LETTER FROM THE ASSOCIATE DEAN

Welcome to Sheridan’s School of Architectural Technology inaugural printed portfolio! I hope you find this compendium of architectural works by our students as inspiring as I do. The pieces enclosed are a selection each student’s best creations during their years of study, and as such offer a window into their future. One of my favourite aspects of our School is the uniquely equal blend of design, construction, legislation, and graphic representation curriculum we offer. As students mature, they gravitate towards areas of their interest and emphasize those preoccupations in their creative works. So, as you browse through our book, take a moment to peek behind the curtain of the images and consider what inspired the students to first create, then select them. Do they emphasize design, construction, or graphics - or a combination that marries these together? Can you see the influences of their cooperative education term or history class? Will they become a design technologist, a building official, a project manager, or a computer animator? What do you see in their future?

It is difficult to predict the future, but as a graduate of our Architectural Technology (Co-op) program (class of ’95), I know that our graduates are prepared for whatever it brings, and I look forward to their many successes! I invite you to browse our portfolio and consider the future with us.

Dave Wackerlin, M.Ed, B.A.
Associate Dean
School of Architectural Technology and
School of Skilled Trades and Apprenticeship
ABOVE: New HMC facility for the architectural technologist/technician programs at Sheridan
Courtesy: Moriyama and Teshima Architects
Image Source: Staedler Online Store
LETTER FROM THE EDITOR-IN-CHIEF

This volume of is a celebration of the achievements of the Sheridan Architectural Technician/Technology program. Much of the content presented here has been incubated in CADD39788, Architectural Computer Visualisation. Inside you will find an amalgamation of student and faculty work put together into a publication that reflects the rich theatre of creativity and complexity that is architectural education here at Sheridan.

Student work within the magazine is from the last year of studies in the Architectural Technology program. Each student has selected their best work to represent some of the skills that they have learned over the years as part of our school.

Faculty work is a selection of research, teaching, and professional projects that represents that quality and diversity of educators that serve not only as teachers, but also as mentors to our students. They showcase the talent and skill of some of the individuals that make our program a reality.

We hope you enjoy the publication.

Adrian Bica, B.Arch Sci, M.Arch
Editor-in-Chief
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HOUSE IN FOREST
Muneet Singh, Vikas Patel, Mohammed Al-Hamdi

House in Forest is a proposal that showcases the coming-together of nature and contemporary architecture. This unique single-family home is comprised of clean, geometric forms often overlapping to create overhangs and other enjoyable pockets of space. The house has a staircase enclosed in a glass box which is floating over an underlaying garden as a main feature at the entrance. All materials used in this house are thoroughly modern: off-form concrete, metal, glass, and aluminium. The structural elements are made of reinforced concrete while the roof on the top floor is made from metal sheets filled with heat and acoustic insulation. For the ground floor, the flat concrete roof has a layer of gravel to prevent heat from entering the building.
ABOVE: Building elevation/landscape section looking towards North facade

ABOVE: View along pathway leading from main road to proposed forest dwelling
ABOVE: Rear view of the house

ABOVE: First Floor Plan
1. Kitchen
2. Storage
3. Living Room
4. Dining Area
5. Office
6. Powder Room
7. Guest Bedroom
8. Guest Washroom

ABOVE: Second Floor Plan
1. Master Bedroom
2. Master Washroom
3. Closet
4. Prayer Room
5. Bedroom 1
6. Washroom 1
7. Bedroom 2
8. Washroom 2
9. Roof of First Floor
EBENEZER HALL ADDITION
Ryley Harris, James Suttak, Farwa Aslam

The Ebenezer Hall Addition is a daycare proposal to the Ebenezer Community Hall heritage structure. The site is located at Gore and Ebenezer roads, in Brampton, Ontario. It is important not to overshadow the original building, while at the same time design an addition that embodies architectural merit on its own. There are design elements taken from Ebenezer and echoed in the design of the addition. The roof slopes are half those of Ebenezer’s roof, and material change lines in the elevation have been maintained. For the original Ebenezer building, a line of symmetry is used on the front elevation. In contrast, a line of asymmetry was used in the addition.
HYDE PARK LIBRARY
Pawanpreet Banwait, Juan Ortiz, Soni Hanspal

Hyde Park Library aims to bring the community together and in the process, advance learning, communication, physical activities, and socialization skill development. Our design recognizes a connection with nature and considers the rehabilitation between green space and the community. We focus on sustainability in design and energy consumption as it relates to comfort. The design of the community centre focuses on circulation, barrier free access, program functionality, zoning by-laws, building code requirements, as well as the beauty of the building within the surrounding landscape. This is not just a library but a place that connects communities. The design was made bearing in mind that it would be accessed by people of all ages.
ABOVE View: Hyde Park Library as seen from the roadside

