ALBERTO DE SALVATIERRA
DUSTIN COUZENS
FARHAD MORTEZAEE
JASON JOHNSON
JEFF LYNES
KATE ALLEN
KELLY MORRISON
KRISTEN LIEN
SHAJAY BHOOSHAN
SUMER SINGH
WIL D. MARQUEZ

FALL 2020
M2 Research Studio Options
SCHOOL OF ARCHITECTURE, PLANNING AND LANDSCAPE
UNIVERSITY OF CALGARY
M2 Studios for the fall of 2020 will include options developed in response to the cancellation of study abroad options for this fall. These options have been developed to take advantage of this moment in history when our enforced physical distance has reinforced the need to creatively design the ways in which we interact and collaborate as designers across the globe. This fall we are embarking on a new project in the architecture program. This project is one that connects students, faculty members, researchers and practitioners in teams to address the challenges that face our communities, cities, regions and nations through the lens of the discipline of architecture. This semester we have put out the call to local and international design thinkers to propose design research projects that we hope will provide some valuable experiences, networks and directions for your futures as designers.

A summary of each of these Work Integrated Learning/Critical Practice Studios is provided here to give each of you an idea of the range of projects that will be tackled this term. This semester will be an experiment in many ways. It will mark our first full term of studio to be undertaken in a hybridized physically distant way. It will be the first time that we interface in this way with architectural offices, developers, policy makers and builders from outside of SAPL and in some cases outside of Canada. It will be an opportunity for all of us to learn from the work taking place across all of these studio teams and project types. Our hope is that this will mark the start of a new set of collaborative networks that together will begin to tackle some of the most critical challenges and opportunities that face our discipline.
ARCH 700 - SENIOR RESEARCH STUDIO IN ARCHITECTURE

Course Description

This studio option addresses emergent design research topics that exist within critical practice under the guidance/mentorship of design professionals. These topics could take the form of the following:

- Embedded Critical Practice – Students working under the supervision of an architect or design team in a form on a specific R&D project or research subject.
- Design Build
- Speculative Critical Practice – Competitions, Project Proposals etc. that are speculative in nature.
- Critical Practice Urban Issues – Urban scale research and design proposals.
- Critical Practice Culture & Society – Research in the realms of social and cultural impacts of design practice.
- Disciplinary Theory – Work with theorist/critic on and a specific topic with clear deliverables.

This list is not meant to be comprehensive, but strategic and students should review the attached documentation provided by each section for more details.

Participating Firms and Research Units

Center for Civilization
FarMor Architecture
FRANK Architecture & Interiors
Laboratory for Integrative Design
LIVE Mondo
MTA Urban Design Architecture Interior Design Inc.
MERCEDES + SINGH
MODERN OFFICE OF DESIGN + ARCHITECTURE
W/Purpose
Zaha Hadid Computation and Design (ZHCODE)
Solarpunk Urbanism: Farms, Forms, Flows and Flux

Instructor(s): Alberto de Salvatierra - SAPL
Aziz Barbar
Sonny Xu

Project Description
This year has been one of extremes. Precipitating social upheaval—foregrounded by cataclysmic environmental degradation and accentuated by a deadly global pandemic—has revealed just how fragile and, perhaps, discordant humanity has become. Civilization has reached a critical inflection point. And at the threshold between perdition and redemption, loss of hope is easy. Apocalyptic visions and machinations of the future dominate our media. Every day, a new threat—often existential—assaults our screens. Forecasters and even fiction writers are hard-pressed to imagine a future that does not include a totalitarian state facilitated by a technological dystopia that failed to prevent a climate catastrophe. In the face of such insurmountable odds, what is the role of the designer, the architect, the urbanist? The answer lies in images.

Our power is to imagine, and then design, new possibilities of the relations between human and nature. And there would be no more timely action then, than to breathe life into a nascent, yet plucky, literary genre known as “Solarpunk” that, having been borne from writers, lacks a cohesive imagery to galvanize the masses. Encouraging an optimistic version of our future, Solarpunk is a growing movement that envisions a society 1) built with renewable energies such as solar and wind power, 2) integrated with urban farming and natural ecologies, 3) embracing prefigurative politics and the twin values of pluralism and diversity, while 4) promoting self-sufficiency and decentralization of urban and governance systems. In the words of a crowd-assembled manifesto: “At its core, Solarpunk is a vision of a future that embodies the best of what humanity can achieve: a post-scarcity, post-hierarchy, post-capitalistic world where humanity sees itself as part of nature and clean energy replaces fossil fuels. The “punk” in Solarpunk is about rebellion, counterculture, post-capitalism, decolonialism and enthusiasm. Solarpunk embraces a diversity of tactics. Solarpunk emphasizes environmental sustainability and social justice. Solarpunk is about youth maker culture, local solutions, local energy grids, ways of creating autonomous functioning systems. Solarpunk includes all cultures, religions, abilities, sexes, genders and sexual identities. Solarpunk is the idea of humanity achieving a social evolution that embraces not just mere tolerance, but a more expansive compassion and acceptance.”

