



Azrieli School of **Architecture & Urbanism**

Architecture Program Report **2016-2017**
Volume 1



Carleton
UNIVERSITY

Canada's Capital University

75
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2017



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APR Part 2 Under separate cover

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List of Acronyms

AA	Architecture Building (Building 22)
AASA	Azrieli Architecture Students Association
APR	Architecture Program Report
AR	Annual Report
BAS	Bachelor of Architectural Studies
BAS – Design	Bachelor of Architectural Studies – Design Major
BAS – Urb	Bachelor of Architectural Studies – Urbanism Major
BAS – C&S	Bachelor of Architectural Studies – Conservation & Sustainability Major
B.Eng – ACS	Bachelor of Engineering – Architectural Conservation & Sustainability
CACB	Canadian Architectural Certification Board
CASA	Canadian Architectural Students Association
CIMS	Carleton Immersive Media Studio
CSALT	Carleton Solids and Light Tectonics Laboratory
CUSA	Carleton University Students Association
DSA	Directed Studies Abroad
ISSO	International Student Services Office
M.Arch	Master of Architecture (2-year Professional)
M.Arch 1	Master of Architecture (3-year Professional)
MAS	Master of Architectural Studies (2-year Non-Professional)
NUG	New University Government
OAA	Ontario Association of Architects
ORSA	Ottawa Regional Society of Architects
RAIC	Royal Architectural Institute of Canada
RO	Registrar’s Office - Carleton University
SPC	Student Performance Criteria
TDR	Technical Data Room – School of Architecture Building
UPR	Undergraduate Program Review
VSIM	Visualization and Simulation Building
VTR	Visiting Team Report

APR Executive Summary

Director's Summary

As the Azrieli School of Architecture and Urbanism approaches its 50th anniversary in 2018*, the School continues to exemplify the highest degree of excellence in preparing students for professional careers in Architecture. The accreditation cycle offers the opportunity to reflect on improvements and developments since the last team visit in 2011, and to announce the launch of a new five-year Strategic Plan.

Since I assumed Directorship in July 2015, the Faculty has undertaken a significant self-assessment resulting in a new five-year strategic plan, hired two new members working at the intersection of architecture and urbanism, increased the size of its professional Masters program, launched several new and important initiatives to stabilize its finances, and opened productive conversations with alumni, other members of the profession and industry partners throughout Canada.

The Evolving Master of Architecture Professional Degree

In 1998, transitioning from a long-established 5-year Bachelor of Architecture degree, the Azrieli School of Architecture & Urbanism adopted a 4+2 (undergraduate + graduate) model as the new format for its professional program. In 2011, the School introduced the 3-year Masters model that has been the dominant professional curriculum at schools like Harvard, Columbia, UC Berkeley, University of Pennsylvania, Princeton, UCLA and others for the past half-century. Over the past four years, the School has worked to align the 4+2 model with the 3-year Master of Architecture program; this alignment is now fully achieved

Both the 4+2 curriculum and the 3-year curriculum are constructed to equally satisfy all the CACB criteria for accreditation. For students with the four-year undergraduate degree from Carleton with a major in Architectural Design, a full year of advanced standing is given, such that the Masters program length for these students is two years, or four terms. For those with undergraduate degrees with a design emphasis from other institutions in Canada and abroad, the MArch program is three years, including one summer term, for a total of seven terms.

Following the first year of the three-year program, students of both streams merge in an intensive comprehensive studio (called 'Gateway' here at Carleton). This studio is coordinated with the required classes in Advanced Building Systems and Professional Practice. This group of three courses, the complete course load for that semester, focuses on knowledge and skill acquisition, integrated through the design of a complex urban building. A wide range of consultants, including code experts, practitioners, and structural engineers, contribute to the 'professional' atmosphere of this semester.

For the semester that follows, we have also broadened the studio options to include a wide range of six-week studio segments. Each student takes two of these segments, in parallel with a seminar in architectural theory. The six-week model provides the opportunity for more experimentation with a wide range of design challenges. Offerings include an adaptive reuse studio in a European city, an 'embedded' studio in one of Canada's leading design firms in Toronto, studios with visiting critics from abroad, a studio focusing on the culture and technologies of the extreme north and the desert, and studios addressing the settlement of refugees in the capital city of Ottawa.

Achieving Financial Stability

Over the past years, and in keeping with general trends in North American universities, the School has faced increasing budget challenges. During the 2015-16 academic year, we were able to balance our budget to eliminate the deficit, and also develop new revenue sources for program enhancements.

We developed and ran a five-week post-baccalaureate program for those who would like to study architecture in a graduate professional program, but lack any design training. We launched this program -- the first of its kind in Canada, in summer 2016 -- with a group of 30 students. Several of these are excellent candidates for next year's application cycle. The program was a financial success, and we plan to increase the enrolment to 50 in summer 2017. We are also launching a series of continuing education courses for professional architects, to satisfy the required con-ed hours required by the Ontario Association of Architects. We will run three of these series in winter 2017, on the topics of Digital Tools for Design, Introduction to Urban Design, and Introduction to Heritage Conservation.

We have also pursued 'sponsored studios' to allow us to hire visiting critics for several of our advanced studios. We have sponsorships for five studios during the 2016-17 academic year, which reduces our teaching costs, and has the added benefit of bringing excellent practitioners and industry partners into the academic life of the school. We have also had some success in alumni fundraising, primarily to support graduate student travel.

New Additions to Faculty and Staff

Since the last accreditation visit in 2010, the school has added 5.5 new faculty members: Johan Voordouw in 2012, Giancarlo Mangone in 2014, Jill Stoner and Scott Bucking (.5) in 2015, Catherine Bonier in fall 2016 and Ozayr Saloojee (arriving) in January 2017. These new members of the faculty bring expertise in digital technologies, contemporary theory, and urban design—three important research areas in the new five-year Strategic Plan. In 2015-16, we have also added two important staff positions. The "Special Projects and Research Facilitator" works with the Director on the development of special projects that raise the public profile of the school while providing an additional stream of revenue for curricular enhancement. The second position is an Administrative Assistant, to manage the increasing external visitors to the School, help coordinate building maintenance and renovations, and assist the Director with fundraising, event planning, and website management.

New Forms of Public and Professional Engagement

During the past year we have made efforts to engage with members of the profession, alumni and the local community. The sponsored studio model is one mechanism that has brought practitioners and industry partners into direct engagement with the School. We have also established a Local Advisory Board, which meets twice each year, to discuss opportunities for linking the School with local debates and initiatives. The Board will assist us in developing appropriate fundraising objectives, and will advocate for the School's involvement in local affairs of the built environment.

Looking Forward

As we prepare to move forward into a new academic year and the important year of our School's accreditation, we are grateful for the support of the Faculty of Engineering and Design, the Faculty of Graduate Studies and the Carleton University administration. This report presents a School that is invigorated by the momentum of growth, change and collective agenda. We have a renewed mission statement and new strategic plan that can unify the enthusiasm, energy and expertise of the faculty toward enhancing our reputation for excellence and our delivery of unparalleled professional education.

--Jill Stoner, Director
15 September, 2017

1. Introduction to the Program

1.1 Program Identity

The School of Architecture at Carleton University has always had a strong identity. Its first Director, Douglas Shadbolt, transformed architectural education in Canada by shifting the emphasis in the study of architecture, which had previously been delivered as a branch of engineering, toward an independent discipline closely tied to humanism, philosophy and art. Still at the heart of the School's pedagogy, these traditions of design thinking bring together aspects of twentieth century northern European trends in phenomenology with the more material dimensions of design aesthetics rooted in the works of architects like Carlo Scarpa and Louis Kahn. Our foundations of studio education are rooted in a rigorous training that combines spatial thinking, drawing as a unique design language, and material craft. The design curriculum is constructed to increase over the course of its six years in scale and conceptual complexity.

A more recent development at the School, adding to and complementing our unique approach to aesthetic theory, is engagement with our Ottawa location, in Canada's capital city. While Ottawa may not have a robust urban energy equal to Toronto or Montreal, it is home to Parliament, the national Capital Commission, and the home office of the Royal Architectural Institute of Canada. Increasingly, the School is taking advantage of these partner institutions, forming research collaborations in local initiatives, and through contributions of design studios playing a role in the conceptual thinking around development of the Capital region. With the recent formation of a Local Advisory Board, whose membership includes professionals in the public, private and industry sectors, Carleton's School of Architecture is emerging as an effective advocate for architectural thinking and active participant in the policy debates of Ottawa.

In 2007, the School of Architecture was renamed the Azrieli School of Architecture and Urbanism; currently, the most unique aspect of the School may be embedded in the new name. Ours is the only school in Canada (and even in North America) with this name. The distinct choice of the word 'urbanism', instead of the more common 'Urban Design' or 'Planning,' urbanism refers to a European tradition of addressing the city as a work of architecture, as a spatial rather than purely organizational institution. Urbanism at Carleton, established first as an undergraduate major (also the only such major in Canada), reinforced with the hiring of two additional faculty whose research operates at the intersection of architecture and urbanism, and finally with the inauguration of the Carleton Urban Resilience Lab, is directly connected to and embedded in the study of architecture.

Through both our tradition of theoretical training, and our more recent engagement with local urban debates, the School is recognized nationally and in North America as a center of design excellence. Our students routinely achieve high honors in design competitions, including the annual competition of the Center for Canadian Architecture in Montreal and *Architecture Magazine* in the US. Our graduates receive offers of employment from the top professional offices across Canada, and we are consistently lauded for their excellent preparation for professional work.

These measures of design and technical preparation for the profession are complemented by the work of our PhD students, in research areas that include neuro-architecture, architectural journalism, advanced material explorations, translations from drawing to building, and critical redefinitions of public space. Faculty research areas are expanding to include the nature of water as urban infrastructure, the role of the detail in innovative health care environments, the political agency of architectural practice, and the sensory dimensions of architecture.

Another unique asset of the School is the Architecture Building, designed by Carmen Corneil in 1967, Recognized as an exemplary purpose-built laboratory for design education, the building's complex spatial

structure plays a didactic role in our design education. At the same time, finding the resources to advance the spatial opportunities of this asset, and at the same time to maintain its integrity, is one of the School's biggest challenges. We are currently engaged in a program of renovations that capitalize on under-utilized spaces, or those rendered functionally obsolete by changes in technology. We have a long-term but exciting challenge to fund major improvements to the fifth floor of the School, to expand our studio spaces for the majors in Conservation and Urbanism.

ASAU MISSION STATEMENT

The faculty has recently revised and adopted a new Mission Statement. The Faculty Board voted to approve this new Statement on 28 August, 2017.

The mission of the Azrieli School of Architecture and Urbanism is to lead in the development and delivery of programs of education and research in the intersecting fields of architecture and urbanism. Our undergraduate, professional, and doctoral degree programs enable responsible visionary citizens with the capacity for innovative work at all scales in the built environment. Through meaningful relationships between the School and the public/community, we address complex political, economic, and technical questions that inform the production of buildings and cities.

1.2 Program Action Plan

Currently, the School is re-energized by enhanced program structures, new faculty and staff, renovated facilities, new research and public initiatives, and exceptional students. Of course, there are also significant challenges, some new and some continuing, that the School aims to address. The School has recently adopted, in addition to the Mission Statement, a Vision Statement designed to guide the Strategic Action Plan through the next five years. Our measure of success for each part of this plan is indicated in italics.

ASAU FIVE-YEAR VISION STATEMENT & STRATEGIC ACTION PLAN

Following the successful implementations of the 4+2 Master of Architecture program in 2003-2004, two new undergraduate majors in 2009, the PhD in Architecture program in 2010, and the 3-year MArch 1 program in 2011, the School is looking forward toward the next five years with an agenda of moderate growth, the continued pursuit of excellence, the establishment of further financial stability, and the building of new areas of faculty research that will propel the School to more international recognition.

The vision for the next five years of the Azrieli School is to extend and augment its traditions of excellence and expertise in architectural design, urban design, visual theory, and building conservation, through the pursuit of leadership in the emerging technological, ecological and ethical global challenges facing the fields of architecture and urbanism. As a unit within Carleton University's greater community, the School of Architecture & Urbanism has identified in its Educational Objectives and in its Strategic Plans elements that are aligned with the University's Strategic Plans as outlined in "Defining Dreams, 2008".

This Strategic Plan is a roadmap to addressing the six components of the five-year Vision Statement: Relevance, Finance, Research, Relationships, Curriculum and Facilities. The Faculty Board will vote into record a final version of this plan on October 27, 2016.

I. RELEVANCE

Vision:

GUARANTEE responsible, visionary design citizens who will have a positive impact locally, nationally and globally. To this end, we will embrace a unique set of questions regarding the intersection of design with ethical, social and ecological agendas.

Plan:

The essence of this part of the Strategic Plan is to increase the relevance of architectural education to local and global conditions. It is to recognize that architecture can no longer afford to be a discipline that refers only to itself; it must engage the deepest values and address the most serious problems of our time. Specific agendas include:

- Enhance the way in which we engage the discipline of conservation and rehabilitation. We propose that this school be the location of a biennial symposium on *Conservation and Rehabilitation* that addresses on-going debates regarding approaches to heritage conservation in Canada. We would apply for a grant to fund the initial symposium with the intention that this would lead to a permanent endowment in the area of conservation and rehabilitation.
- Strengthen our delivery of the Urban Studies curriculum. Our two recent hires in the area of Urban Studies will be launching a new Urban Resilience Lab to investigate the relationship between urban culture, climate change and infrastructure.
- Expand the Canadian content of the program. At least one of the Master level studios each year will be dedicated to exploring issues related to the far north: social, cultural and economic impacts of development in extreme environmental conditions.
- Make positive changes to the Undergraduate Curriculum with an emphasis on cultural diversity. We will bring a consistent pedagogy to the Undergraduate Directed Studies Abroad (DSA) program, to ensure that each DSA addresses the ethical, cultural, social and/or ecological questions raised by the location in question.
- Create an Undergraduate seminar called “Why Practice?” as a forum for discussion about the ethical dimensions of architectural practice, for those who have not yet entered the graduate stream.