LEFT: Perspective view of the Library
MY TINY HOUSE
Amish Patel

The Tiny House movement is a architectural and social movement that advocates living simply in small homes. As there is no set definition of what is considered a tiny house, anything under 600 square feet can be typically accepted as a Tiny House. Not only does this design implement the tiny house concept, it is also a design solution for sustainable housing. The sloped roof is used for solar panels. The sloped roof is also used to redirect rainfall onto an accessible green roof. The walls are thicker than usual and have a higher R-value, which results in HVAC efficiency. The proposal is integrated within a natural setting taking advantage of beautiful surrounding views and access to green areas.

ABOVE: Exploded axonometric diagram of major project elements
1. Kitchen
2. Bedroom/Living Space
3. Washroom
4. Storage
5. Living Space
6. Partially covered exterior space
7. Accessible Green Roof

ABOVE: First Floor Plan

1. Kitchen
2. Bedroom/Living Space
3. Washroom
4. Storage
5. Living Space
6. Partially covered exterior space
7. Accessible Green Roof

ABOVE: Second Floor Plan
The Yue Lin house is a project created for the House in Forest international architectural design competition hosted in the winter semester of 2017. The site with which I was presented, was challenging in that it was 90% covered in a mature, forested area. The site is part of a continuous greenbelt that edges the road along beach front. This house is a stylish home erected in the woods of Bronte Creek, Ontario. Being under the trees, cooling is not a problem for this house during the summer months. The placement of windows allows residents to maximize sunlight for illumination purposes. The natural exterior materials blend the proposed house into the surroundings, creating a well-suited juxtaposition between architecture and forest.
ARTIST LIVE & WORK LOFT
Sarah Mahdi

The Artist Live and Work Loft provides a space for families to live and work comfortably in the shape of a contemporary addition, attached to a traditional building. The ground floor is designated for business and retail spaces, while the upper levels are dedicated for residential use. The addition of the crystal located on the southwest corner will be a three-tiered lounge where families and co-workers can relax while capturing the morning sun. The crystal leads upwards to a party room which can be rented out by residents for special events. The party room will then flow to a rooftop garden where residents can relax after a long day of work and take in the Toronto skyline.
ABOVE: South West view towards glass enclosure
OMOTE HOUSE
Paulina Kozera, Hassan Mahmood, Patrick Nguyen, Mark Flores

The Omote House takes place in Omotesando, a region filled with multipurpose homes that often including both business and residential. Omote House derives its name from the district where it is located named Omotesando. In Japanese Omote translates in to ‘the public face.’ The house provides a home where there is a relationship between the work space, living space and the city. The Omote House embodies a functional home designed with a modern approach as seen in the various sleek geometric volumes. The Omote House sets the new standard for building within Omotesando, as a more captivating form of residential abode. Tokyo, through its constant transformation, calls us to reflect on tomorrow’s challenges and the changes in residential living as we move into the future.

ABOVE: A conceptual diagram representing the relationship between each level of the home as well its vertical section.

ABOVE: Living room located on the first floor.
ABOVE: A section render displaying the correlation between each floor and the confined site.

ABOVE: Floor plans of the Omote House starting from the First Floor on the left to the rooftop terrace on the right.

LEGEND
1. Kitchen
2. Living Space
3. Washroom
4. Bedroom
5. Open Concept Work Space
6. Roof
ABOVE: Close up view of the front elevation, illustrating the various materials proposed.

ABOVE: View of the front facade of the Omote House from the main street.
The Living and Working in Tokyo Proposal was designed as major class project in Architectural Computer Visualization for a competition called Living and Working in Tokyo. This small-scale project is designed for Commeresidence Development and contributes a fresh approach to Tokyo’s urban fabric. A 4.2m wide building hosts a mixed program, linking home and work space areas. A welcoming entrance leads towards the lower ground floor and upper ground floor. Public and private spaces are separated by the use of different levels. The lower ground floor has office space. It has fully-glazed walls from top to bottom, in order to maintain its visual connectivity with the busy street outside, and thus attract customers. The upper ground floor has private spaces, including the kitchen, dining and living room. The upper ground floor leads towards the second floor which contains a bedroom and washroom. Maximum utilization of spaces is important to all floors. Façade design, colors and textures are chosen to give the building a contemporary look.
The design concept for the Hyde Park library & community centre was inspired by an open book. A book is a symbol of knowledge and information; the open book represents the building’s function as a way to engage the community and act as a gathering place where people can learn from each other and from all the resources that the building has to offer. We took this concept and designed the shape of the building to follow the forms of an open book, using an exaggerated "V" shape. We continued this theme throughout the building, having the stories stacked and offset to represent books that have been piled on top of one another. We offset the second floor to help accentuate the represented offset book stack. At the very top of the building we incorporated an open book crown which is visible from far away. The proposed site is situated right in the centre of Hyde Park, London, on the edge of the waterfront. The views from this building let the users experience the scenery of the surrounding area, bringing the outdoors in. The building’s large glass atrium is an essential feature of our building bringing the light and views in, while showcasing the unique intertwining staircase in the front lobby. The building incorporates large windows, plenty of terrace space, and seating areas creating a unique atmosphere where the community can escape into a book.
AERO ROAD
Jonathan Pivato

