 28th	P3.2 Assigned Nov 25
Dec 1-5	Desk Critiques	Desk Critiques	**P3.2 Due Dec 7**
Friday, December 5	Last day of classes		
Monday, December 8	Final Reviews + Reception (full day): third-year BDCI		
Tuesday, December 9	Start of exams		
Friday, December 19	End of exams		

Scheduled Out-of-Class Activities:

There are no scheduled out-of-class activities for this course.

University of Calgary Policies and Supports:

UNIVERSITY OF CALGARY COVID-19 UPDATES AND PROCEDURES

https://www.ucalgary.ca/risk/emergency-management/covid-19-response/covidsafe-campus

ACADEMIC ACCOMMODATION

https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: https://www.ucalgary.ca/legal-services/university-policies-procedures/student-accommodation-policy

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to their instructor (contact information on first page above).

Student Accessibility Services will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

ACADEMIC MISCONDUCT

Academic Misconduct refers to student behavior which compromises proper assessment of a student's academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar.

For information on the Student Academic Misconduct Policy and Procedures please visit:

- Student Academic Misconduct Policy: https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-policy
- Student Academic Misconduct Procedure: https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-procedure

Additional information is available on the Academic Integrity Website at https://www.ucalgary.ca/student-services/student-success/learning/academic-integrity.

COPYRIGHT LEGISLATION

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy) and requirements of the Copyright Act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks, etc.). Students who use material protected by copyright in violation of this policy

may be disciplined under the Non-Academic Misconduct Policy (https://www.ucalgary.ca/legal-services/university-policies-procedures/student-non-academic-misconduct-policy).

Notice to Students Regarding Use of Generative Artificial Intelligence (AI) Applications and Tools in Learning Environments

- **Restricted Use:** The use of generative AI, including the use of work created by generative AI tools and applications in course assignments and assessments may be considered in accordance with the university's academic misconduct policy. https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-policy If you are in doubt as to the use of generative AI tools in this course, please discuss your situation with the course instructor.
    - AI tools can be used for learning course material but not for completing assignments.
    - The use of AI tools for assignments may be considered an academic offense.
    - Students must not copy or paraphrase from AI applications for assignments.

INSTRUCTOR INTELLECTUAL PROPERTY

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

PROTECTION OF PRIVACY ACT

The University of Calgary (University) respects your privacy and is committed to ensuring the privacy of all students, staff, and community members. UCalgary's collection, use, and disclosure of your personal information is authorized under section 4(c) of the Alberta Protection of Privacy Act (POPA). It will be collected, used and disclosed as permitted under POPA and in accordance with the University's Privacy Policy and Notice of Collection, Use and Disclosure of Student Personal Information. All student assignments and personal information provided to your course instructor will remain confidential unless otherwise stated before submission. It will not be disclosed to anyone else without your permission unless permitted under POPA.

SEXUAL AND GENDER-BASED VIOLENCE POLICY

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's Sexual and Gender-Based Violence Policy guides us in how we respond to incidents of sexual and/or gender-based violence, including supports available to those who have experienced or witnessed sexual/gender-based violence, or those who are alleged to have committed sexual/gender-based violence. It provides clear response procedures and timelines, defines complex

concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at https://www.ucalgary.ca/legal-services/university-policies-procedures/sexual-and-gender-based-violence-policy.

UNIVERSITY STUDENT APPEALS OFFICE

If a student has a concern about a grade that they have received, they should refer to Section I of the Undergraduate Calendar (https://calendar.ucalgary.ca/uofcregs/university-regulations/reappraisal-term-work) which describes how to have a grade reappraised.

OTHER IMPORTANT INFORMATION

Please visit the Registrar's website at https://www.ucalgary.ca/registrar/registration/course-outlines for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success
- Student Ombuds Office
- Student Union (SU) Information
- Graduate Students' Association (GSA) Information
- Emergency Evacuation/Assembly Points
- Safewalk