Measures of success:

- *Implementation of Conservation Symposium*
- *Implementation of Urbanism Symposium, and Tri-Council funding for Urbanism research*
- *Annual Masters studio on the Canadian north, and dissemination of studio content at conferences*
- *Development of “Why Practice” undergraduate course as a regular offering*

II: RELATIONSHIPS

Vision:

DEVELOP relationships with and support from alumni, local and regional industry, other academic units on the Carleton campus and other research universities around the world.

Plan:

- Complement the School's global advisory board with a Local Advisory Board (Ottawa LAB) with the goal of strengthening and formalizing relationships with key local professionals, organizations and community leaders in order to benefit from advice and advocacy, facilitate the sharing of information (discovering who's doing what) and identify opportunities for collaboration.

- Continue to involve alumni and industry experts in the ongoing life of the School, as contract instructors, external members of thesis committees, guest lecturers, and studio reviewers.
- Build on recent success in attracting external sponsorship for studio courses, public programming, travel opportunities, summer internships, and scholarships.
- Nurture relationships with alumni and firms outside of Ottawa through alumni receptions and dinners, co-op and other internship opportunities, and exhibits of the work of Carleton students in venues across Canada.
- Pursue contracts and joint research with government departments such as Public Works, NCC, local development companies, other universities, and the City of Ottawa.
- Reinforce the School's stake in lifelong learning through the establishment of the Azrieli Continuing Education Lecture program.

Measures of success:

- *Successful fundraising and community involvement as a result of the activities of the Local Advisory Board*
- *Continued growth of Sponsored Studio offerings addressing local sites, for both undergraduate and graduate studios*
- *Several summer internships for our students, with firms in Canada and US*
- *Continuation and growth of the Azrieli Continuing Education series for local professionals*

III. RESEARCH

Vision:

EXPAND the scope of existing research areas, through strategic faculty hires, pursuit of new grants and research collaborations and increasing the numbers of publications by, and public appearances of, faculty members in national and international venues.

Plan:

- Enhance the reach of existing research, through the broadcasting of our research excellence via a new and improved faculty research webpage on our website, new research collaborations, and increased quantity of publications and exhibitions of work.
- Increase the body of our research through strategic faculty hires, and through the creation of a forum for monthly research updates between faculty members and PhD students.
- Increase the support for our research, through a commitment to the pursuit of new funding opportunities, by supporting faculty and students to submit excellent funding proposals, cementing the funding for our Research Facilitator beyond the initial two years currently funded, and increasing the funding to our PhD students beyond the first year.
- Measure the efficiency and output of our research by developing metrics for gauging faculty research progress, including increasing the numbers of Highly Qualified Personnel supported, Publications and citations, built projects and exhibited work.

Measures of success:

- *New research grants for faculty, in the range of \$50,000 - \$200,000*
- *Three additional faculty hires over the next 5 years, in the area of emerging and material technologies*
- *Dissemination of faculty research in journals and at conferences.*

IV. CURRICULUM

Vision:

GUARANTEE the excellence of the professional curriculum by introducing new ethical, political and urban issues into the design studios, engaging the professional community in the culture and content of the School, engaging emerging technologies in innovative ways, and challenging conventions as part of our commitment to raising the level of debate in the School.

Plan:

- Embrace intellectual diversity and life experiences in student recruitment, pedagogical engagement, and faculty mentorship.
- Establish a new area of emphasis in 'Design for Health'
- Challenging the conventions and the separation of teaching and practice: Studio in Practice.
- Recruitment of outstanding candidates to the M.Arch and PhD programs.
- Develop 'research projects' and 'research groups' that will attract students who recently graduated and disseminate thesis opportunities early on in the admissions process as a recruitment strategy.
- Possible funding may be associated to the thesis research work via models of faculty expertise and engagement with non-academic bodies.
- Ensure a program that constructs engaged and ethical expressions of local, regional, national, and global identity.
- Making things public: to disseminate and to explain design culture and ideas to communities other than our own.
- Addressing timely concerns, and working on program revisions to bring curriculum into alignment with revised CACB Student Performance Criteria.

Measures of Success

- *Numerical indicators that the calibre of students coming into our Masters and PhD program is going up. (GPA, etc)*
- *Alignment of our curriculum with new Student Performance Criteria of the CACB*
- *Increased integration of 'real world' problems into course structures.*
- *Development of new courses that address social and ethical dimensions of architecture, particularly in the context of Canadian culture.*
- *Develop curriculum around 'Design for Health,' and explore the potential of a new 'Design for Health' major.*

V. FINANCE

Vision:

ACHIEVE financial stability, and create mechanisms to expand financial resources for recruitment and program enhancement.

Plan:

- Maintain undergraduate enrolment and Masters enrolment, and increase PhD enrolment to five new students per year, to take advantage of government funding.
- Continue to develop large lecture classes for the entire University student community, which contributes to the complex university algorithm that determines our operating budget.
- Pursue a modest endowment in conservation to fund a biennial symposium and scholarships for the Graduate Diploma in Conservation.
- Stabilize the STUDIO F1RST summer program to bring in 80k per year, to be used to support graduate student travel.
- Stabilize Azrieli Continuing Education (ACE) income to fund our research facilitator's salary (this is a self-funding position).
- Look for strategic opportunities for additional public courses, and other possibilities to bring in revenue.
- Secure commitment from the University to finance the renovation of the 5th floor as additional studio space.
- Continue to secure sponsored studios, which helps with the teaching budget and also forges important connections with the professional community.

Measures of Success

- *Numerical indicators that we are maintaining enrolment and retention targets.*
- *At least two lecture courses offered by faculty of the School, with enrolment of 200+.*
- *Continuing to ensure a balanced budget in sessional hiring*
- *Growth and stabilization of summer revenue-producing programs: Studio 1st and LAB 101.*
- *Continued growth of sponsored studios, including 'in-kind' sponsorships.*

VI. FACILITIES

Vision:

REPURPOSE RENOVATE & REBUILD our physical resources, specifically within the Architecture building. This includes the space of the building, and increased digital infrastructure to support experimental collaborations in design research. In order to support our School's tradition in craft and to support faculty research initiatives, we will endeavor to repurpose areas within the school in order to promote collaborations in material research, digital research, contemporary/traditional craft, together with the exhibition of work in all these media.

Plan:

- Assess locations and relocate if necessary, the machines for fabrication and prototyping, including new machines acquired through grants and donations.
- Continue the transition of the 5th floor from engineering to architecture, with the goal of 100% occupancy by the School of Architecture in Fall 2017. Renovate the floor to become predominately studio space, with the inclusion of several faculty offices and the space for the newly formed Carleton Urban Resilience Lab (CURL).
- Secure commitment from the University to finance the extension of the elevator to the 5th floor. This is

an important aspect of ensuring accessibility to all our teaching spaces.

- Implement in appropriate locations 'white gallery' and 'black box' venues for sharing work in both analog and digital forms.
- Design and fundraise for a simple addition to the east end of the building, to house additional robots and other machines.
- Re-invest in a collaborative relationship with the School of Industrial Design, including a merging of the two wood shops and a repurposing of the vacated space as a new laboratory for the blending of traditional and emerging technologies.

Measures of Success

- *Significant progress in improvements to the 5th floor, including renovations as studio space, and elevator access.*
- *One or two other significant improvements or additions over the next five years, to accommodate additional fabrication and material research.*

2. Progress Since the Previous Review

2.1 Summary of Responses to Team Findings 2011

In each of the sections below, the text in italics is copied directly from the 2011 team report. The School's response to each of the issues follows the 2011 comments.

1. *Continuity of 4+2 curriculum*

While the team observed significant renewal of the MArch component of the professional stream, the BAS component appeared to have observed very little change over the course of the past cycle of accreditation visits. It is essential that the program observe the professional stream as a whole curriculum.

The professional stream is now a fully integrated 4+2 sequence of classes, with the seven undergraduate studios leading directly to the Gateway studio in the first year of the two-year graduate stream. Similarly, the sequence of undergraduate technical classes, introducing fundamentals of construction, structure, building systems and building envelope, are followed by the Advanced Building Systems class in the first year of the two-year graduate stream. In the undergraduate sequence, the School has worked to make the transition from one studio to the next seamless, logical, and appropriately challenging. This involves three key components: size of the project, integration with technical classes, and complexity of issues addressed. As the matrix shows, the core studios repeat the skills learned in previous studios, and each adds further technical, social, dimensional and/or representational challenges.

2. *Technical component of professional curriculum*

The delivery of technical aspects of the professional curriculum is at present in a state of considerable disarray - characterized by a somewhat confounding confluence of areas of excellence and those of complete neglect. Given the extraordinary developments in technical and professional realms recently, any degree of neglect can only compromise the ability of graduates to contribute to future professional roles and should be immediately reviewed. More specifically, the expertise of recent hires - with their consistent emphasis on the School's expanded academic needs - speaks to an ethos in which these curricular components are not being given the specific attention that is their due.

Since the last review, we have reaffirmed curricular alignments and course contents in order to ensure a dialogue between Design Studios and courses devoted to building technologies. By coordinating courses and faculty members in the Fall term curriculum we have been able to deliver a sequence of incrementally comprehensive studios which integrate content from courses in Architectural Technology with their Studio counterparts. Recent faculty hires and professional Contract Instructors help to ensure that course content reflect current practices and evolving material and fabrication technologies.

3. *Regard for Digital Technology*

The responsibility of a contemporary professional program to engage with and embrace digital media and their impact upon the conventions of practice is clear. Notwithstanding the School's own mission statements, the emphasis in expertise of recent hires and the inability to enact a matter-or-fact daily engagement between these media and the curriculum remains problematic. The team notes that students are not unaware of this issue, and

the very recent deployment of improved resources is very likely to aggravate their expectations in this regard. Allied with comments concerning technical components of the curriculum more generally, the team observes that the current preoccupation with infusing incoming students with a sense of ethos might usefully be balanced by providing an operative tool-kit of technique.

Three new hires since the 2010 visit—Johan Voordouw in 2011, Giancarlo Mangone in 2014, and Scott Bucking in 2015 (50% shared appointment with Engineering)—are a direct response to the need for courses in digital technology and advanced building technology. Voordouw teaches the core course in digital technologies, and integrates digital work into the first semester of the 3-year MArch program. Mangone teaches the Advanced Building Systems class at the graduate level, and Bucking teaches the introductory technology class, as well as a new version of the third course in the tech sequence for the three-year Masters students. Our two most recent faculty hires, Catherine Bonier and Ozayr Saloojee, engage digital technologies at the scale of the city, using GIS and 'big data' applications to analyze the effects of landscape, climate and population on infrastructure and architecture at the scale of the city.

4. Role of Faculty Research

The School's faculty in their vitae reveal a tradition of privileging teaching accomplishment over research. Whatever the institutional encouragement for such a preference, the role of active, contemporary research in contributing to local collegial discourse, including the enrichment and critical review of curriculum, cannot be overstated. The need for concerted and collective discussions among faculty - particularly among new hires - regarding research interests, potential overlaps, recognition of inter-disciplinary opportunities, etc. is both important and timely. The proposal for an Associate Director for Research with overview of these discussions might go some way to bringing this agenda item forward.

The School has recently formed a new staff position—the Special Projects and Research Facilitator—to assist faculty in preparing grant applications and managing research grants. In addition, two new faculty members in architecture and urbanism will be launching a new research lab in resilient urbanism. Moving forward, the School is committed to mentoring new faculty to successfully mount research agendas, and to disseminate research effectively through conferences, publications and symposia.

5. Program Governance

The team observed an imbalanced sense of empowerment and engagement in School decisions among its faculty. The degree that 'ownership' - whether of academic programs or research directions - can devolve to a sense of entitlement is always an issue to be aware of in academic institutions, and the team's sense is that of a need to more deliberately cultivate open and collegial regard between all members of the faculty.

Much has happened in faculty governance during the past six years. With the illness and passing of former Director Marco Frascari, the School took on a practice of responsible leadership from within the ranks of the faculty. Interim Director Sheryl Boyle, and a rotating team of Associate Directors, assigned responsibilities, formed well-functioning committees to develop agendas and solutions for pedagogy and curriculum, community outreach, new faculty hires, and an expanded program of lectures, exhibits and symposia.

Most recently, the new Director has put in place an advisory committee of five highly qualified and experienced members of the faculty. The five areas covered are:

- External Affairs
- Internal Affairs
- Research and Special Projects
- Undergraduate Matters
- Graduate Matters

6. Resources / Academic Expansion

As noted elsewhere, the motivation for academic expansion does not immediately resonate with the need to assess and renew the core professional program of the School. While human resources - although more in terms of faculty than staff - have been enriched, it is difficult to assess the longstanding contribution of this expansion to the success.

While the academic expansion of the undergraduate program through the introduction of two new majors was the focus of the years leading up to the last review, the primary focus of the past five years has been the further development and alignment of the two streams leading to the MArch professional degree, and the refinement of that degree program to best satisfy the demands of professional training. We are confident that the current MArch program builds upon the undergraduate pre-professional sequence to produce graduates qualified to both honor and advance the excellence of Canadian architecture.

7. Acknowledgement of Locale

The circumstances of Ottawa as the nation's capital are - for any academic program – potentially formidable. The team encourages the program to cultivate this potential. It is not in the habit or interest of the CACB Visiting Team to propose direct and specific recommendations for the redress of perceived concerns. In the context of this particular visit, the team believes that the capacity for redress is very much within the capacity of resources and desire of the School to respond positively - and successfully.