Available Student Positions: 12-15

Preferred Skills
This course will be an incredibly intensive, workshop-based urban design studio. Sponsored by the Center for Civilization at the University of Calgary School of Architecture, Planning and Landscape, the studio’s primary modalities will be parametric modeling and design. Advanced knowledge of Rhinoceros 3D is a must, and familiarity with Grasshopper and related plug-ins is preferred in students who choose to take this course.

Deliverables
The tall task of this studio will be in the ideation, production, and creation of an architectural language of the urban that embodies the values of Solarpunk while providing the movement much needed kindling to catalyze the words of eco-activists into a global imagination. It is said that the best way to predict the future, is to create it. And so, we will be tackling the conception of a “Solarpunk Urbanism.”


Background Links
www.centerforcivilization.org
MVRDV, Shenzhen Terraces, 2019.

The Architecture of Story Telling: The Royal Hotel

Instructor(s): Kate Allen  
Kelly Morrison  
Kristen Lien

Project Description
This course is the fifth studio in the Master of Architecture Program sequence and will explore social space, adaptive re-use and storytelling. Student research will run in parallel to ‘The Royal Hotel’ project in our office, with the goal of expanding our thinking by exploring potential narratives through site/context (cultural, social, geographical) response while fulfilling the parameters of the client brief. The studio will teach iterative design that grows from the framework and/or idea the client brings to the architect, with the goal to embellish and accentuate that vision functionally and aesthetically. We will encourage collaboration and conversation between course work and project work in the office.

Site / Program
The Royal Hotel, located in Fernie, BC was built following the Fernie fire of 1908. The building currently houses low income residential suites, with run-down hospitality offerings on the main level. This hotel is being renovated / redeveloped by a private ownership group in response to an influx of tourism over recent years.

The building program will include a combination of hospitality (food and beverage) and residential offerings. FRANK Architecture will be involved in a collaborative process to develop the hotel concept and design the interior fit-out.

Students will be challenged to explore the potential of this project by developing a design narrative unique to their individual interpretation, pursuing their research through a directed approach to design development.

Themes may include: Historic preservation, displacement, themed architecture, social/cultural/economic impacts of design intervention, experiential design, placemaking

Available Student Positions: 6

Prefered Skills
Students are expected to have proficiency in drafting, modelling and rendering software.

Deliverables
Section 1 – Site Analysis, Research, Client Intro & Conceptual Framework
The deliverables of this section are as follows:
• Site analysis
• Concept
• Parti sketch / model
• Framework for design
• Compiled concept report

Section 2 – Design Development
Deliverables will include the following:
• Conceptual approach to design
• Floor plans
• 3D modeling / physical model
• Schematic sections / elevations
• Compiled design report

Section 3 – Detailing / Documentation
During the final project phase, students will be asked to take a deep dive into the detailing of a portion of the project most important to their concept. This may be the envelope details, the circulation, strategy or the furniture.
FRANK projects exercise total design, where we pull the conceptual thread through all details of a project. We will encourage students to explore their concept through a few key details, considering human scale and materiality from an experiential perspective.

Deliverables will include the following:
• Key details
• Key material selections
• Demonstration of conceptual continuity
• Compiled technical report

Each section will include lectures by keynote speakers.

Background Links
https://www.frankarchitecture.ca
Site Information
https://search-bcarchives.royalbcmuseum.bc.ca/royal-hotel-baker-avenue-fernie
Hospitality Design Precedents
https://www.avroko.com
http://www.romanandwilliams.com/about-us
Adaptive re-use – Historic Precedents
https://kingeddy.ca
https://cspacekingedward.com
https://www.frankarchitecture.ca/portfolio-item/model-milk/
Zaha Hadid Computation and Design (ZHCODE)

MASS TIMBER HOUSING

Instructor(s): Shajay Bhooshan

Project Description

ZHCODE is a practise-embedded research group focussing on strategic innovations that bridge from disciplinary advances to industrial applications. Our work, guided by our deeply held values of future oriented design also learns from the wisdoms of the past – particularly local and vernacular wisdoms in masonry and timber construction, climatic appropriateness and spatial arrangements and details.