This project was issued in the winter semester of 2017 at Sheridan College. The task was to increase our skills in making buildings with interesting shapes and curves using massing. This design was inspired by Toronto City Hall. The dimensions of its wings are similar. This design incorporates one central bowl which acts as an entrance for people to gather. It rises three stories, with a beautiful double helix winding staircase ascending the middle. The top floor of the bowl serves as a green roof where people can gather and socialize, while facing a beautiful southern view of the waterfront. The rest of the building can be used as a library or office building.
ABOVE: View looking at rear of building from nearby body of water.

LEFT: 3D render showing view through centre of building volumes.
1056 QUEEN ST. WEST
Jonathon Tirabassi

1056 Queen St. West project is a proposal located in Toronto in the trendy Queen Street West neighbourhood. It is meant to be an artist live-work loft with a cafe and art gallery on the bottom floor and apartments on the upper floors. This building includes a green roof and many outdoor spaces to enjoy. The cafe on the bottom floor opens onto a patio which faces south and provides lots of light for the area. The materials used are mainly brick and glass. These materials are very similar to other buildings in the surrounding area. To spice up the building, a metal lattice was designed to wrap around the building. This gives an interesting feature to look at from both inside and out. The design concept for this building is similar to that of an artist's mentality. Artists do their work with the purpose of attracting attention and piquing the interest of an audience, all the while refining and updating their style to conform to the ever-changing tastes of the public. Much like an artist, the concept of this building is to attract the attention and pique the interest of the community, while updating the ever-changing style of Queen Street by incorporating a modern look to the building. If this artist live-work loft is to house artists, then it is fitting that it attract the attention of such minds. Through its form, this building will inspire its residents to create without boundaries, in a professional atmosphere, their personal work. It will express to the community through its form, that its use is for art. Like art piques interest and thus attracts attention from a crowd, so too should the building attract attention. It will bring people together to congregate, both inside and outside. The building will pique the community’s interest as they look at, not just a building, but livable piece of art.
ABOVE: View looking at rear of building from nearby road

ABOVE: 3D render showing the front corner of the proposed structure
AESTHETIC HAUS
Mark Flores

The Aesthetic Haus is a three-storey commercial building located on the corner of Queen Street West and Dovercourt Road in Toronto. Given the artistic and creative nature of the district, the Aesthetic Haus has much to offer in the sense of promoting art, style, culture, innovation, and creativity. The building showcases floor-to-ceiling glazing on the first and second floors to showcase art and installations, displayed not only within the building, but also outside for the public to see as well. On the first and second floors, we have a retail space, while an art lounge/photography studio take up the entirety of the third floor, both inside and out. The roof has access to terrace space as well as a feature wall that provides a great backdrop for photography sessions. Full brick wall cladding on the south and east walls allows artists to showcase their street art. This, and show-piece elements like the feature stair on the main corner, are all a number of examples of how the AESTHETIC HAUS delivers to the creative

LEGEND
1. Third Floor Studio Space
2. Roof Top Terrace
3. Second Floor
4. First Floor Retail Space
5. Feature Stairs

ABOVE: North West corner showing the feature stairs and new third-floor expansion.

ABOVE: First floor. Located in this space are retail, checkout and store backroom.

ABOVE: Second floor. Located on this floor are retail space and showcase space.

ABOVE: Section cut showing the three floors.

ABOVE: Third floor. Located on this floor is the employee lounge, roof terrace and photography studio.
ABOVE: First floor open retail space
BELOW: Building set on the busy street corner of the
        Art District
THE PALETTE
Hassan Mahmood

The Palette provides Toronto artists with a means to live, work, create, and collaborate. Located on the corner of Fennings St. and Queen St. West, it will be the heart of Toronto’s art + design district. It provides artists with vast art galleries and studio spaces on the first and second floors, with residential live/work loft units situated on the upper storeys. The Palette aspires to cultivate all kinds of artists. The origin of the name for the building comes from the shape of the building. The base of the building is inspired by an artist palette. As a palette carries a range of colours, the building hosts a variety of artwork. The building’s architectural feature is a 6-storey cylindrical tower which represents the hole that is used in a palette where you place your thumb for support. It functions as an attractive core aspect of The Palette as it draws attention from either side of the street.
ABOVE: Outdoor patio space located on the North East corner of The Palette.