Since the last review, there has been significant advancement in relationships to the local professional and government communities. Local involvement in design reviews and thesis defenses, core comprehensive studios sponsored by local development companies and architectural practices, pro-bono teaching by award-winning members of the local professional community, and the formation of a Local Advisory Board to guide these ongoing relationships, are some of the outcomes. In this academic year, the School is collaborating in several of the local initiatives around Canada's 150th anniversary celebrations. A recent design-build studio taught by Professor Johan Voordouw resulted in two new "parklets" for the City of Ottawa, constructions that have received positive reviews in the local press and considerable interest and appreciation from the neighborhoods themselves.

This is an excellent place to highlight the recent recognition for the work of a group of our 4th year students in a studio project designed around local engagement. Professor Roger Connah lead 19 students in a year-long re-design of the Vanier neighborhood, focusing on the urban housing scale for the first semester, and on urban solutions for the second. This is one of only six studios recognized in a competition sponsored by *ARCHITECT* magazine competition. This is the first time the magazine has recognized work done in academic design studios. The jury, Bernard Tschumi, Jimenez Lai and Jeanne Gang recognized six exemplary courses out of more than 150 submissions.

http://www.architectmagazine.com/awards/announcing-the-2016-architect-studio-prize-winners_o

Juror Jeanne Gang said: "I was looking for any projects that engaged outside of the confines of the school and went and talked to people. This studio did that, which I thought was commendable and interesting."

2.2 Response to: The 2011 Visiting Team Report - “Conditions Not Met”

The 2011 report listed 5 conditions as ‘Not Met.’ These were:

- B2: Program Preparation
- B8: Environmental Systems
- B10: Building Service Systems
- C2: Building Systems Integration
- C4: Comprehensive Design

B2. Program Preparation

Program preparation is partially addressed in several undergraduate studios each with increasing scale and complexity. These include:

- ARCS 2106 Studio 3
- ARCS 3105 Studio 4
- ARCS 3106 Studio 5
- ARCS 4105 Studio 6

More complex programs are analyzed, interpreted and developed in the following M.Arch studios:

- ARCS 5105 Grad Studio 1 Gateway
- ARCS 5106 Grad Studio 2

Thesis students are expected to formulate and develop programs appropriate to their thesis inquiry in:

- ARCS 5909 Thesis Studio

B8: Environmental Systems:

Components and properties of environmental systems for small to mid-scale buildings are introduced in Arch Tech 1. Systems for mid to large scale building are introduced in Arch Tech 3 and Arch Tech 4. The complexity of systems, their components and their integration is the focus of the Advanced Building Systems course. From rudimentary to complex, environmental systems are incrementally studied and integrated into the studio projects of 2A, 3A, 4A and M.Arch Gateway studios.

B10: Building Service Systems:

Building Service Systems are introduced in the Arch Tech sequence; specifically in Arch Tech 1, 3 and 4. The relationship of building services to building design is addressed at the scale of projects delivered in their respective Studios, namely 2A and 3A. and 4A studios. The 4A Housing studio, produces a detailed mid-rise housing project with systems at the residential scale while the M.Arch Gateway Studio addresses more complex, commercial service systems studied in the Advanced Building Systems course.

C2: Building Systems Integration:

Building systems integration is at the core of the 3A, 3B, 4A and Gateway studios. In all of these classes, there is alignment with technical and professional classes, and frequent inclusion of special guest lectures and workshops with industry and code experts. There is also now the introduction, in the Arch Tech 1 class of the undergraduate program, of training in BIM, which then continues to be used as a tool for systems integration in subsequent studios.

C4: Comprehensive Design:

Four studios in particular, emphasize comprehensive design, each with a well-developed set of integrated criteria. These are 3A, 3B, 4A and Gateway.

3. Compliance with the Conditions for Accreditation

3.1 Program Response to CACB Perspectives

3.1a Architecture Education and the Academic Context

The program must demonstrate that it both benefits from and contributes to its institutional context. Given its particular mission, the *APR* may cover such issues as: the program's academic and professional standards for both faculty and students; interaction between the program and other programs in the institution; contributions of the students, faculty, and administrators to the governance as well as the intellectual and social life of the institution; and contributions of the institution to the program in terms of intellectual and personal resources.

Carleton University has committed to becoming the best comprehensive university in Canada. While the agenda of a comprehensive university is not always sympathetic to the challenges of a professional program, the School has in recent years, enjoyed strong support both from the Faculty of Engineering & Design and from the University administration. In turn, the School has contributed significantly to the reputation of the University through academic and professional recognition, research initiatives and collaborations, and administrative service.

The Azrieli School of Architecture & Urbanism continues to increase its profile within the University and the community at large. Representatives of the School are active in University administration, serving on Faculty and university-wide committees. Faculty are also involved in research collaborations with other departments as well as government agencies, industry and community groups. Current University research collaborations include: Systems and Computer Engineering, Civil and Environmental Engineering, Psychology, Geography, Sociology & Anthropology, Canadian Studies, and the School for the Study of Art & Culture. Government organizations include the National Research Council of Canada, the National Gallery of Canada, Public Works and Government Services Canada, the National Capital Commission and the City of Ottawa, as well as NGOs like CARE, UNESCO and UNhabitat. Corporate partners include IBM, and AutoDESK. Studio projects and reviews of student work routinely involve representatives from community associations, the local development community, local and national design firms and local BIAs. Work from the School is regularly exhibited and disseminated throughout the community.

3.1b Architecture Education and the Students

The program must demonstrate that it provides support and encouragement for students to achieve their full potential during their school years and later in the profession, and that it provides an interpersonal milieu that embraces cultural differences. Given its particular mission, the *APR* may cover such issues as: how students participate in establishing their individual and collective learning agendas; how they are encouraged to cooperate with, assist, share decision-making with, and respect students who may be different from themselves; their access to the critical information needed to shape their futures; their exposure to the national and international context of practice and the work of the allied design disciplines; and how students' diversity, distinctiveness, self-worth, and dignity are nurtured in the academic environment.

Setting:

The Azrieli School of Architecture & Urbanism benefits from a diverse student body, including many new Canadians and international students. A dynamic studio culture --supported by dedicated workspace and shared labs -- encourages a high level of interaction among students. Augmented by recent renovations, the design of the purpose-built Architecture building promotes interaction and informal learning. Organized around a large space for public programming (the PIT), the building is a remarkable setting for both academic and social activities. In support of stronger relationships between graduate and undergraduate students, the School is currently trading space in the Azrieli Pavilion for space on the 5th-floor of the Architecture building. This swap, however, comes with financial and logistical challenges.

Student Success:

Carleton's undergraduate program is unique inasmuch as students choose between three majors, all of which lead to the BAS degree, enabling them to better align their studies with their interests. At the same time, a high degree of overlap between the three majors promotes the sharing of expertise – especially at the 4th-year level, when students from the three majors work together in the same studios.

Across the board small class sizes in studio and seminar courses foster a higher level of interaction with faculty and student peers. This in turn, translates to stronger student engagement and accountability, contributing to academic success. It also makes it easier for faculty and peers to identify students who may be experiencing difficulties.

In addition to recognition in the usual academic channels (grades, scholarships, honour's lists, awards, etc.) design work is presented in an open forum and excellence is publicly recognized. A culture of public presentation, analysis, discussion, defense and self-realizations continues to build the students' confidence, and sharpen critical thinking about architecture as they progress through the programs. Strong work is routinely acknowledged through publications and exhibitions.

Academic Supervision and Advising:

As a studio-based program, individual academic supervision is fundamental to the pedagogical structure of the School. At the close of each term, studio instructors are asked to provide a private, structured interview to all students who request it. The purpose of this interview is to discuss the term's studio projects, their evaluation, and the student's overall performance. In addition to one-on-one interaction with instructors and thesis advisors, students have access to academic advising through Program Coordinators. With the help of the Undergraduate and Graduate Administrators, these Coordinators monitor the progress of every student in the School.

The School's web site provides students with a broad range of information on course offerings, recommended sequencing, regulations, and procedures – on which Program Coordinators and Administrators offer clarification and interpretation. Working with Coordinators, the Associate Directors of Undergraduate and Graduate Studies organize regular information sessions and provide rulings on issues as they arise. The Co-op Coordinator helps students with co-op decisions and sequencing. The Director assumes the role of advisor on overall educational and career issues for students and faculty.

Above and beyond the resources available in the School, students are encouraged to seek help from the numerous academic support services coordinated through the Centre for Student Academic Support

(PASS, Writing Services, Incentive programs, etc.). Depending on the issues at play, students are also encouraged to seek help through Health & Counseling Services, the university Co-op Office, the Paul Menton Centre for Students with Disabilities, the International Students Services Office, the Awards Office (emergency bursaries), etc.

Involvement

Carleton students play an active role in the academic and administrative operations of the School. Students are well represented on Faculty Board, with an elected member from each year of each program holding a vote. Student views on academic and administrative matters are considered an integral part of our program. Student leaders are responsible to their constituency and to the University as a whole.

The students in the School are also actively engaged in research collaborations and in University affairs. In addition to Azrieli Architecture Students Association (AASA), Architecture students are served by a strong University students' association (CUSA), which provides many services in addition to those provided by the University itself. Architecture students have been active in the Carleton Academic Student Government (CASG) for the Faculty of Engineering and Design. Carleton has also played a significant role in the national association of Canadian Architecture Students (CASA).

Students also operate the arm's-length "Student Design Clinic" during the summer. The Clinic typically employs two full time managers and ten to twenty student designers, who take on small design projects (decks, garages, small residential additions) under the supervision of a board of Directors (local practitioners). Annual revenues vary between \$60-120,000. Students involved with the Clinic learn the basics of the 'business' of architecture, including the dynamics of client interaction.

Undergraduate core courses include offerings outside of the School (Art History, Geography, Civil Engineering, Canadian Studies, etc.). Similarly, the School has opened seats in non-core courses to students from other disciplines. Integration with the University at large has proven successful not only for students from the School of Architecture, who greatly benefit from other points of view, but also for the School's faculty. Important academic and research relationships have been generated through the exchange of courses.

Students benefit from seeing, hearing, and meeting architects, designers and artists from around the world through class lectures, reviews, and public programming (e.g., the Forum and Open Forum lecture series). The School routinely co-sponsors public lectures and symposia with embassies, local and national professional organizations including ORSA, the City of Ottawa, Urban Forum, the RAIC, IRC, the National Capital Commission and the CCA.

3.1c Architectural Education and Registration

The program must demonstrate that it provides students with a sound preparation for the transition to professional life, including internship and licensure. Given its particular mission, the APR may cover such issues as: the program's relationship with the provincial architectural licensing association or institute, the exposure of students to internship requirements and continuing education beyond graduation, students' understanding of their responsibility for professional conduct, and the proportion of alumni who have sought and achieved licensure since the previous visit.

As a professional program, the School must produce individuals who compete credibly in the internship and registration process. The challenge is to fuse the academic orientation of the University with the demands of professional training. While this involves finding opportunities for delivering information outside of the classroom (understanding both the benefits and limitations of the academic setting), it also means aligning technical courses with the Studio program, i.e., delivering information at the point where it can be most directly applied. To put the academic endeavour in perspective, students must have a sound understanding of the profession. Beyond the curriculum, however, the School mounts a variety of opportunities related to registration and architectural practice.

Students learn of the professional registration process through five venues: the core Professional Practice course, Co-op; summer work experience; faculty counseling; and the School's engagement with the RAIC and the OAA. The core Professional Practice course, taught concurrently with the graduate comprehensive studio, is an excellent venue for introducing students to the mechanisms and requirements for professional registration. All of our Masters students are in this class together, and hear from various practitioners on the subject of 'path to registration.'

3.1d Architecture Education and the Profession

The program must demonstrate how it prepares students to practice and assume new roles within a context of increasing cultural diversity, changing client and regulatory demands, and an expanding knowledge base. Given its particular mission, the *APR* may cover such issues as: the program's engagement of the professional community in the life of the school; how students are encouraged to advance their knowledge of the art and science of architecture through a lifetime of practice and research; how students develop an appreciation of the diverse and collaborative roles assumed by architects in practice; how students develop an understanding of and respect for the roles and responsibilities of the associated disciplines; how students learn to reconcile the conflicts between architects' obligations to their clients, the public, and the demands of the creative enterprise; and how students acquire the ethics for upholding the integrity of the profession.

The core professional practice course, taught by faculty member Lucie Fontein, is at the heart of the students' familiarization with the profession. A practitioner herself, Professor Fontein delivers several lectures on aspects of practice, and invites Ottawa practitioners to come in to talk about specific issues. Three weeks of the class is devoted to financial aspects of professional practice and the financial dimensions of architectural projects, including questions of value, business operation, project financing, sustainability, ethics, and promotion.

Several new courses are structured to effectively link the professional community and the academy. These include:

- Two studios sponsored by local development and architecture firms, generating mid-rise mixed-use proposals for key sites in Ottawa. Members of the firms are active participants in mid-term and final reviews.
- A graduate sponsored studio 'embedded' in the Toronto office of Dialog Architects, with four of the partners involved in teaching the studio.
- A new course for 4th year undergraduates, "Why Practice?", engaging 10 members of the profession as lunchtime speakers. Each will present an aspect of practice to students at the end of the undergraduate portion of the 4+2 professional curriculum.
- A graduate course currently in development, introducing Master of Architecture students to the complexities of design economics, from the financing of projects to the structuring of professional fees.