The aesthetics of our designs is a consequence of its physical and social high-performance. They are powered by state-of-the-art, proprietary parametric design software and extensions along with game-engine based, web-integrated, participatory technologies. These tools are a result of over 13 years of dedicated and field-ready research spanning computer graphics, digital design, maturing robotic construction technologies, and historical construction in timber and masonry.

What:
A design research project at the intersection of modern methods of design and construction in timber and vernacular building and material cultures on Canada, particularly Alberta and British Columbia.

Background:
- Geometry based methods of reasoning about shape and construction
- Advances in Digital Manufacturing and Industrial Construction in Architecture.
- Advances in digital design technologies in Architecture
- Need and desires for localisation and cultural adaptation in Architectural proposals

Application domains:
Multi-generational housing or high-value public buildings such as arenas, museums etc.

Available Student Positions: 2-3

Preferred Skills
- Interest in geometry, programming, digital fabrication particularly timber, etc. preferred.
- Interest in game-engines would be beneficial.
- Abilities for self-motivated exploratory research preferred.
- Any programming skills including Grasshopper, would be beneficial, not necessary

Deliverables

Housing project in timber
- Capturing local housing regulations, digitally.
- Developing semi-automated toolkit to design regulation compliant, parametric massing tool and catalogue of results.
- Developing semi-automated toolkit to design space planning to occupy massing generated above, and catalogue of results.

High-value public building in Timber
Final deliverable is a 3000 word research paper appropriate for submission to Academic conference proceedings or parametric toolkit with appropriate documentation such as GitPages or GitBook

Work in Progress to be documented via Miroboards and Slack/MS Teams progress posts.

Background Links & Resources
ZHCODE
http://www.zha-code-education.org/
https://www.instagram.com/shajay/
https://www.instagram.com/zhcode/
https://www.archdaily.com/801031/mathematics-the-winton-gallery-zaha-hadid-architects
https://www.facebook.com/watch/?v=1027996530871439
https://www.digitalfutures.world/workshops-europe-mideast-africa-blog/zahacode

AADRL
http://livingdisruptions.london/?page_id=1940
https://www.autodesk.com/redshift/future-of-urban-housing/

ETHZ
https://block.arch.ethz.ch/brg/people/shajay-bhooshan
Project Description
Public space has always been an instrumental element in a city’s urban planning agenda and, given today’s current COVID-19 pandemic, these urban spaces have resurfaced as spaces worthy of critical contemplation, perhaps reanimation. Today, the public spaces of our cities are more vital than ever. Not only do these spaces have a positive impact on our health, but also provide requisite recreational infrastructure needed to exercise, play, meet and socialize with others. However, perhaps most importantly to this studio, quality public and open spaces are key in facilitating connections across diverse and complex urban fabrics.

The High Level Line in Edmonton AB exists as both an obsolesced, 4.3km transportation infrastructure, as well as an antiquated vestige of yesterday’s social and cultural norms that will provide the site for this senior research studio. The High Level Line (HLL) is a multi-modal thread that connects the north and south sides of central Edmonton, activates a series of high-potential spaces and challenges how well-designed urban infrastructure can change how we not only how we move through, but also experience the city. The HLL has the latent potential to transform the urban fabric surrounding it. It stimulates the surrounding properties and enables a wide variety of uses; retail and residential frontages, dining, recreation, agriculture, celebration, people-watching and reacquainting ourselves with nature.

The studio will be structured around two chapters; Chapter 1 (September/October) entails an 8-week intensive Master Planning exercise, in which we will develop a socially, culturally and environmentally sustainable future for the HLL and its attendant connections with adjacent communities and the city of Edmonton. Chapter 2 (November/December) will involve a 7.5 week infrastructural/architectural intervention (situated within the confines of the Master Plan) that will explore possible futures for the HLL. These interventions could operate at either the scale of the entire HLL, or select section(s) therein and will explore topical architectural/urban planning theory as it pertains to public space, infrastructural urbanism, circular economy/design and urban agriculture. The scale and scope of each student’s intervention will be discussed/evaluated on an individual basis at the conclusion of Chapter 1 with our office.