ABOVE: The Architectural feature of The Palette; The Glass Tower

ABOVE: The Art Gallery within the proposal featured on the First Floor
LIBRARY IN THE PARK
Matt Tam, Amish Patel, Eric Cheng

The Library in the Park is a proposal created for an international architecture competition that questions the role of libraries in the digital future we are approaching at an ever-increasing rate. In this community centre we have a library, kids zone, and art gallery. The design concept of our community centre is revolves around modernist principles and embodies clean, simple, edges and volumes. Our community centre’s shape is a square with a semi-circle in one of the corners. That semi-circle is located at the main entrance. It is made of glass and contains a translucent roof to let in natural sunlight. We chose the rest of the building to be the shape of a square because it is most space efficient proportion for our proposed green roof. We have paneling with different sizes and shapes to give the building a modern expression.
ABOVE: Proposed library main entrance walkway through landscaped areas

ABOVE: Library as seen from across the lake
ART ESCAPE
Yu Wei Cheng

Art Escape is a place where artists share their work with the community. This building has three art gallery spaces for artists to display their art work. The proposal includes two artist studios. A relaxation room is also included for people who need a temporary getaway. We have implemented a green roof which includes a walk out patio for people who live on the top two floors. With the step down design of our building, we are privileging light penetration through the structure’s facade. The building intends to enrich the area with the arts, in order to foster a cultured and stimulated neighbourhood. This multi-design building allows artists the opportunity to live with their family and at the same time work in any of the studios in the building. Outdoor patios are design for people to enjoy the outdoors while they are in the proposed building.
ABOVE: Rendering of front entrance

LEFT: Pastel sketch entrance rendering
BELOW: Exploded isometric diagram
EBENEZER DAYCARE CENTER
Vikash Patel

The construction date of the Ebenzer Schoolhouse was between 1891 and 1892, and operated as such until 1962. It then served as the local town hall until 1973. It is currently owned by the City of Brampton. It was designed and built by local craftsmen Harry Hill and Frank Hewgill. The style of the schoolhouse is reminiscent of the vernacular Gothic Revival style, with the building exhibiting brick masonry buttresses, a steep-pitched roof with a centre bell tower and symmetrical window arrangements on all facades. The Ebenezer Daycare proposal is intended to breathe new life into an existing building, prolong its life and re-integrate it back into the neighbourhood from which it has been isolated for so long. The Ebenezer Schoolhouse has been designated as a heritage resource under the Heritage Act 2006, and therefore requires full municipal approval for any development that occurs adjacent to the property, or alterations to the existing building.
ABOVE: Ebenezer Hall with new proposed building behind for Day care centre and kids’ outdoor play area in middle.
The design concept of our House In Forest proposal looked at renovating an existing structure with contrasting contemporary features. With tweaks to the building massing, the structure will thrive in a forest environment. The house is a four-bedroom home with two balconies on the second floor. The house uses a large number of curtain walls and large windows to display modern architectural features. The house includes a green room on the first floor, beside the foyer. A recreation room has been implemented which has a circular curtain wall design. The interior provides circulation throughout the home. Most of the interior walls are the same size. The floor is comprised of hardwood. The rear of the home has a deck, which extends to the green room. The house is sustainable because it features materials that are natural, along with a green roof and rooms which are accessible.
The Ridgeway Community Centre is a library/art gallery designed to bring the community together through well-designed indoor and outdoor spaces. The exploded axonometric diagram to the right illustrates the relationship between floors and also shows how light enters the building. The first south elevation shows the relationship between the library and the body of water outside, that gives the readers a beautiful, calming view. South views are oriented towards a nearby park. This welcoming view attempts to bring more people to the community centre. The east view rendering shows the structure placed in context. Large lush green areas surround the community centre and large windows offer visual connections to the outdoors. The plans below illustrate the space planning of various essential community centre functions brought together under one roof.
ABOVE: East view from park

ABOVE: Building cross section

1. Kids Zone
2. Library
3. Art Gallery
4. Atrium
5. Manager’s Office
6. Classroom
7. Loading/storage
LIBRARY & COMMUNITY CENTRE
Paulina Kozera

Through the Library Community Centre proposal our team aims to create a space that offers a new centre to the neighbourhood. This was achieved by creating large open spaces complemented with activity and educational areas. There are also many features that people might see and want to see, such as a splash pad and an outdoor skating rink. The materials that were used fit in with the theme of nature, and are primarily wood and stone. There is also a lot of glass on the building which lets plenty of natural light into the structure. The community centre has an exterior seating area which provides sunlight to users along with the tabletop games incorporated into the area, such as chess, checkers, and snakes and ladders. The centre of the community centre has a light-well, bringing light to below.