Lastly, the School participates in a variety of other ways in the local professional community. We take active part in the annual Architecture Week in the National Capital Region; a faculty member sits on the board of the Ottawa Regional Society of Architects; two faculty members sit on the assessment board of the CACB; individual faculty maintain relationships with a variety of local professional organizations such as the Illuminating Engineers Society and the Urban Forum Group. Many of our Contract Instructors and Adjunct Faculty members are important players in the profession and construction industry. Their presence in the School is conducive to a healthy discourse among the academia and the profession. Given that the RAIC (Royal Architectural Institute of Canada), is headquartered in Ottawa, the School often works with it on initiatives such as awards presentations, student design competitions, and annual conferences and celebrations. Reciprocally, a representative from the RAIC is present at the graduation celebration, presenting MArch graduates with RAIC awards and memberships.

3.1e Architectural Education and Society

The program must demonstrate that it equips students with an informed understanding of social and environmental problems and that it also develops their capacity to help address these problems with sound architecture and urban design decisions. Given its particular mission, the APR may cover such issues as: how students gain an informed understanding of architecture as a social art, including the complex processes carried out by the multiple stakeholders who shape built environments; the emphasis placed on generating the knowledge that can mitigate social and environmental problems; how students gain an understanding of the ethical implications of built environment decisions; and how a climate of civic engagement is nurtured, including a commitment to professional and public service.

The School's current mission statement and vision emphasizes our commitment to relevance, and to engaging the social and cultural contexts of the Canadian city and landscape. Our commitment to student travel and to visiting critics from abroad is now complemented and augmented with studios that engage the local community, address the broad global challenges of refugees from far corners of the world, and a studio directed at the unique social and environmental conditions of the Canadian north.

Academically, contemporary questions of sustainability and social responsibility in architectural design and production is addressed within a greater context of coursework in history and culture, globalization, local materials and craft, conservation and adaptive re-use, urban renewal, and alternative energy systems. Recent topical examples of student projects and assignments include:

- 4th year studio taught by visiting instructor Brigitte Desrocher in winter 2016, on aging in the city. Direct engagement with community members as clients.
- Graduate studio taught by Azrieli Visiting Critic Quilian Riano in winter 2016, investigating the cultural diversity on Roosevelt Avenue in Queens NY, through the development of a series of public space.
- Housing studio taught by Professor Benjamin Gianni in fall 2015, working closely with local developers and citizens.
- Graduate studio taught by Professor Inderbir Riar in winter 2016, on the culture and climate of the Canadian North.
- Six thesis projects supervised by Professor Federica Goffi, on architecture's potential contribution to aging, dementia, and illness. Several students worked with community clients on program and background.

- Studio by Azrieli Visiting Critic Lior Galili designing infrastructure for the Bedouin community of the Negev desert (pending winter 2017).

Along with the curricular changes, major initiatives have been taken in the area of research and public dissemination, again with specific attention to complementing the general objectives of the University and the School's commitment to public discourse.

3.2 Program Self Assessment

3.2.a Program Self-Assessment Process

Carleton University has instituted an internal policy of ongoing program reviews. The School of Architecture undergraduate program was reviewed in 2010 under the "Undergraduate Program Review" process and was found to be good standing. The newly termed "Cyclical Program Review" for Architecture, which now includes the review of Graduate Programs, is scheduled for 2017-18. Early discussions with the Review Team have been very productive and negotiations have allowed for our APR – 2016 to figure prominently in the preparation of the Cyclical Program Review document.

From the Cyclical Program Review website:

<http://carleton.ca/viceprovost/cyclical-program-review/>

As part of Carleton University's **Institutional Quality Assurance Process**, in accordance with the **Quality Assurance Framework**, all undergraduate and graduate programs are reviewed on a 7 year basis.

Program review provides an opportunity for faculty, staff and students in an academic program to come together to identify program strengths and areas for improvement. It is characterized by a reflective, analytical, consultative, and collaborative review of factors contributing to the delivery of the program. As part of the review process, a peer review will take place over the course of two days that will provide the program with recommendations to consider in the conception of their action plan. The goal of cyclical program review is to foster a culture of continuous improvement in pursuit of academic quality, providing students with the best possible educational experience at Carleton University.

The Office of the Vice-Provost and Associate Vice-President (Academic) provides considerable support to academic units, guiding them through the **quality assurance process**. Chairs and Directors will be contacted during the summer term to identify which programs are subject to review in the upcoming academic year. A **workshop** is held at the beginning of the fall semester for all academic units with program reviews being launched in the fall, and a customized **guidebook** will be provided.

Additional Details

The 2010 UPR report will be made available to the Visiting Team in order to demonstrate the scope of the review process. The School's mission statement and its relationship to the University's mission "Defining Dreams" was a significant component in this report in 2010. The new report which will be prepared in 2017 will reflect the school's updated mission statement and implementation plan as outlined in Section 1 of this APR, reflecting the University's own Institutional Mission.

Importantly, the 2010 UPR also includes a substantial student and alumni questionnaire addressing the strengths and weaknesses of the architecture programs. Questions and concerns arising from these surveys were also addressed within the UPR Report. A similar mechanism will be employed in the 2017 CPR allowing for direct feedback from current and past students in the architecture programs.

In addition to the 2010 undergraduate questionnaire, at the graduate level, programs were assessed through Periodic Appraisals. The new process, outlined in the Cyclical Program Review process, will combine undergraduate and graduate program information. New graduate programs are reviewed through the "Standard Appraisal" process defined by

OCGS (Ontario Council of Graduate Studies). Three programs underwent this review and were approved concurrent with the last Accreditation Visit in 2010-11; namely: M.Arch 1 (3 – year professional program), MAS (Master of Architectural Studies, non-professional) and the PhD in Architecture.

In the area of curriculum delivery, there is the university-wide formal mechanism of course evaluations in all undergraduate and graduate programs. Members of the School's faculty routinely receive evaluations over 4.0, on a scale of 5.

3.2.b Progress Relative to Mission Statement & Strategic Plan

In addition to the formal processes outlined above, the school has taken the initiative of responding to the school's mission statement by way of summarizing a series initiatives and discussions with faculty and students.

Outlined in Section 1.1 of this report, the School's Strategic Action Plan prioritizes the following components:

I. RELEVANCE

GUARANTEE responsible, visionary design citizens who will have a positive impact locally, nationally and globally. To this end, we will embrace a unique set of questions regarding the intersection of design with ethical, social and ecological agendas.

The essence of this part of the Strategic Plan is to increase the relevance of architectural education to local and global conditions. It is to recognize that architecture can no longer afford to be a discipline that refers only to itself; it must engage the deepest values and address the most serious problems of our time.

II: RELATIONSHIPS

DEVELOP relationships with and support from alumni, local and regional industry, other academic units on the Carleton campus and other research universities around the world.

III. RESEARCH

EXPAND the scope of existing research areas, through strategic faculty hires, pursuit of new grants and research collaborations and increasing the numbers of publications by, and public appearances of, faculty members in national and international venues.

IV. CURRICULUM

GUARANTEE the excellence of the professional curriculum by introducing new ethical, political and urban issues into the design studios, engaging the professional community in the culture and content of the School, engaging emerging technologies in innovative ways, and challenging conventions as part of our commitment to raising the level of debate in the School.

V. FINANCE

ACHIEVE financial stability, and create mechanisms to expand financial resources for recruitment and program enhancement.

VI. FACILITIES

REPURPOSE RENOVATE & REBUILD our physical resources, specifically within the Architecture building. This includes the space of the building, and increased digital infrastructure to support experimental collaborations in design research. In order to support our School's tradition in craft and to support faculty research initiatives, we will endeavor to repurpose areas within the school in order to promote collaborations in material research, digital research, contemporary/traditional craft, together with the exhibition of work in all these media.

These six priorities are the subject of a discussion and implementation process by a voting Faculty Board and, in addition to monthly Board meetings, are developed through sub-committees and working groups at dedicated meeting and faculty workshop events. The most unique and productive are the five full days of specialized meetings during the year:

The August Meetings, two consecutive days just prior to the commencement of the fall semester, are devoted to year-long planning, curriculum discussions, and broader topics defined by the Executive Committee and Faculty Board.

The Winter Retreat, one full day on a Saturday, focuses on long-range thinking, particularly in conversations around future program changes and adjustments, new hires, research initiatives, and planning for engagement with broader constituencies.

The May Meetings are reflective, and one full day of the two days are devoted to assessing the progress on Strategic Plan initiatives. This assessment forms part of the School's annual report. Because the drafting of the new Strategic Plan is concurrent with the accreditation visit, we anticipate that the visiting team will concur with the goals of the Plan, and will offer further strategies for achieving these goals.

Bringing students into the assessment process is a tradition of the School. There is an open dialogue between faculty and students, and student representatives sit on the Faculty Board.

3.3 Public Information

3.3.a Program Descriptions

The following descriptors represent selected text from our School's web-site and include active links which will redirect to the related on-line information.

BACHELOR OF ARCHITECTURAL STUDIES DEGREE **BAS**

Bachelor of Architectural Studies (BAS) focuses on knowledge, experience, creativity and imagination. Our program encourages exploring ideas through making, evaluating ideas within the context of the human experience, and exercising creativity through writing, model making, drawing, and digital media. The Azrieli School of Architecture and Urbanism awards the pre-professional BAS degree upon successful completion of our four-year program of study. Students who intend to practice architecture, are encouraged to apply to our professional Master of Architecture program or equivalent professional training at another university. The BAS program is an excellent degree for a range of careers or for further studies in design.

Carleton's undergraduate program in Architecture is unique in Canada. Students applying to the **Bachelor of Architectural Studies** (BAS) program choose from among three majors: 1) **Design**, 2) **Urbanism**, and 3) **Conservation & Sustainability**. The three majors share a common first year, follow parallel (but specialized) curricula the second and third years, then converge again in the final year of studies.

While each is design-oriented, the majors focus on different aspects and scales of the built environment. All three BAS majors offer **Directed Studies Abroad** (DSA) opportunities in the third year of studies and include a co-op option. All three majors prepare students to continue on to professional studies in Architecture at the Masters level – or to advanced degrees in related disciplines.

BACHELOR OF ARCHITECTURAL STUDIES **ONE DEGREE; THREE SPECIALIZATIONS**

Three majors allow students to select and specialize in a particular aspect of the architectural profession: **Design** appeals to those interested primarily in a professional career in architecture with an emphasis on design. **Urbanism** explores architecture in the larger context of the city and raises awareness and promotes stewardship of the built environment through an examination of mass urbanization in the 20th century. **Conservation and Sustainability** is for those interested in the conservation of historical architecture and the principles of sustainable design of buildings as well as the urban fabric.

LINK: [More about our Undergraduate Programs](#)

GRADUATE ACADEMIC PROGRAMS **MArch, MAS, PHD**

MASTER OF ARCHITECTURE (MArch)

We recognize that students come from a wide range of academic and life experiences. Our 8.0-credit MArch is aimed at applicants holding a four-year undergraduate degree or its equivalent in architecture. Our 13.0-credit MArch is intended for individuals from diverse backgrounds wishing to pursue careers in architecture. We emphasise architectural design as a form of critical inquiry. Advanced studios offer exciting opportunities to study with the Azrieli Visiting Critics, who annually bring cutting-edge international design and research expertise to bear on the M.Arch. The School holds semester-long [Directed Studios Abroad](#), with current and recent sites including Berlin, Bologna, Helsinki, and Paris.

LINKS:

2015 [M.Arch folio](#) of graduate student work.

[Learn more](#)

MASTER OF ARCHITECTURAL STUDIES (MAS)

The Master of Architectural Studies (MAS) is a 6 credit non-professional degree for students interested in pursuing in-depth architectural research. Students holding a MAS may be considered for admission to the PhD program in Architecture.

LINK: [Learn more](#)

PHD IN ARCHITECTURE (PHD)

Carleton University's PhD in Architecture is an innovative, comprehensive doctoral program that fuses research with critical practice in architecture. Exceptionally talented and thoughtful architects are invited to undertake original, speculative, and experimental research within the well-established trinity of pathos, ethos, and logos that has come to distinguish the School of Architecture at Carleton. At the Carleton University Azrieli School of Architecture & Urbanism, doctoral projects will draw on the interrelated genetic, performative, and reflective aspects of architecture, design and material process.

LINK: [Learn more](#)

GRADUATE DIPLOMA IN ARCHITECTURAL CONSERVATION [GDAC]

PROFESSIONAL DEGREE WITH A FOCUS ON ARCHITECTURAL CONSERVATION

Canada has close to 25,000 properties designated as architectural heritage sites. In addition, over 200,000 sites are listed on heritage inventories with an average of 2,000 properties being added each year. There is a growing demand for qualified specialists to shepherd these valuable cultural resources. Carleton has established an international reputation for excellence in this field with the MA program in Canadian Studies. The [Graduate Diploma in Architectural Conservation](#) [GDAC] builds on this foundation by augmenting our existing professional degree with a focus on architectural conservation. The program consists of four credits dealing specifically with the theory and practice of architectural conservation.

LINK: [Learn more](#)

LINK: [More about our Graduate Programs](#)

3.3.b Program Information – Website & Syllabi

The following information is included in the “Programs” section of the school’s website. This statement is also a component part of the boiler-plate for hand-distributed and on-line syllabi for all courses in the School’s curriculum. The statement, containing links to additional Program information, reads as follows:

In Canada, all provincial/territorial associations/institutes/orders recommend a degree from an accredited professional degree program as a prerequisite for licensure. The Canadian Architectural Certification Board (CACB), which is the sole agency authorized to accredit Canadian professional degree programmes in architecture, recognizes two types of accredited degrees: the Bachelor of Architecture and the Master of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards.

Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.
[source: CACB]

- At the Azrieli School of Architecture, the accredited sequence consists of either of the following:
- The 4-year BAS-Design degree plus the 2-year M.Arch curricular sequence or
- The 4-year BAS-Urbanism or BAS-Conservation & Sustainability degree plus the 3-year M.Arch curricular sequence
- A 4-year honours undergraduate degree other than the BAS plus the 3-year M.Arch curricular sequence

Guide to Student Performance Criteria

<http://cacb.ca/en/conditions-and-procedures-for-accreditation/#>

This guide is written expressly for the faculty and students of professional degree program in architecture. It begins with a brief overview of the parameters for accrediting professional degree programs, including a list of the twelve conditions that your programme must address to maintain its accreditation. However, the guide's primary purpose is to inform you about one of these conditions, namely the **Student Performance Criteria** (SPC). These are areas where every student, who graduates from an accredited architecture program, must demonstrate the required level of accomplishment. The criteria define the minimum requirements for your professional education in architecture.

Source: School of Architecture Web-site:

<http://carleton.ca/architecture/programs/academic-programs/undergraduate-programs/>
<http://carleton.ca/architecture/about/>

Our **MArch** degree is granted upon completion of a 2-year (8.0 credit) or 3-year (13.0 credit) curriculum. The Canadian Architectural Certification Board (CACB) recognizes this degree as an academic prerequisite for registration in the Intern Architect Program. Further information on professional registration can be obtained from the CACB or from one of the provincial associations.

Source: School of Architecture Web-site:

<http://carleton.ca/architecture/programs/academic-programs/graduate-programs/m-arch-program/>
<http://carleton.ca/architecture/about/>

Source: CACB:

<http://cacb.ca/en/conditions-and-procedures-for-accreditation/#>

3.3.c Program Information – BAS and MArch: Boilerplate for all Syllabi

Sample of Boilerplate for each course syllabus:

ACCREDITATION AND PROFESSIONAL EXPERIENCE

Student Performance Criteria

For the purposes of accreditation, graduating students must demonstrate *understanding* or *ability* in the student performance criteria listed below, according to an established sequence. The 31 STC are as follows:

<p>A1 Critical Thinking Skills. A2 Research Skills. A3 Graphic Skills. A4 Verbal and Writing Skills A5 Collaborative Skills A6 Human Behavior A7 Cultural Diversity A8 History and Theory A9 Precedents</p> <p>B1 Design Skills B2 Program Preparation B3 Site Design B4 Sustainable Design</p>	<p><u>B5 Accessibility</u> B6 Life Safety Sys, Bldg Codes & Stds B7 Structural Systems B8 Environmental Systems B9 Building Envelopes. B10 Building Service Systems. B11 Building Materials and Assemblies. B12 Building Economics and Cost Control</p> <p><u>C1 Detailed Design Development</u> <u>C2 Building Systems Integration</u> <u>C3 Technical Documentation</u> <u>C4 Comprehensive Design</u></p> <p>D1 Leadership and Advocacy D2 Ethics and Professional Judgment</p>
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THIS COURSE MEETS THE 5 CRITERIA IN BOLD.

- **Accessibility:** Ability to design both site and building to accommodate individuals with varying physical abilities
- **Building systems integration:** Ability to assess, select, and integrate structural systems, environmental systems, life-safety systems, building envelope systems, and building service systems into building
- **Detailed design development:** Ability to assess, select, configure, and detail as an integral part of the design, appropriate combinations of building materials, components, and assemblies to satisfy the requirements of building
- **Technical documentation:** Ability to make technically precise descriptions and documentation of a proposed design for purposes of review and construction
- **Comprehensive design:** Ability to produce an architecture project informed by a comprehensive programme, from schematic design through the detailed development of programmatic spaces, structural and environmental systems, life-safety provisions, wall sections, and building assemblies, as may be appropriate; and to assess the completed project with respect to the programme's design criteria

ACCREDITATION AND PROFESSIONAL EXPERIENCE

3.4 Social Equity

The School of Architecture complies with all University guidelines on hiring. The University's Policy on Employment Equity reads as follows:

3.4.a Faculty Appointments

Carleton University's Employment Equity Program

Carleton University is committed to equity in all aspects of employment. The University is dedicated to the elimination of discrimination and harassment; the removal of systemic barriers and the promotion of employment equity. This commitment is clearly articulated in the [University's Human Rights Policies and Procedures](#).

Carleton University is a federal contractor and complies with the Federal Contractors Program, the purpose of which is "to achieve equality in the workplace so that no person shall be denied employment opportunities or benefits for reasons unrelated to ability and, in the fulfilment of that goal, to correct the conditions of disadvantage in employment experienced by (the four designated groups) women, Aboriginal Peoples, persons with disabilities and members of visible minorities by giving effect to the principle that employment equity means more than treating persons in the same way but also requires special measures and the accommodation of differences."

Employment Equity is an on-going planning process used by an employer to do three things:

- 1 Identify and eliminate barriers in an organization's employment procedures and policies;
- 2 Establish policies and practices to ensure the effects of systemic barriers are eliminated;
- 3 Ensure appropriate representation of "designated group" members in their workforce.

The primary goal of Employment Equity is to eliminate unfair employment barriers for the four designated groups identified in the Employment Equity Act (women, persons with disabilities, Aboriginal people, and members of visible minorities). Employment Equity also attempts to remedy past discrimination in employment opportunities and prevent future barriers, improve access and distribution throughout all occupations and at all levels for members of the four designated groups and foster a climate of equity in the organization.

Carleton University's Employment Equity Program has the following dimensions:

- A standing Presidential Advisory Committee on Equity Policy that monitors and advises on the University's progress toward implementing employment equity;
- An Employment Equity Policy within the University's Human Rights Policies and Procedures that commits the University to:
 - a. the establishment of a diverse work force and a welcoming, supportive environment for all employees;
 - b. search procedures that include an active search for qualified members of the four designated groups (see: [Employment Equity in Recruitment and Selection for Academic Appointments at Carleton University](#));
 - c. make all appointments on the basis of merit and where the qualifications of two candidates for appointment are demonstrably equal and where one candidate is a member of an under-represented designated group in the unit, to offer the position to the candidate from the under-represented group;
 - d. periodic reviews of criteria for appointment, confirmation, renewal, and tenure and promotion by deans and directors to ensure that the criteria do not undervalue work that is done predominantly by members of the designated groups.
- An ongoing employment equity census of all employees covered by the Program to enable the University to gauge its progress toward the establishment of a representative work force;
- Ongoing training programs of managers and employees regarding their human rights and equity obligations under the University's Human Rights Policies and Procedures;
- A communications program on what employment equity is and how the University's commitments to diversity strengthen the University community;
- Periodic reviews of all employment systems.

Links:

[Employment Equity in Recruitment and Selection for Academic Appointments at Carleton University](#)

[Carleton's Employment Equity Census](#)

[Summary of Workforce Analysis of Carleton University](#)

Carleton University is committed to equality of employment for all individuals. In 1987, the university signed a letter of commitment to the Federal Contractors Employment Equity Program to take measures to prevent or eliminate disadvantages in employment, unrelated to merit, historically experienced by women, visible minorities, aboriginal peoples and people with disabilities. As part of a larger effort to create an equitable work and study environment, the university has committed to publicizing our Employment Equity Policy with all faculty and staff. It is reproduced here and is also available through the Equity Services website at: <http://carleton.ca/equity/>

Preamble

This policy supports Carleton University's commitment to sections 15 and 28 of the Canadian Charter of Rights and Freedoms, to sections 1, 5 and 14 of the Ontario Human Rights Code, the Federal Contractors Program, provincial employment legislation, including the Employment Standards Act and the Labour Relations Act, the university's collective agreements with its bargaining units, and the university's Statement on Conduct and Human Rights.

Principles

1. Carleton University is committed to providing equity in employment (including pay equity) and maintaining a supportive, hospitable and welcoming employment environment for all individuals.
2. The university is committed to achieving and maintaining a diverse workforce and to initiating special measures as required to ensure full participation and advancement of employees in groups that have traditionally been under-represented, to enable them to compete for positions and work with others on an equal basis.
3. The groups designated for measurement of employment equity include women, Aboriginal peoples, persons with disabilities, racialized or visible minorities, and such other groups as may be agreed from time to time by the university and its bargaining units or designated by legislation.
4. The university is also committed to providing accommodation on human rights grounds to employees to the point of undue hardship (considering cost, outside sources of funding, if any, and health and safety requirements) to enable them to perform the essential duties of their job.

Policy

1. The primary criterion for appointment to positions at the university is academic, professional, administrative or technical excellence as applicable. No candidate shall be recommended for appointment who does not meet the criteria for the appointment in question. The best available candidate should be hired, regardless of membership in a designated group.
2. Where the qualifications of two candidates for appointment are demonstrably equal, and one of these candidates is a member of a group that is under-represented in continuing appointment positions in a unit, then, all else being equal, the candidate of the under-represented group should be offered the position.
3. The university undertakes to use search procedures that require an active search for qualified members of under-represented group.
4. Consistent with the directive of the Academic and Research Committee, appointment or search committees are required to hold a familiarization and training session, conducted by an Equity Advisor or designate, that covers the guidelines, principles, objectives, recent history, best practices, and rules and institutional expectations with respect to employment equity. Committees may also designate one member to have specific responsibility for employment equity; that person may request additional in-depth training to assist him or her in this role.
5. In the evaluation of candidates for appointment, confirmation, renewal, tenure and promotion, the criteria adopted must not systematically discriminate against members of designated groups and shall be reviewed periodically by deans and directors to ensure that the criteria do not undervalue work that is done predominantly by members of the designated groups. Committees are required to take special care not to eliminate at early stages potentially strong candidates who are members of designated groups.
6. The university undertakes to identify and remove any discriminatory policies and practices found in the

recruitment, selection, transfer, promotion, performance appraisal, training, career development, compensation, benefits, termination and working conditions of employees in all levels and categories of employment.

Implementation

1. The president of the university has primary responsibility for the university's employment equity program. The vice-presidents (Academic; Finance and Administration), assisted by their deans and directors, are responsible for implementing steps in the employment equity program.
2. Implementation of employment equity is at the university level and the unit level. A unit is defined as a recognized grouping having primary responsibility to generate recommendations for appointment into positions.
3. In designing and implementing employment equity, university management shall co-ordinate and co-operate with bargaining units on campus through joint union management committees. Management and unions should also consult with the Office of Equity Services and university or community organizations that represent the target groups of any program. Such representatives may be invited to participate in the work of such committees.
4. The terms of the employment equity plan for the university are to be provided to the bargaining units on campus by Equity Services and the Human Resources Department and may be incorporated as applicable into the relevant collective agreements with agreement of management and the bargaining unit. The plan should also be available in the Office of the President for consultation by any member of the university community.
5. Current documentation and guidelines on employment equity are to be provided to deans and directors, chairs and directors of schools, and unit heads by Equity Services. Training on related human rights issues shall be provided to these individuals at least bi-annually by the Human Resources Department and the Office of Equity Services, in consultation with any officer of the university responsible for employment equity. The university will also provide ongoing education and training to all employees on human rights issues.
6. For the purposes of implementing this policy, under-representation of designated groups will be assessed using the latest employment equity National Occupational Classification (NOC) data on external availability as the benchmark where appropriate. With the assistance of the Office of Institutional Research and Planning, the university will undertake assessment on a regular basis of the representation of target groups in its workforce by carrying out a workforce analysis, comparing representation levels in the university with relevant external data, determining under-representation, and establishing goals, timetables and methods for increasing representation.
7. Employment equity considerations are to be incorporated into employment systems review and process redesign initiatives.

The policy in full can be found on the University's web site at:

<https://carleton.ca/equity/employment-and-education-equity/>

The School continues to attempt to increase the proportion of women on its teaching staff. In 2004, three of the twelve full-time faculty positions were held by women, whereas today, the ratio has increased to 6.5 of the 14.0 positions. In assigning Contract Instructors to its curriculum, the School attempts to provide students with as many female role models as possible, especially in the Design Studio context. Contract Instructors continue to play an important role in the School. We continue to address gender parity in the full-time faculty in recent and future hires.

3.4.b Equity and Diversity in Student Admissions

While the number of female applicants represented 42.6 percent of the applications received for the 2009-10 academic year, 64.9 percent of the offers of admission were made to women. In the BAS program, 192 of the 312 students are women (61.5%). In the School as a whole, 66.1% of the students are women, while some 60% of the incoming first year students in 2015-16 were women. Neither the School nor the University maintain student records on the basis of racial or ethnic categories. Carleton University however is known for its diverse student population and the School of Architecture shares in this diversity and makes every attempt to reflect this in its faculty composition.

Full-Time	Table 3.4.b A - Gender of Full-Time Students in Bachelor of Architectural Studies 2015-16														
	1st Year			2nd Year			3rd Year			4th Year			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
BAS	3 7	51	8 8	2 7	57	8 4	3 5	38	7 3	2 1	46	6 7	12 0	19 2	31 2

Source: Student Record Database, as at November 1, 2015

Retention

The School of Architecture has the highest retention rate of students in the University averaging 82.9% over the duration of undergraduate studies. Graduate studies approach 100%. The data tracks enrolment into the 4th year of the program and does not account for a fifth year of study for students who elect a Co-op work-term options for the BAS degree. Enrolment in the Co-op program has consistently risen in the years from 2006 to 2012 when these figures were calculated.