*This project is a collaboration between Modern Office, Michael Rivest (HLL, Edmonton) and Mikkel Bogh (EFFEKT, Copenhagen), with the City of Edmonton and the HLL Society functioning as a real client. This WIL Studio will expose students to the realities of professional practice including design charrettes/conversations with our team, bi-weekly presentations with the HLL Society and a presentation to the City of Edmonton Planning Commission.

**We would like to arrange a 1-2 day field trip to Edmonton to explore the HLL and meet with the HLL Society (TBD)

Available Student Positions: 7

Preferred Skills
Model Making
Digital Modelling, Rendering
Parametric Modeling a plus

Deliverables
See Description. Additional information to be provided.

Background Links & Resources
www.moda.ca
www.highlevelline.com
www.vanalen.org/project/reimagining-brooklyn-bridge/
www.effekt.dk
Mercedes + Singh

Offsite/Onsite
Prefabricated Hybrids

Instructor(s): Sumer Singh

Project Description
“...I’m not interested in living in a fantasy world ... All my work is still meant to evoke real architectural spaces. But what interests me is what the world would be like if we were free of conventional limits. Maybe I can show what could happen if we lived by a different set of rules.” - LEBBEUS WOODS, “An Architect Unshackled by Limits of the Real World”

Architecture as a discipline is fast evolving, especially through the decontextualizing of research from other disciplines and grounding it within Architecture. The research project at Mercedes and Singh does exactly that through the adaptation of the BIM equivalent modular and prefab strategies used in industries such as energy, hospitality and other apophenic sources. This is done through the development of parametric models applied to contemporary architecture and design, and architecturally decoupled influences.

This research project is as much a manifestation of the digital-physical duality, as it is a means to freedom from conventional methods of creation, freedom to push the design discipline to critically participate in the shaping of an adaptable and fluid methodology of design thinking through materiality, digital and analog fabrication, automation, computation, and technology. It is a response to the fact that the construction and fabrication industry has created standards that limit the executive vision of the designer and architect. This project focuses on the ability of the designer to reanimate the vision of the built environment, provoking a prefabrication onsite/offsite hybrid workflow across scales, that imposes no limit to aesthetics and design intent.

Available Student Positions: 3-4

Preferred Skills
Proficiency in Parametric thinking and Grasshopper skills would be required for this research, in addition to Revit, and the expected skills in drafting, modelling and rendering software. Digital fabrication skills would be an asset.

Deliverables

Expected Contributions to Design Research by Students –
Comprehensive research into processes and technologies, bridging the gap between materiality and digital fabrication, investigation into and the creation of parametric models using various digital tools, making a case for the offsite/onsite prefabrication hybrids through applied research to real world projects.

Anticipated Deliverables –
Research framework and Methodology, Precedent Study, Parametric tool creation through Applied Research and Critical Workflow creation, Sample case studies, Physical model studies

Background Links & Resources

https://www.youtube.com/watch?v=PHFKeMvs-w
https://dfabhouse.ch/
Isamu Noguchi’s “An Important and Unique Table for Mr. and Mrs. Samuel C. Dretzin, 1948-1949”

Parametric Curved Screen (BOLD - OEB)
Courtyard House (MBAC)
Concrete Components
Village Ice Cream (FORT)
Curved Wall Digital , Attabotics (MODA)
Courtyard House (MBAC)
MTHARU Collectibe Fair Brussells 2020
Project Description

While Detroit’s rebirth can be traced to a family of companies and the survival of expert citizens whose “never quit” or “we never left” mantra is hard to ignore or miss across the urban landscape. While the Detroit revival may be attributed to focused investment in its core, the development of marquee community projects in key neighborhoods like Midtown, E. Riverfront, Brush Park, or Corktown are also moving Detroit forward at an impressive pace.

This embedded critical practice studio experience will explore two unique projects in Detroit. The differences between the two sites highlight an opportunity to explore urban scale, urban community development, environment and new ways of living. The research completed in this practice expands on existing and ongoing work by two design entrepreneurs with unique backgrounds and ways of working.

The outcomes will advance students’ representational competency, while developing skills to critically analyze ways architecture and social entrepreneurship can influence change and understanding. We hope this studio will invite students to use the process to expand their expectations on how to work in today’s world, while tackling real design challenges.

The research will explore contemporary issues regarding housing, environment, landbanking, connectivity, and issues related to how people live, work, and play in the future. The goal of this studio is to explore new development ideologies, expand our understanding of urban systems and development, and educate ourselves by facilitating a professional feedback loop with guest speakers, experts, and citizens.