ABOVE: First Floor plan of proposed library facility

ABOVE: Second Floor plan of proposed library facility
The concept behind the NFK Community Centre evolved from an exploration of texture and form. The structure’s exterior consists of Brazilian wood veneer and dark stone wall cladding. One of the principles behind our design is the use of dominance/emphasis. The emphasis is created by contrasting the size of our different roofs and colours of our exterior materials. The dark stone wall cladding contrasts with the Brazilian wood veneer by making it seem more vibrant. The focal point of NFK Community Centre’s exterior design dominates as a whole. In terms of sustainability, our green garden terrace reduces our carbon footprint. This also improves water management and stormwater runoff. The second floor encompasses modern clerestory windows thus adding a substantial amount of natural lighting, minimizing the use of artificial lighting.
1. Security Gates  
2. Loading Docks  
3. Reading Areas  
4. Book Stacks  
5. Kids Zone  
6. Atrium  
7. Exit  
8. Utility  
9. Storage  
10. Overhang Above  

ABOVE: Surrounding architectural landscaping  
ABOVE: Pathway through Library grounds  

ABOVE: First Floor Plan  
1. Multi-Purpose Room  
2. Balcony Garden  
3. Art Gallery  
4. Lecture Theatre  
5. W.C.  
6. Maker Space  
7. OTB  
8. Classroom  

ABOVE: Second Floor Plan  

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SUSTAINABLE DESIGN DUPLEX
Bryce Jarman

The inspiration behind the Sustainable Design Duplex was to explore sustainable design strategies for multi-unit homes which are becoming more and more popular in a red-hot Toronto-based real estate market. The goal was to incorporate sustainable features and use them to shape the building. I chose to design a duplex as I believe that making the most of our land is the first step in sustainability. The main sustainable features for this design focus on rainwater harvesting, natural ventilation, and solar mass and gains. My favourite part of this project is the inclusion of a rammed earth wall system in the design. I learned of this wall type throughout the class, and not only is it a sustainable design, it also is a great looking feature when designing any structure.
SINGLE FAMILY HOUSE
Soni Hanspal

Single Family House is a structure maintained and used as a single dwelling unit. Even though a dwelling unit shares one or more walls with another dwelling unit, it is a single-family residence if it has direct access to a street or thoroughfare and does not share heating facilities, hot water equipment, nor any other essential facility or service with any other dwelling unit.

ABOVE: First Floor

ABOVE: Second Floor

1. Living Room
2. Dining
3. Kitchen
4. W.C.
5. Bedroom

6. Storage
7. Foyer
8. Laundry
9. Powder Room
ARTIST WORK/LIVE LOFTS
Tyler Pennington

Artist Work/Live Lofts is located on the corner of Queen and Fennings streets in downtown Toronto. It contains artist work/live lofts for low-income artists. This building inspires the artists living in it and is also a landmark in this very urban part of Toronto. The design concept of this building combines urban and modern - with the modern building coming out from underneath. It also has a cafe and a gallery on the ground floor for the artists to show their work, and to get the public interacting with the building. The structure juxtaposes masonry with large portions of glass, creating a unique play between light and heavy materials which seemingly peel away from a concrete understructure. The spatial planning is achieved by wrapping units around a singular central corridor that acts as the building’s backbone privileging the units with exterior building facade space, for views to the surrounding city.
ABOVE: Perspective view from across the street looking towards main building entrance
The driving force behind the design of the Mississauga Community Library is an appreciation of simple, clean, geometric forms. The building's shape consists of numerous corner designs that are recessed in and out of different spaces creating spatial variety throughout the structure. The library and art gallery consists of curtain walls around 3 sides to allow maximum sunlight for artists to display their work. The size of the lot of the project was very large, allowing lush vegetation around the building's perimeter. The facades aim to embody a contemporary style through evenly-spaced panes of glass creating the entirety of the curtain walls.
ABOVE: Rendering of rear garden
BELOW: Rendering looking towards main library entrance
FACULTY WORK 57-80