Table 3.4.b. B - Retention and Graduation of New First-time, Full-time Undergraduates								
Cohort	Head Count	H.S. Avg.	Continuation Rates					
Year			Cont. to 2nd Yr		Cont. to 3rd Yr		Cont. to 4th Yr	Cont. to 5th Yr (Co-op)
Bachelor of Architectural Studies								
2006	40	84.9%	100.0%		92.5%		97.5%	n/a
2012	76	86.9%	94.7%		92.1%		82.9%	30.0%
Bachelor of Engineering								
2012	866	84.7%	91.2%		85.0%		81.4%	
Bachelor of Industrial Design								
2012	36	85.7%	100.0%		100.0%		47.2%	
Bachelor of Information Technology								
2012	81	79.1%	92.6%		80.2%		74.1%	
Cohort: All Degree-seeking, First-time, Full-time Year One Undergraduates								

3.4.c Policies, Publications and Procedures

The Undergraduate Calendar, and Graduate Calendar lay out School policies and procedures. Relevant policies are also listed on studio course outlines as well as on the School's web site.

All meetings of the Architecture Faculty Board are open to the public (except when student records are discussed). Student representatives maintain voting membership on the Architecture Faculty Board; students are also members of a variety of Faculty Board committees. The Director, the Associate Directors and the Student Affairs Coordinator (a faculty member) hold regular meetings with student representatives throughout the academic year.

3.5 Human Resources

3.5.a Students

The statistics for the number of female applicants shows an increase with the past four admission cycles. This trend in statistics is consistent with the overall number of women within the BAS and M.Arch programs. In the School as a whole, 56 percent of the students are women, the highest percentage in the Faculty of Engineering and Design. Neither the School nor the University maintain student records on the basis of racial or ethnic categories.

3.5.a i Enrolment by Majors, Sex, and Academic Status

Table 3.5.a.i Sex of Full-Time Students in B.A.S. Program				
	Enrolment			
	Male	Female	Total	
2015-2016	120	192	312	
2014-2015	131	190	321	
2013-2014	134	198	332	
2012-2013	119	194	313	

3.5.a ii Enrolment by Majors and Year of Study

Table 3.5.a.ii A: Enrolment Bachelor of Architectural Studies and M. Arch 2012/13 - 2015/16						
	First Year	Second Year	Third Year	Fourth Year	Masters	Total
2015/16	82	86	77	77	123	445
2014/15	76	82	76	94	114	441
2013/14	74	80	90	96	103	442
2012/13	71	93	85	73	99	420
2009/10	70	85	69	80	84	388

Source: Student Record Database, FTEs for each Academic Year

Table 3.5.a.ii B: Enrolment 2011-2015 by Majors and Year of Study and Sex								
	BAS Major	Total	Female	Male	Year 1	Year 2	Year 3	Year 4
2015 Fall	Design	249	156	93	55	62	64	68
	C&S	54	37	17	16	13	12	13
	Urbanism	32	13	19	18	13	0	1
2014 Fall	Design	258	150	108	53	67	69	69
	C&S	58	38	20	14	14	8	22
	Urbanism	25	15	10	16	0	1	8
2013 Fall	Design	282	160	122	81	71	61	69
	C&S	47	35	12	1	9	25	12
	Urbanism	18	12	13	1	9	9	0
	Phil. & Crit	1		1			1	
	UARC	2	2					2
	BAS Major	Total	Female	Male	Year 1	Year 2	Year 3	Year 4
2012 Fall	Design	262	150	112	77	64	62	59
	C&S	43	34	9		24	12	7
	Urbanism	26	18	8	1	9	9	7
	Phil. & Crit	1		1		1		
	UARC	7	4	3				7
2011 Fall	Design	226	138	88	84	66	62	14
	C&S	30	23	7		13	9	8
	Urbanism	22	14	13	1	9	9	0
	UARC	67	37	30		1	1	65

3.5.a iii Admission Numbers for 2016-2017 Academic Year

Preamble:

The School of Architecture recruits students who have demonstrated excellence in the disciplines of science, mathematics, liberal arts, social studies, and creative writing. The applicants with a Secondary School Diploma must include English (ENG4U), Physics (SPH4U), Advanced Functions (MHF4U), plus 3 additional credits (Calculus MCV4U is strongly recommended). Evidence of artistic ability and creative potential is essential and is judged through the submission of a portfolio of original work. We consider that the hard work we put into the recruitment and admission process results in high retention rates and very high quality studio and workshop production reflecting the mission statement of our program.

Applications are assessed on the basis of academic credentials, a portfolio submission, a written exercise and a curriculum vita. The University's Office of Admissions and the School's Admissions Committee handle assessment of applications jointly. In establishing the final mark on the basis of which the list of offerings is prepared the portfolio ratings carry twice the weight of the academic ratings.

Applicants to the Architecture Program must hold the Ontario Secondary School Diploma, or its equivalent, with a minimum average of 74-76%. In practice, however, the overall grade averages of successful Architecture applicants is substantially higher, and for the past few cycles was near 86%, one of the highest values in the University.

The School's recruitment efforts are exemplary and include University-wide efforts such as the OUF (Ontario University Fair), Open House events as well as self-initiated events such as Design Days and individually based interviews and tours.

Because of the high interest among the young population to study architecture and our fixed enrolments we can expect high entrance level academic scores for our School. Sixty-four of the 134 students offered admission to the programs had high-school academic averages of 83% or above, required for University Entrance Scholarships. Throughout the program, an effort is made to maintain and build upon these high academic standards -- complementing the craft-based orientation of the studios with rigorous program of core and elective courses. All BAS majors -- Design, Conservation & Sustainability and Urbanism -- attract equally excellent candidates.

Table 3.5.a.iii Admission Numbers to 1st Year BAS for 2016-2017			
Number of Initial Applications	Number of Portfolios Submitted	Number of Offers	1st Year Students Registered
967	TOTAL: 632 Design: 518 C&S: 44 Urbanism: 70	TOTAL: 167 Design: 112 C&S: 25 Urbanism: 30	TOTAL: 92* Design: 56 C&S: 16 Urbanism: 20

*Includes new students and students entering the BAS from another program.

Summary: 65.3% of all applicants supplied portfolios 26.4% of students submitting full applications with portfolios offered admission 55.2% of those students offered admissions registered

3.5.a.iv Admission Average, Retention & Graduation of Undergraduate Students – BAS

Table 3.5.a.iv Admission Average, Retention & Graduation of BAS Students							
Continuation Rates							
Cohort	Head Count	HS Avg	Cont. to 2nd Yr	Cont. to 3rd Yr	Cont. to 4th Yr	Cont. to 5th Yr	Cont. to 6th Yr
2009	72	84.9%	91.7%	87.5%	83.3%	37.5%	5.6%
2010	77	86.3%	93.5%	88.3%	89.6%	32.5%	3.9%
2011	80	86.6%	97.5%	95.0%	91.3%	30.0%	
2012	76	86.9%	94.7%	92.1%	82.9%		
2013	77	87.3%	92.2%	93.5%			
2014	77	87.8%	93.5%				

Cumulative Graduation Rates					
Years After	Head Count	HS Avg	Grad. in 4 yrs	Grad. in 5 yrs	Grad. in 6 yrs
2009	72	84.9%	47.2%	79.2%	80.6%
2010	77	86.3%	54.6%	83.1%	
2011	80	86.6%	57.5%		
2012	76	86.9%			
2013	77	87.3%			
2014	77	87.8%			

Note: Increased participation in Co-op option has increased the graduation rate in the 5th year of study

3.5.a v Geographical Area of Origin of Students by Degree Program

Table 3.5.a.v - Residency of Full-Time and Part-Time Students by Degree Program 2012-2015																
Program		Canadians			Permanent Residents			International Students			Total			Percentage International Students		
		All	FT	PT	All	FT	PT	All	FT	PT	All	FT	PT	All	FT	PT
BAS	2015 Fall	285	268	17	33	30	3	17	15	2	335	313	22	5.1	4.8	9.1
	2014 Fall	290	271	19	34	33	1	17	17		341	321	20	5.0	5.3	
	2013 Fall	298	287	11	35	34	1	17	14	3	350	335	15	4.9	4.2	20.0
	2012 Fall	281	259	22	39	36	3	19	18	1	339	313	26	5.6	5.8	3.8
M.Arch	2015 Fall	101	100	1	8	8		4	4		113	112	1	3.5	3.6	
	2014 Fall	98	92	6	10	10		5	4	1	113	106	7	4.4	3.8	14.3
	2013 Fall	94	92	2	6	6		3	3		103	101	2	2.9	3.0	
	2012 Fall	86	85	1	5	5		6	6		97	96	1	6.2	6.3	

Source: Student Record Database, as at November 1 of each academic year

Notes:

1. Undergraduate students are counted as full-time if registered in 4 or more credits - graduate students by declaration.

3.5.a vi Convocation 2011-2015 by Majors and Sex

Table 3.5.a.vi - Degrees, Diplomas, and Certificates Conferred by Degree Program and Sex of Students: Calendar Years 2011 to 2015						
	Master of Architecture			Bachelor of Architectural Studies		
	All	Female	Male	All	Female	Male
2015	44	31	13	78	49	29
2014	36	17	19	80	48	32
2013	34	24	10	63	36	27
2012	46	25	21	80	48	32
2011	47	21	26	56	33	23

Source: Student Records Database, Convocation Records, 2011 to 2015

Table 3.5.a.vii Geographical Area of Origin of Students by Degree Program

Year	First			Second			Third			>= Fourth			>=Third			OUAC Total									
	15-'16	14-'15	13-'14	15-'16	14-'15	13-'14	15-'16	14-'15	13-'14	15-'16	14-'15	13-'14	15-'16	14-'15	13-'14	15-'16	14-'15	13-'14							
All	Applicants	138	142	153	205	120	121	114	105	78	76	85	81	55	67	68	76	133	143	157	391	406	420	467	
	Approved	48	50	45	37	44	47	46	25	20	22	23	15	22	14	12	11	42	36	35	26	134	133	126	88
	Registered	42	42	37	32	25	25	16	16	7	10	10	4	7	2	5	3	14	12	15	7	81	79	77	55
Ottawa	% Registered	88%	84%	82%	86%	57%	53%	54%	64%	35%	45%	43%	27%	32%	14%	42%	27%	33%	33%	43%	27%	60%	58%	61%	63%
	Applicants	36	35	33	42	9	5	7	3	3	2	4	1	1		1	3	4	2	5	4	49	42	45	49
	Approved	12	14	15	11	4	3	6				4	1				2			4	3	16	17	25	14
GTA	Registered	12	14	14	10	3	3	3				3	1				2			3	3	15	17	20	13
	% Registered	100%	100%	93%	91%	75%	100%	50%				75%	100%							75%	100%	94%	100%	80%	93%
	Applicants	33	31	45	53	51	48	51	44	37	49	47	42	42	33	40	39	41	70	89	86	154	168	182	180
Other	Approved	17	13	14	10	21	23	20	16	12	16	12	10	20	9	10	7	32	25	22	17	70	61	56	43
	Registered	15	10	11	10	9	9	9	11	4	7	2	2	6	2	4	1	10	9	6	3	34	28	26	24
	% Registered	88%	77%	79%	100%	43%	39%	45%	69%	33%	44%	17%	20%	30%	22%	40%	14%	31%	36%	27%	18%	49%	46%	46%	56%
Other	Applicants	69	76	75	110	60	68	56	58	38	25	34	38	21	27	28	32	59	52	62	70	188	196	193	238
	Approved	19	23	16	16	19	21	20	9	8	6	7	4	2	5	2	2	10	11	9	6	48	55	45	31
	Registered	15	18	12	12	13	13	13	5	3	3	5	1	1		1		4	3	6	1	32	34	31	18
Other	% Registered	79%	78%	75%	75%	68%	62%	65%	56%	38%	50%	71%	25%	50%		50%		40%	27%	67%	17%	67%	62%	69%	58%

Source: OUAC Applications Data and Student Records Database Applications Data

Notes:

1. Percentages indicate the percent registered or accepted for the indicated group for the given choice and year.
2. Some students are 'not approved' but do register at Carleton (primarily as Special students); these students are excluded from % Registered (of Approved).

3.5.a viii Master's (M.Arch) Total Enrolments, Transfers, Withdrawals and Completion by Year

Table 3.5.a.viii - Flow-through and Graduation Rates

Master of Architecture															
Cohort Term	Status after 6 terms														
	Cohort			Continuing				Withdrawn		Stopout		Completed			
	Total	Full-time	Part-time	Full-time		Part-time		#	%	#	%	#	%	#	%
				#	%	#	%								
2003 Fall	36	35	1	7	19.4%	1	2.8%	2	5.6%	-	-	26	72.2%		
2004 Fall	28	28	-	11	39.3%	-	-	1	3.6%	2	7.1%	14	50%		
2005 Fall	24	22	2	1	4.2%	-	-	-	-	2	8.3%	21	87.5%		
2006 Fall	29	23	6	7	24.1%	2	6.9%	1	3.4%	3	10.3%	16	55.2%		
2007 Fall	28	22	6	5	17.9%	2	7.1%	-	-	1	3.6%	20	71.4%		
2008 Fall	28	17	11	4	14.3%	3	10.7%	1	3.6%	1	3.6%	19	67.9%		
2009 Fall	45	41	4	4	8.9%	2	4.4%	-	-	2	4.4%	37	82.2%		
2010 Fall	47	35	12	3	6.4%	2	4.3%	-	-	4	8.5%	38	80.9%		
2011 Fall	44	40	4	-	-	1	2.3%	4	9.1%	13	29.5%	26	59.1%		
2012 Fall	48	46	2	3	6.2%	1	2.1%	2	4.2%	17	35.4%	25	52.1%		
2013 Fall	44	44	-	4	9.1%	-	-	-	-	15	34.1%	25	56.8%		

Notes: 1. Cohort include transfer IN and OUT of programs.
2. M. Arch (3-Year) Candidates require 9 terms of study for completion; first cohort 2011

Status after 9 terms													
Cohort Term	Cohort			Continuing				Withdrawn		Stopout		Completed	
	Total	Full-time	Part-time	Full-time		Part-time		#	%	#	%	#	%
				#	%	#	%						
2003 Fall	36	35	1	-	-	-	-	2	5.6%	1	2.8%	33	91.7%
2004 Fall	28	27	1	5	17.9%	-	-	1	3.6%	-	-	22	78.6%
2005 Fall	24	21	3	-	-	1	4.2%	1	4.2%	1	4.2%	21	87.5%
2006 Fall	29	17	12	1	3.4%	-	-	2	6.9%	2	6.9%	24	82.8%
2007 Fall	28	19	9	-	-	-	-	-	-	1	3.6%	27	96.4%
2008 Fall	28	17	11	-	-	-	-	2	7.1%	-	-	26	92.9%
2009 Fall	45	39	6	-	-	-	-	-	-	-	-	45	100%
2010 Fall	47	35	12	-	-	-	-	1	2.1%	-	-	46	97.9%
2011 Fall	44	40	4	3	6.8%	-	-	4	9.1%	1	2.3%	36	81.8%
2012 Fall	48	41	7	2	4.2%	-	-	3	6.2%	3	6.2%	40	83.3%
2013 Fall	44	31	13	-	-	12	27.3%	1	2.3%	-	-	31	70.5%

3.5.a.ix Times to Completion of Master's Program

Table 3.5.a.ix Mean and Median Times-to-Completion of Master's Program 2009-2015 (Calculated in Calendar Years and Full-time Equivalent Years)						
	Time to Degree, in Calendar Years			Full-time Equivalent Years		
	N	Mean Years	Median Years	N	Mean Years	Median Years
M. ARCH	263	1.63	1.33	263	1.55	1.33

Source: Winter, Spring and Fall frozen student records, 2003 to 2009.