Available Student Positions: 5-6

Preferred Skills
Model Making
Digital Modelling, Rendering
Critical Thinking
Diagramming

Deliverables

25% | Neighborhood Understanding - Interns should curate this work to support your project proposal. Use online research, resources, provided material, and guest speakers to establish a wider reading of your project.

25% | Project Proposal (Criteria/Agenda/Objectives/Parti) - Interns should move quick, yet be resolute with various diagrams, sketches, drawings and study models that explain your intent, process and design criteria. Work should be clearly composed, carefully edited, and titled with verbiage defining and supporting the concept or big idea.

25% | Architectural Development (Plans/Site Plans/Sections/Elevations): Interns will focus on developing articulated massings and working drawings that highlight your proposed objectives and systems.

25% | Final Review and Deliverables: Interns will submit Final PDF on Dec. 4th. Interns should think carefully about what each scale of model is able to describe and allow different scales to convey complementary information.

Background Links & Resources
Garden Court
Detroit Riverfront Area
East Riverfront | City of Detroit
East Riverfront Report | City of Detroit
East Riverfront Development
East Riverfront Development News
Detroit Development Trends
Garden Court Apartments
Garden Court Metro News
Garden Court Metro News
NW Goldberg
Detroit Rehabilitation Zone
NW Goldberg | City of Detroit
NW Goldberg Cares | City of Detroit
NW Goldberg Model Media
NW Goldberg Revitalization Plan MSU | NW.Goldberg Mixed Development
Empathy and Community in Architecture

Instructor(s): Jeff Lyness

Project Description
We are at a precipice in social consciousness that demands a cultural shift in how we respond to the built environment through a more human-centric focus. As architects, we have a responsibility not only to ourselves but to others and more importantly future generations. Empathy and Trust have been systematically reduced by the environments in which we live and work. In order to create meaningful places we must remember how to prioritize reciprocity over authority.

The course will explore the notions of empathy and community and how a human-centric approach to design can proactively respond to the social realities of our current time whilst being cognizant of the impact these decisions may have on a series of contexts including, social, economic, environmental and temporal.

Empathy in relation to community building will be critically examined through a variety of lenses that may include:
- Social Connectivity and the generation of Equity and Equality
- Ownership + Permanence in establishing Dignity.
- Isolation vs. Independence and the Importance of the defined “Third Space”
- Sustainability and Accessibility
- Relationship between Physiological and Psychological health

We will examine how known housing typologies can be redefined or re-assembled with social incubator programming to address and reflect upon current societal conditions and biases. The goal will be to produce a project that embodies the determined ideals of the group through an intervention of an integrated public realm and architectural built form with a program to foster community-led regeneration in an urban context.

At the onset, each student will be required to determine a critical engaged position on Community and Empathy in architecture interpreted through a lens of their own personal perceptions and experiences. These will in turn inform the establishment of group determined Design Parameters that the group will incorporate into each individual project design.

Accessibility is assumed to be a common denominator throughout the design rather than an add-on element to meet a specific requirement. Please consider the following statement regarding accessibility: “It is necessary for some, good for many and comfortable for everyone.”

Preferred Skills
The students will be required to engage in both traditional and non-traditional forms of representation.

Deliverables
Design research and establishment of guideline principals for empathic design based upon community,
Demonstrated understanding of the communities and end users socio-demographics and applicable municipal documents.
Documentation of the overall project to a schematic level.
Documentation of selected defining element(s) of the design to a Design Development level
Documentation of detail(s)
Diagrammatic explorations of project, site and programmatic relationships
Documentation of the design process – sketches, study models, massing studies, diagrams etc.
3D Model of the Project – Digital or Physical
3D Renderings – min. 4 which represent the intention and approach of the project.
- Min. one interior and one exterior.
2D documentation of the project will be inclusive of: site plan, floor plans, building sections (min. 2), elevations, determined details.