KENNETH SNEll
DAVID PETERSON
RAMIRO NOLASCO
TAwFIK KETTANAH
JORDAN MARTIN
VITO PICICCI
ADRIAN BICA
DAVE WACKERLIN
DANIEL RAFIQUE
People, machines and buildings scrabble along narrow alleyways
intentions colliding in too small spaces.
Jockeying for room and the attention of others
one idea replaces another-
undercutting, intersecting, overlapping, combining
embracing or refusing,
melding or subsuming
obliterating - integrating.
they form haphazard edges along a jumble of facades.
Change incessant layers inconsistencies over time
with thousand-year-old cathedrals
lining two thousand-year-old stone roads
built by the Romans while
fragile transparent contemporary glass towers look on.
Is the city coming apart or coming together?
SKETCHING, CREATIVITY AND POSSIBILITY
... THE SEEN AND THE UNSEEN, Kenneth Snell

unseen ideas wait to exist
in a state of nothingness
A formless potential to be drawn out of your mind
At the tug of a line.
The tip of your pencil is both everything and nothing.
We stand at the threshold
between the past and the future...
Between thought and action...
Sketches direct the viewer’s gaze outward toward seen objects – small slices of the universe – and simultaneously inward towards the imaginative world of the person holding the pencil, igniting endless potential reveries while inserting the viewer into the creative process where they discover a world of endless possibility within themselves...

Fascination is the threshold of a daydream...

the motivator of reverie and imagination.
PlanterBOX · A TWO-FAMILY RESIDENCE, 2016
Faculty: David Peterson

Families within cities need more housing options, particularly families with young children. The “PlanterBOX” project, situated on a ravine lot in Toronto, creates two modest-sized suites within a two-storey detached house. A second floor landscape wraps the principal suite on two sides. This floating landscape is naturally irrigated by rainwater from the white roof. The sloping roof lines, which direct the water, dramatically shape the interior space. The windows to the ravine capture its remarkable beauty and serenity. While the balcony and patio provide outdoor rooms for each family to witness the ravine’s subtle shifts in wind, colour, and light.

Architect: David Peterson Architect Inc.
Structural Engineer: Moses Structural Engineers
Mechanical: Paul Shrigley Engineering
Construction Manager: Modern Dwellings Inc.
Photography: Revelateur Studio
ABOVE: Principal Suite, Ravine view in summer.
TEACHING PHILOSOPHY

Faculty: Ramiro Nolasco

Be Engaging

I have always tried to engaged my students in the learning process by preparing activities that they can experience firsthand. After the activity, they are called upon to reflect on and dig deeper into the subject matter by sharing what they encountered as they were participating. Being engaged means being present and absorbing the lessons that unfold before their eyes. I once asked students what they would call somebody who keeps on talking even if the audience is no longer listening - a teacher. I laughed at their response and was bemused by it at the same time.

Be Focused

Students can easily lose their established goals for why they are studying or what they are trying to learn. I always try to keep their sights set on the direction of their dreams. At the same time, I make them aware of the reality of their options in our industry. It is important for them to know where they are going, since knowing furthers the means to get there. Being focused allows the students to concentrate on the essentials and make good decisions along the way.

Be Reflective

All of the activities done in class are a source of inspiration or a tool for learning other things related to the experience. Reflecting on the lesson itself, from the perspective of that lived experience, is an entry point for the students to decipher and codify the many ideas that can come from participating in the task assigned to the class. They are often surprised by the varied conclusions each student derives from the exercise. From this comes a wealth of ideas, for myself included, which can be used to prepare other materials for my classes.
THE DIGITAL WHITEBOARD
Faculty: Tawfik Kettanah

Sheridan Architecture faculty often push the boundaries of technological advancements and Tawfik Kettanah is no stranger to forward-thinking technologies in the classroom. He specializes in structural engineering and delivers his subject matter using a digital whiteboard. Tawfik describes it as a device which captures the activities conducted in the classroom. It offers the opportunity to rewatch, review, and re-engage previous lessons that may have been challenging and/or difficult to grasp. This includes written instructions, such as text, equations, and sketches as well as video clips, audio of the instructor, and classroom narration. This mode of academic delivery offers unique benefits to both the students and the teacher.

Student Benefits:
As the teacher presents lecture material, students often struggle to keep up with note-taking. While this process can be a great way of learning for some students, other students find competing attention between the lesson and note-taking can often lead to a diminished understanding of the presented content. With the digital whiteboard, a variety of student learning styles are accommodated, which increases the likelihood of student comprehension and success.

Teacher Benefits:
In addition to saving money on whiteboard markers and erasers, teachers benefit from the digital memory of the class. This reduces the likelihood of follow-up inquiries. When students engage through the digital whiteboard, much of the pressure of email inquiries subsides. Students need not reach out directly to the professor for clarifications on content covered in class.