Notes:

1. Full-time Equivalent Years' represents the time taken in actual terms registered, weighted by part-time and full-time status and discounting terms of non-registration.
2. Mean and Median FTE years therefore measure the actual demand for resources on the academic unit.

Office of Institutional Research and Planning: Jun. 27, 2016; Id: 866878

3.5.b Faculty

3.5.b.i Computation of Faculty Teaching, Research and Administrative Loads

Guideline for Faculty Load Evaluations

AZRIEI SCHOOL OF ARCHITECTURE & URBANISM

Faculty Board May 2009.

(Revised May 13, 1997 based on discussions with Executive Committee, 2nd Revision June 17, 1997, 3rd revision May 13, 1998 to add SPA Chair as new Administrative Category, 4th Revision June 1999 to update Administrative Categories. 5th Revision Faculty Board December 5, 2003 to update Administrative Categories. 6th Revision June 2, 2008.)

Take total load as 100% "Normal" in University as: 50% Teaching/ 15% Administration/ 35% Research
(Article 13.1 of Collective Agreement)

Norms (based on past practices and defining Workshop/Electives as research-related) 35% Research

TEACHING (per year):

Normal per year	50% (equivalent to two studios and one core course)
Studio	20% per studio x 2 studios per year = 40%
Core Lecture/Elective (enrolment above 25)	10% per course x 1 course per year = 10%

ADMINISTRATION:

Minimum per year 15% (Note All Assignments are for 3-year term unless specified)

Category A 20%

Associate Director (Graduate), Associate Director (Undergraduate), Associate Director (Prof. Programs)

Category B 12%

Coordinator – Accreditation/Integrative Report (Planning and Preparation) (5 Year Term)
Coordinator – Admissions/Recruitment (BAS) (2 person assignment – 6% Each)
Coordinator – Admissions and Recruitment (M.Arch)
Coordinator – Admissions and Recruitment (PhD.)
Coordinator – Forum Lecture, Exhibitions (3 person assignment – 6% each)
Coordinator – Facilities / Health & Safety
Coordinator of a BAS Major (3 positions: Design, Urbanism, Conservation & Sustainability)

Category C 10%

Graduate Supervisor (1 Year Term)
Accreditation Team Member- Report/Exhibition (1 Year Term)
Coordinator, International Relations (DSA-Exchange Programs)
Chair- Faculty Search Committee (Appointed by Director's Office)
Coordinator – Professional Study / Co-operative Work Placement
Coordinator – Promotion and Tenure (School Level) (Appointed by Director's Office)
Studio Year Coordinator (5% each term)
Coordinator, Exhibitions (2 person assignment – 5% each)
Chair – Facilities/Health & Safety/ Events / Long Range Planning
Committee Chair – Computer Facilities

Chair, Curriculum Committee
 Chair, PhD. Planning Committee (*New for 2009-2010 Academic Year*)
 Chair, Architecture Library/TDR Committee
 Chair, Editorial Steering Committee for Carleton Folio

Category D 2.5%

Coordinator – History/Theory (Curriculum)
 Coordinator – Technology (Curriculum)
 Coordinator – Info & Digital Tech (Curriculum)
 Coordinator – Student Affairs
 Coordinator – The Pit Lecture Series (2 person position – 2.5% each)
 Member – Architecture Library Committee (3 person Committee plus the Director)
 Member – Faculty Search Committee (Appointed by the Director's Office)
 Member of Admissions Committee (M.Arch, MAS, PhD)
 Member of Admissions Committee (BAS)
 Member, Curriculum Committee
 Member, Executive Committee
 Member, International Relations Committee (DSA, Foreign Exchange Programs)
 Member, Architecture Library/TDR Committee
 Member, Editorial Steering Committee for *Building 22* publication
 Member, PhD. Planning Committee
 Member, BAS Major Committee
 Member, Awards Committee
 Member, Facility/Health & Safety/Events/Long Range Planning
 Committee Member, Curriculum / Accreditation Committee
 Member – Promotion and Tenure Committee (School Level - Appointed by the Director's Office)
 Member – Portfolio Review Process (BAS)
 Academic Advising
 University/Faculty-level Committees:
 Health and Safety Committee
 Engineering Faculty Board
 University Senate
 Member OGS Selection Panel
 Others as required

RESEARCH: Minimum per year 35%

8.0% per Research related Workshop/Elective	8.0%
3.0% per Student (M.Arch. Thesis Supervision x 2)	6.0%
6.0% per student (PhD. Thesis Supervision x 1)	6.0%
15% - Minimum 1 Cat. C and 2 Cat. D	15%
1.0% per student – Independent Study	

Research Categories

Category A 40%
Book

Category B 20%
Article in peer-reviewed or edited journal Chapter in book
Solo exhibition with commissioned work
Organizing conference
Published Scholarly Article on own personal Design Work
Director of ORU, or Research Group: CIMS, CSALT, Other

Category C 10%
Conference paper/proceedings
Magazine article
Book review
Small exhibit or exhibit in group show
External grant application
Public lecture
Published review of Design Work

Category D 2.5%
Internal grant application
Newspaper Articles

General Principles

1. That Teaching and Administration are interchangeable (up to a maximum of 10%)
2. Increased research/publication cannot be used against teaching or admin except where release time is paid for by a grant, upon agreement with the Director.
3. Decreased research, however, may be exchanged for increased Administration up a maximum of 10%
- d) Evaluation based on:
 - a. participation in administration and teaching
 - b. strength of teaching evaluations
 - c. quantity and quality of research
 - d. information from internal (SAARC) course evaluations
5. Research credit given for published Scholarly Article on own personal Design Work supersedes credit for published review of Design

RESEARCH: Minimum per year 35%

8.0% per Research related Workshop/Elective	8.0%
3.0% per student (M. Arch. Thesis Supervision x 2)	6.0%
6.0% per student (PhD. Thesis Supervision x 1)	6.0%
15% - Minimum 1 Cat. C and 2 Cat. D	15%
1.0% per student – Independent Study	

Research Categories

Category A	40%
Book	
Category B	20%
Article in peer-reviewed or edited journal	
Chapter in book	
Solo exhibition with commissioned work	
Organizing conference	
Published Scholarly Article on own personal Design Work	
Director of CIMS	
Director of CSALT	

Category C 10%

Conference paper/proceedings Magazine article
Book review
Small exhibit or exhibit in group show External grant application
Public lecture
Director, Organizational Research Unit Published review of Design Work

Category D

2.5%

Internal grant application

Newspaper Articles

General Principles

1. That Teaching and Administration are interchangeable (up to a maximum of 10%)
2. Increased research/publication cannot be used against teaching or administration except where release time is paid for by a grant, upon agreement with the Director.
3. Decreased research, however, may be exchanged for increased Administration up a maximum of 10%
4. Evaluation based on:
 - a. participation in administration and teaching
 - b. strength of teaching evaluations
 - c. quantity and quality of research
 - d. information from internal (SAARC) course evaluations
6. Research credit given for published Scholarly Article on own personal Design Work supersedes credit for published review of Design

3.5.b.ii Full-time Faculty Teaching and Administrative Assignments

Teaching and Administrative Responsibilities of Faculty

	2016-17 Academic year		
Name	Winter 2016 (2017) where applicable	Fall 2016	Administrative Duties
Professors			
G. Andonian	ARCU 4400 City Org. & Planning ARCS 3106 Studio 5	ARCH 4801 – H/T Lecture ARCS 4105 Studio 6	Tenure & Promotion Cmt Awards Cmt Engineering Faculty Board Rep.
J. Stoner	N/A	ARCS 5105 Grad Studio 1: Gateway	Director Advisory Committee Tenure & Promotion Com. Faculty Search Com. Graduate Committee
Associate Professors			
M. Báez	ARCC 1202 - History of Structures ARCS 1105 - Studio 1 ARCS 3106 – Studio 5 (DSA 2017)	<i>Sabbatical 2016</i>	Design Major Committee Undergraduate Committee. Awards Cmt
S. Boyle	<i>Sabbatical - 2016</i> ARCN 5301 Daedalic Exerc 2 (2017) ARCS 4106 - Studio 7 (2017)	ARCC 3305 - Mat'l Application Wrkshp ARCS 5105 - Grad Studio 1: Gateway	Advisory Committee Graduate Committee Faculty Search Com.
Y. Cazabon	ARCC 3003 – Theatre Workshop ARCS 2106 – Studio 3 ARCC 5099 - Bldg Tech 4	ARCN 5909 – DRS - Thesis	Assoc. Director [Prof. Programs] Advisory Committee Co-op Faculty Advisor Curriculum Liaison (U/g-Grad) Accreditation Task Force
R. Connah	ARCS 4106 – Studio 7 Sabbatical (2017)	ARCH 1000 – Intro. To Architecture ARCU 3501 – Fund'ls of Urbanism	Communications Awards Cmt
J. Debanne	ARCN 5909 - DRS Thesis Administrative Release	ARCS 2105 – Studio 2 Administrative Release	Associate Director [Undergrad] Undergraduate Committee Advisory Cmt ORSA Representative Senate Awards Cmt
M. Esponda	ARCH 3100 – Cons, Phil. & Ethics ARCS 4106 – Studio 7 (Cons.)	ARCC 3301 - Cons. in Practice 1 ARCU 3501 - Fund'ls of Conserv'n..	Undergraduate Committee Senate Tenure & Promotion Cmt
S. Fai	ARCS 1105 – Studio 1 ARCH 4004 – Arch Hist-Theory	ARCH 5301 - Vitruvian Exerc. 1 ARCN 5301 - Daedalic Exerc. 1	Tenure and Promotion Com. Faculty Search Committee Lecture & Exhibits PhD Chair

L. Fontein [Part-Time]	N/A	ARCS 5105 - Grad Studio 1:Gateway ARCU 5200 – Professional Practice	Tenure & Promotion Cmt. Awards Cmt Building 22 Editor
B. Gianni	ARCS 3106 - Studio 5 ARCU 3100 Morphology of the City	ARCS 4105 - Studio 6 ARCH 4201 - Modern Housing	Undergraduate Committee Urbanism Admissions & Recruit Awards (Chair) Advisory Committee
F. Goffi	<i>Sabbatical 2016</i> PhD Colloq. (2017) ARCH 5302 -Vitruvian Exerc. 2 (2017)	ARCS 1005 - Drawing ARCS 2105 – Studio 2	Assoc. Director [Graduate] PhD Co-Chair Advisory Cmt Graduate Committee
P. Kariouk [Part-Time]	ARCS 5103 - M.Arch1 Studio 2 ARCS 5104 - M.Arch1 Studio 3 (summer)	ARCS 2105 - Studio 2 ARCH 4105 - Th. of Landscape	Lecture & Exhibits Faculty Search Committee Lecture & Exhibits Graduate Committee
I. Riar	Sabbatical	ARCS 3105 - Studio 4 ARCH 2300/5010 History of Modern Arch	Graduate Committee Lecture & Exhibits Tenure and Promotion Com. Representative for University Library
Assistant Professors			
*C. Bonier	N/A ARCU 3304 - Urb. in Practice 2 (2017)	ARCS 5102 - M.Arch1 Studio 1 ARCU 4801 - Sp. Topics - Urbanism	Undergraduate Committee Lecture & Exhibits
S. Bucking [x-appointment]	ARCC 5098 - Bldg Tech 3 (summer session)	ARCC 2202 - Arch Tech 1	Undergraduate Committee: Arch Tech
G. Mangone	ARCS 4106 - Studio 7 ARCC 3004/ARCH 5003 Energy & Form Workshop.	ARCS 3105 - Studio 4 ARCC 5100 Adv. Bldg Systems	Undergraduate Committee Facilities, Health & Safety Technology Cmt.
**O. Saloojee	N/A ARCS 1005 - Studio 1 (2017) ARCU 4300 - H/T of Urbanism (2017)	N/A	Graduate Committee Senate (2017)
J. Voordouw	ARCS 4106 - Studio 7 ARCN 2105/5000 Digital Modeling	ARCS 5102 - M.Arch1 Studio 1 ARCH 5200 - Grad Seminar	Tech/Digital Committee Lecture & Exhibits Faculty Search Committee
Undergraduate Committee: Admissions, Recruitment, Curriculum, Student Advising Graduate Committee: Admissions, Recruitment, Curriculum, Student Advising * New Faculty. Start Date 01.08.16 ** New Faculty. Start Date 01.01.17			

3.5.b. iii Summary of Faculty Research

Full time Faculty

Full time faculty of the School, in spite of the heavy teaching loads continue to strive for peer recognition in the field through research, competitions and awards. This demonstrates the diversity of topics of architectural inquiry, which support the delivery of academic content in the graduate and undergraduate programs for which the reputation of the School is well established. The following is a synopsis of faculty research. Additional information and a summary of faculty achievements have been attached in the APR - volume 2 containing faculty CVs:

K.S. Andonian, *M.Arch (Yerevan Polytechnic), M.A.Sc., Ph.D (Waterloo)*

Professor

Research: CAD and computer graphics, systems design and sustainability. Computer vision and architectural literacy; computer-mediated architectural education; architectural modeling and perspective space; stereo space and multi-light-source shadowing; architecture, technology and quality of life; info-tech, design and culture. Virtual reality and high tech in architecture; early and medieval Christian church architecture and its manifestations; architecture and philosophy; systems design and social, economic, environmental and cultural sustainability.