Final deliverable will be a concept brief / proposal that outlines the determined stance on Empathy, established Design Parameters

Background Links & Resources
- MLK1101 SUPPORTIVE HOUSING BY LOHA ARCHITECTS
- NAVY GREEN BY FXCOLLABORATIVE, CURTIS + GINSBERG ARCHITECTS, ARCHITECTURE IN FORMATION
- ARBOR HOUSE BY ABS ARCHITECTS, DANOIS ARCHITECTS
- Inclusion by Design – Equality, diversity and the Built Environment; Published in 2008 by the Commission for Architecture and the Built Environment.
- https://agile-city.com/topic/social-innovation/
- https://medium.com/ravenandwood/designing-with-and-for-empathy-3dcb04d1141c
- Cities Alive – Designing for Ageing Communities

Available Student Positions: 2-6
FARMOR Architecture

CULTURAL PAVILION

Instructor(s): Farhad Mortezaee

Project Description

Although Canada is a mosaic of many cultures, this beautiful diversity is often not reflected in the built environment. This is in large due to the mass-produced building materials and commercialized architecture resulting into a monotonous urban sprawl that is void of any extensive cultural connections to the community in which it resides. As a result, architecture’s ability to be more vocal of the local context is limited to a small selection of materials readily available as “off the shelf” and subsequently comes to very closely resemble one another regardless of the context, city or country. More and more, we are forced to rely on residual pieces of land left behind by gentrification to develop them into unique places that have a sense of self identity and community expression. Although these can be amazing public realms that can thrive and eventually become welcoming dwelling points to passersby, they often lack an architectural element that goes beyond commemorative statues and benches with plaques.

To address this, students will be asked to research, analyze, and discuss a community’s cultural facets through the lenses of history, density, typology, demographics and character. Furthermore, they will address and challenge certain established facets in the form of an intervention on a select site. Students will be encouraged to use a wide range of CAD software and digital fabrication technologies to develop their pavilion design and demonstrate its construction. This course will explore the themes and facets of culture within the Canadian context and how it can take shape in the form of a pavilion that can be utilized by members of the public throughout the year. The desired project will be a design for a structure that bridges public art and architecture. Students will be asked to explore the following themes in their studio projects.

-Community scales: Identity the boundaries of communities at different scales and how the built environment can impact this perception.
-Density: Explore the role of density and how it shapes community identities.
-History: Consider key historical milestones that can be drawn upon and continues to affect the community.
-Character: Explore the notion of character, the different connotations, impacts, and values.
-Geography and Climate: Consider climatic conditions, limitations, and opportunities.
-Demographics: Explore community demographics and how they impact urban conditions.

-Concept: A singular key concept derived from the interpretation and analysis of their research that will drive their project

-Constructability: The projects must be sufficiently detailed and the students must demonstrate how the pavilion will be constructed.

As an example, our practice developed a design for a Persian Pavilion to be digitally fabricated and used by everyone.

Themes to be considered in these digital fabrication projects may include:
-3D modelling and constructability
-Technical building envelope detailing
-Structural design considerations
-Building systems
-Cultural Diversity, Inclusion, Pluralism and Social Justice through the Built Environment.
-Simplifying an increasingly complicated technological process.

Available Student Positions: 2-6

Preferred Skills
Rhino, Grasshopper, Sketchup, Lumion, AutoCAD, Revit

Deliverables
Presentations & Short Papers (400 words each)
Reaction Papers
Prototypes and Models
Final Project Drawings, Renderings and Descriptions

Background Links & Resources
www.fmarch.ca
https://www.calgary.ca/cspc/cns/research-and-strategy/research-and-resources.html
Digital Design Exercises for Architecture Students Paperback – Illustrated, 2016 by Jason S. Johnson (Editor), Joshua Vermillion (Editor)
Instructor(s): Jason Johnson

* This course has a co-requisite. Students taking this course must also take the Integrated Design elective taught by Guy Gardner. Places in the elective are being held for students in this section.

Project Description
The ceiling as an architectural device has a long historical tradition in the discipline. This studio will examine that history through a series of precedent studies that focus on the roles that patterns and materiality play specific to two aspects of the surfaces over our heads; Spatial Definition and Acoustic Performance.

The studio will explore these through a process of digital simulation and physical prototypes. The client for these projects is the University of Calgary with support from the Student Wellness Program. The studio will explore a number of spaces that are currently inadequately designed for acoustic performance and require remediation measures to increase their functionality across several functions. These requirements will co-exist with aesthetic considerations developed by the studio through simulation techniques that investigate pattern and materiality as tools for controlling sound and creating spatial demarcation.

Students should be prepared to learn and use parametric software for simulating sound, developing machinable parts and creating drawings and models that allow for the production and assembly of the proposals.

Available Student Positions: 2-6

Preferred Skills
Rhino
Grasshopper
Experience in Fabrication

Deliverables
Deliverables include scaled models, acoustic simulations, scaled drawings and a final full scale mockup installed in a room provided by the university.

Students will need to be present in Calgary in order to work in the shop and make site measurements.

Work will be completed in teams.

Background Links & Resources
www.integrativedesign.org