The use of the digital whiteboard offers a unique technological teaching and learning tool that not only engages students, but also excites professors with the potential of innovation that it presents within the classroom environment.
Civilization is faced with ongoing threats related to the consequences of our abuse to the natural environment. There are threats of vast forest fires, impacts to micro climates, threats to water availability, the rise of sea levels, increased tropical cyclones, everlasting droughts, and the disappearance of the permafrost. So, what if these disasters were to occur individually or even simultaneously? What parts of the world would be affected and what parts would remain safe, inhabitable zones? With this in mind, we ask: How will the natural environment change and influence the future of urban form? How will countries deal with these issues?

Project Location: Corktown, Michigan
School: Lawrence Tech University

ABOVE: Zones identified in relation to past and potential disasters
MAXIMIZED IMPACT: A compilation of all 7 environmental impact layers are illustrated showing the areas threatened by a “maximized impact”.

INHABITABLE “Safe Zones”: In the worst case scenario only “39.6%” of the land in United States will be safe for inhabitation.

ABOVE: Proposed city systems in response to regional disaster parameters
The new Hazel McCallion Campus North (B-Wing) building was designed as a “Living Laboratory.” The building has the potential to achieve LEED Gold certification. It showcases full-scale building component mock-ups adjacent to constructed assemblies. Exposed ceilings make architectural, structural, mechanical, and electrical elements visible. Glazed partitioning to mechanical systems illustrate Sheridan’s efforts towards energy and water usage consumption monitoring. These are all great features in and of themselves, but how do they engage students? How do these windows into the construction of the building actually benefit the student body?

Building on the saying that a picture is worth a thousand words – we do it by showing them. Photographs were taken during the construction phase over a 2-year period. These photos are both detail-specific and wide angle, and will be integrated into the curriculum of Architectural Studio, Architectural Detailing, and Building Materials classes. Faculty will have access to over 1500 photos of HMC North. A similar project is underway for the new Skilled Trades Centre (A-Wing) at the Davis Campus in Brampton.
EXPLORATIONS IN THE BENDING PROPERTIES OF POLYSTERENE, 2014

Faculty: Adrian Bica

Faces is a shell-like installation composed of an interior steel frame, providing structural support to hundreds of polystyrene panels that comprise two sides of a human head. The installation explores how a system of constraints influence the resultant form. Using parametric software, surface geometry was subdivided and panelized into hundreds of polysterene panels that were fastened to an aluminium frame. The two sides of the head open up to allow a small tree planted at the center of installation to penetrate through the separated membranes. The installation was located near one of the main entrances of the University of Saskatoon for one year. The installation celebrates mental expansion and growth.

Project Team: Adrian Bica, Dimitri Karopoulos
Polysterene, Steel
Collaborators: City of Saskatoon
College Drive, University Drive, Saskatoon
Photography: Juli Labrecque

ABOVE: Exploded diagram of installation components surrounding the central tree

1. Tree
2. Subdivided Face Geometry
3. Two-Inch Aluminum Frame
4. Frontal Subdivision Assembly
5. Lateral Subdivision Assembly
6. Top Subdivision Assembly
7. Rear Subdivision Assembly
8. Polysterene Panels
9. Foundation Below Grade
10. Tree Root System below Foundation
LEFT: Thousands of rivets fasten polystyrene panels to create the overall form.

LEFT & ABOVE: Photographs of the completed installation in situ.
WINTERLUDE PAVILION, 2015

Faculty: Adrian Bica

The Winterlude Pavilion is an experimental structure designed & built by Adrian Bica and Dimitri Karopoulos for the National Capital Commission in Ottawa. The project involved designing novel bamboo connection details allowing multiple members approaching from unique angles to converge at specific points throughout the structure. The detail involved slicing the bamboo along its length and inserting aluminium plates fastened to the bamboo through pipe fitters. Once the structure of the pavilion was in place, individual hexagonal aluminium frames were threaded with light-conducting lines emanating colourful lights from LEDs along the frame. The project was showcased in Confederation Park in Ottawa for Canada Day 2015 and was later donated to Ryerson University.

Bamboo, Aluminum, Chalk Line, LEDs
Collaborators: National Capital Commission
Confederation Park, Ottawa, Canada
Design Team: Adrian Bica, Dimitri Karopoulos
Photography: Younes Bounhar
LEFT: Bamboo frame fastened with aluminium fasteners creating an icosahedron

ABOVE: Winterlude pavilion photographed in Confederation Park, Ottawa
ABOVE: Dave Wackerlin & Jordan Martin - the authors of CDIO AS A CROSS-DISCIPLINE ACADEMIC MODEL
CDIO AS A CROSS-DISCIPLINE ACADEMIC MODEL

Faculty: Dave Wackerlin & Jordan Martin

In June 2016, Dave Wackerlin (Associate Dean) and Jordan Martin (Professor and Program Coordinator), presented their paper, CDIO as a Cross-Discipline Academic Model, at the 12th Annual International CDIO Conference in Turku, Finland.

Abstract
The purpose of this paper is to examine the broader applicability of the Conceive Design Implement Operate (CDIO) curricular model (Crawley, Malmqvist, Östlund, Brodeur, & Edstrom, 2014) across academic disciplines adjacent to and outside of engineering. To study this, we examined a sample of five undergraduate degree programs developed at Sheridan as case studies. Housed in four different academic Faculties, each program has varying proximity to technology education. We also used one additional CDIO-based program, the Bachelor of Engineering – Mechanical in the Faculty of Applied Science and Technology, as control group to assess how an engineering program might appear in our findings. To test our questions, we used a series of matrices and mapped discipline-specific program learning outcomes (PLOs) and characteristics onto the CDIO framework and UNESCO (Delors, et al., 2013) framework, assessing compatibility / incompatibility.

Using the findings, we were able to successfully map non-engineering discipline curricula to the CDIO model when terminology was modified to be discipline-specific. Non-engineering programs mapped closely at the first level where the CDIO model merges with UNESCO standards, and at the CDIO Standards level, where all studied programs rated highly. Some discipline-specific modifications were required to achieve a mapping to the second level of CDIO Syllabus. Additionally, our observation of the mapping to the second level of CDIO Syllabus revealed significant variation in curricular emphasis by programs.

The programs and Faculties studied:
- Bachelor of Applied Information Sciences – Information Systems Security in the Faculty of Applied Science and Technology (Computing)
- Bachelor of Health Sciences – Kinesiology and Health Promotion in the Faculty of Applied Health & Community Studies (Health Sciences)
- Bachelor of Architectural Studies in the Faculty of Applied Science and Technology (Architecture)
- Bachelor of Illustration in the Faculty of Animation, Arts & Design (Illustration)
- Bachelor of Business Administration – Accounting in the Pilon School of Business (Accounting)
A CHOCOLATE FACTORY’S OFF-GRID EDUCATIONAL COMMONS IN THE CITY

Faculty: Daniel Rafique

The Emerging Building Technologies class at Sheridan traditionally focuses on energy-efficient technologies in architecture, and the need and context for sustainable design. This semester, we were challenged with the problem of fitting such technologies into an actual building renovation/addition. Students worked with a client, a fair-trade ‘chocolate factory’ in downtown Toronto. We needed to ensure that we understood not only the functional design problem at hand, but also our client’s vision and values. In our client’s words, he wanted the intervention to be an ‘off-grid chocolate factory science centre in the city.’ As part of Toronto’s initiative to reduce greenhouse gases by 80% by 2050, the Toronto Atmospheric Fund is allotting $320 million in grants to initiatives that can reduce emissions and grow the economy. Specifically, “The government has made $49 million available to industrial GHG emitters to encourage the adoption of leading-edge technologies, while supporting entrepreneurs in developing creative solutions. Another $25 million is available to help small- and medium-sized businesses reduce emissions and become more energy efficient.” -Toronto Atmospheric Fund. Our scheme aims to make ChocoSol a champion of energy-efficient architectural technologies by making those technologies apparent, observable, and accessible by its visitors, while also fulfilling the program’s primary purpose of being a chocolate production facility, and an educational commons for fair-trade chocolate. In this way, we hope to access some of the Atmospheric Fund for our client.

“In the age of climate change, small plot intensive agro-ecology is the only way to feed the world’s population while putting more carbon and nitrogen into soil and biomass than in the atmosphere. Small plot intensive urban manufacturing of food is the flip side to this food production model and puts more money directly into the hands of the innovators who are confronting the crisis of climate change. This educational, ecological, and cost-effective urban manufacturing design is a way to demonstrate to the City of Toronto the opportunities that this shift in our global ecological, economic, and political policies can present. This project is an attempt to translate these questions into best practices, local, sustainable, and replicable models at the urban level showing artisans, ecopreneurs, and even ordinary citizens what is possible with lots of initiative and not exorbitant amounts of capital (less than 1.5M).” Michael Sacco, Proprietor, Chocosol
INTERESTED IN OUR PROGRAM?

Thank you for reviewing our compendium of student and faculty work. We pride ourselves on the technical strength, construction acumen, and creative outlook that are the backbone of our program. Our students are engaged in the exceptional learning environment that Sheridan offers. We invite you to visit us at the state-of-the-art Hazel McCallion Campus to engage in architectural discourse, meet with our students, and chat with our faculty. See you soon!

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