The International Institute of Advanced Studies in Systems Research and Cybernetics presented a Certificate of Membership in the International Academy of Arts, Sciences, and Engineering to Dr. K. S. [Greg] Andonian for outstanding scholarly work and life-long contribution to the advancement of knowledge in the field of Architecture, Systems Science and Cybernetics in 2013.

Manuel Antonio Báez, *B.Arch (Cooper Union), M.Arch (Cranbrook)*

Associate Director (Undergraduate - 2015-16)

Associate Professor

Research: Investigation of the fundamental integrative principles of form, structure and generative processes. Development of construction systems, processes and educational methods derived from the research. Architectural design; form, structure, and process in nature and engineering; morphology; developmental biology; complexity theory; cellular automata; emergence; natural systems theory.

Catherine Bonier, *B.A. History (Harvard College), M.Arch., PhD (Univ. of Pennsylvania)*

Assistant Professor

Research: Research spans from the 17th to the 21st century and centres on the shaping of the built environment around water, infrastructure, and ideas of health and balance. Issues of urban water and remediation in both historical and contemporary contexts. Her current research embodies a synthesis of scientific ideas, technological frameworks, cultural histories, and the shaping of civic works, public health, and urban environments. Local and global engagements at the intersection of architecture and urbanism.

Sheryl Boyle, *B.Arch (Carleton), M.Arch (McGill)*

Acting Director (2009-15)

Associate Professor

Research: Adaptive reuse, urban renewal, sustainable design, conservation, Canadian architecture, green buildings, brownfield sites, abandoned sites, remediation, sustainability, integrated design process. Research in the areas of adaptive reuse at both an urban scale and for individual buildings, particularly in historic industrial areas or core urban revitalization projects. Architecture as a construction of time, culture and materiality. Current research is in the non-visual senses in architecture and related material culture and its manifestation in the late medieval period as well as contemporary pre-fabricated building systems.

Yvan P. Cazabon, Dipl.A.T. (Algonquin), B.Arch (Carleton), M.Arch (McGill)

Associate Director (Professional Programs)

Associate Professor

Research: History/theory of architectural technology; critical review of building practice and material application. Theatre and Performance: set-design and construction; lighting design; artistic direction. Past research includes: International development; peri-urban housing for poor families in Africa; Historical preservation of domestic architecture in Trinidad & Tobago.

Roger Connah, B.A. Arch. (Hons) Dip. Ed. (Cantab)

Associate Professor

Research: critical history & hybrid architectural writing (critical fictions); the use and abuse of contemporary philosophy in architecture ; live pedagogy, theory & practice (the closing of the architectural mind); radical cartographies & cognitive mappings (graphics, film & communication); trans-architectural practice (www.mazy-heron.net); relational urbanism research (space mapping, the third city & hyperbolic urbanism) ; migration & diaspora project (exceptional/exceptionable space)

Janine Debanné, B.Arch (Carleton), M.Arch (McGill)

Associate Director (Undergraduate)

Associate Professor

Research: Reception of modernist architecture, including documentation and oral accounts of from the point of view of dwellers and architects, and reception by ethnic and other minorities; domestic spaces and habitation; public spaces and architectural public art; Baroque architecture; architectural pedagogy including drawing, with an emphasis on the human figure.

Mariana Esponda, Ph.D (Universitat Politècnica de Catalunya, Spain)

Associate Professor

Research: Focus on the evolution of construction techniques, on the compatibility of traditional and modern materials, on restoration methods for cultural heritage sites (archaeological zones and buildings), on the uses and effects of reinforced concrete in modern and antique buildings, and the use of concrete as the architectural language of the twentieth century.

Stephen Fai, B.Arch (Carleton), B.A., M.A., Ph.D (Ottawa)

Director CIMS

Associate Professor

Research: Documentation and dissemination of ethno-cultural methods of construction; biomedical visualization; and sophisticated techniques of building information modeling in the field of heritage conservation. Theories of architectural representation, architecture and religion, architecture and micro-history. Architectural representation and applied research through Carleton Immersive Media Studio.

Benjamin Gianni, B.A. (Univ. of Pennsylvania), M.Arch (Yale)

Associate Professor

Research: Focus on the areas of housing and urban development. Of particular interest is public housing constructed in the decades following WWII in Europe and North America, and its redevelopment from the 1990s onward. Research also includes urbanization, suburbanization and a study of large-scale housing ensembles in contemporary China, questioning the legacy of modernism and its transposition to different cultural and temporal contexts.

Federica Goffi, Ph.D. (Virginia), Dott. Arch. (Genoa)

Associate Director (Graduate)

Associate Professor

Research: Writings and research bring to focus the matter of time as an essential and overlooked design material, in its threefold nature of 'time', 'weather', 'tempo'. This includes explorations on the relationship between music and architecture; researching material imagination and architectural representation; restoration and rehabilitation projects. New research agenda explores how architecture may contribute to the well being of residents in health care facilities.

Giancarlo Mangone, B.Des-Arch (U of Florida), M.Arch (Univ. of Virginia), Ph.D (Delft)

Assistant Professor

Research: Design research focused on investigating the maximum ecological performance potential of buildings. Identifying and developing the greatest possible contributions that the design of buildings can make to mitigating and reversing local and global natural ecosystem degradation. Holistic, multi-performance and multi-stakeholder strategies to generate higher performing design solutions, fostering greater benefits.

Inderbir Singh Riar, BA Com (McGill), M.Arch, PhD (Columbia)

Assistant Professor

Research: Research interests centre on the architecture of the welfare state and how architects became identified as bureaucratic elites. Key research and teaching areas include the history and historiography of modern architecture, urban utopias, world's fairs, late-modern legacies of CIAM and Team 10, and postwar Canadian architecture and urbanism.

Jill Stoner, BA-Lit (New College), MA-Arch (Univ. Pennsylvania)

Professor

Research: Research and creative work addresses the wicked problems of our time, less in the pursuit of solutions than to deepen this debate: how to approach a spatial future for which we can no longer plan. The work takes form in visionary urban proposals, tactical interventions into structures of power, and critical writing on the contemporary built landscape. Professional practice (1993 – 2007) comprised adaptive reuse, additions and renovations to public buildings, and visionary urban competitions.

Johan Voordouw, BED (Manitoba), M.Arch (Bartlett)

Assistant Professor

Research: Digital design practice and its connection to fabrication and emerging theoretical discourse, the implications of digital design to disparate modes of architectural representation and its use as a precise tool for material craft.

Part-Time Faculty

Scott Bucking, *B.Eng (Carleton), M.Eng, PhD (Concordia)*

Assistant Professor - *Cross appointed with Civil & Environmental Engineering*

Research: Exploration of tools and technologies which enable the development of net-zero energy communities, integrating clean energy supplies and mitigating environmental impacts of new and existing building stock, all while meeting expectations for human well-being and economic growth. Immediate research interests: a) optimization of net-zero community design, b) development of building integrated photovoltaic technologies, c) community rendering using video game engines, and d) building information model development to improve the interoperability of tools and better manage community assets throughout the entire building life-cycle.

Lucie Fontein, *B.Arch (Toronto), M.Arch (McGill)*

Associate Professor

Research: Daylighting and electric lighting design; computer modelling of lighting installations; pedagogical issues regarding architectural technology; building construction; ethical practice and hospitable design.

Paul Kariouk, *B.Sc.Arch (Univ. of Virginia), M.Arch (Columbia)*

Associate Professor

Research: Twentieth-century history and theory; models for public space through both architecture and landscape architecture; relationships between collective identity, memorialization, and urban space. Principal of Kariouk Associates, a professional office that focuses on residential and commercial commissions, landscape, and museum installations.

3.5.b.iv Contract Instructors – Teaching and Administrative Assignments

In addition to our full time faculty, the School is fortunate to have an outstanding complement of Contract Instructors with extensive experience in classroom, workshop, and studio instruction. The School has also increased its roster of Adjunct Professors. These individuals are contributing to graduate thesis supervision and research. Graduate Research and Teaching Assistantships also play a valuable role in supporting faculty in the classroom and in the studio.

3.5.c Staff

In addition to the Director (who is a member of the faculty), the School is served by three faculty Associate Directors and 8.5 (FTE) support staff – divided between administrative duties and management of the School's facilities. Although general registrarial services are handled centrally in the Faculty of Engineering and Design (undergraduate studies) and the Faculty of Graduate & Postdoctoral Affairs (graduate studies), the School maintains files on each of its students and monitors their academic records and progress.

3.5.c.i Administration

Director: Prof. Jill Stoner [2015 – present]

Professor Jill Stoner assumed the position of Director in July 2015. Her role is to establish the School in the academic and professional communities, hire contract instructors, and make recommendations for the hiring of full-time faculty. She represents the faculty in her negotiations with the Dean of the Faculty of Engineering and Design for resources [both physical and financial]; and, in conjunction with the School's Faculty Board, sets the curriculum and academic regulations. Ultimately it is she, as Director, who sets the direction for the School and who coordinates its many constituencies.

Associate Director (Graduate): Federica Goffi

Professor Federica Goffi began a three-year term as Associate Director (Graduate) in July 2013 following Professor Roger Connah's three-year term in this position. In May 2016, she was re-instated to this position for the 2016-17 academic cycle. Professor Goffi's role is to oversee the academic requirements of the graduate programs in the School including admissions, recruitment, Directed Studies Abroad offerings, Visiting Critic studios and TA appointments. Professor Goffi has played a key role in the implementation of new graduate programs and program elements.

Associate Director (Undergraduate): Janine Debanné

Professor Janine Debanné began a three-year term as Associate Director (Undergraduate) in July 2016 at the conclusion of Professor Manuel Baez's three-year term in this position. Professor Debanné will oversee academic areas of the undergraduate programs including the School's International Exchange Programs, admissions, recruitment, and academic advising in collaboration with the School's Admissions and Recruitment Coordinators.

Associate Director (Professional Programs): Yvan Cazabon

Professor Yvan Cazabon began a three-year term as Associate Director (Professional Programs) in July 2013 in order to oversee the academic structure of undergraduate studies and the requirements for the professional designation of the M.Arch degree at a time when the school added a 3-year M.Arch program to complement its existing 4+2 structure. He assisted the Director in the delivery of the *Focused Evaluation* presented to the CACB in 2013. Professor Cazabon oversees the undergraduate Co-op program and contributes to the recruitment and admissions for the 3-year M.Arch1 program.

3.5.c.ii Support Staff

School Administrator: Melanie Thompson

Oversees the academic progress of students in all undergraduate and graduate programs. Supervises three support staff positions (Graduate Administrator, Undergraduate Administrator, Administrative Coordinator) on administrative issues, ensuring compliance with administrative policy, procedures and regulations. She oversees student recruitment, web page management, and School events and acts as administrative staff resource at the School's Faculty Board meetings. Full-Time position.

Graduate Administrator: Ewa Mroz

Ensures the smooth operation of the graduate program in the Azrieli School of Architecture & Urbanism. She prepares thesis defence logistics and graduation summaries for approval at the Architecture Faculty Board and maintains statistical information on applications and admissions for all graduate programs. She also advises students on non-academic university regulations, rules, and guidelines. She also provides both administrative and clerical support to the Associate Director (Graduate). Full-Time position.

Undergraduate Administrator: Stacey Fox

Monitors the academic progress of students in the BAS undergraduate program. She prepares graduation summaries for approval at the Architecture Faculty Board and maintains statistical information on applications and admissions. She advises students on non-academic university regulations, rules, and guidelines. Full-Time position.

Administrative Coordinator: Allyson Bremner

Provides support to the Director through the coordination of the School on a day-to-day basis, according to operational needs and goals of the unit. She is also responsible for the safe and appropriate use of the School's graduate and undergraduate studio spaces in the Architecture Building. New Full-Time position.

Accounts Administrator: Yvonne Sicard

Involved in both long-range planning for, and day-to-day management of the School's operating budget and the Azrieli Endowment and performs general administrative duties. Full-Time position.

Digital Craft Technician: Steve Macleod

Digital Craft Assistant: Brant Ross

Responsible for the operation of the School's digital craft and audiovisual facilities including the digital "darkroom", 3-D printers, laser-cutters, digital image library, video-editing lab, equipment loan pool, P/A systems, data projectors, and student assistants.

Mr. Ross teaches the digital craft & photographic component of the First Year Design Studio course. Assists in the operation of the digital facilities consisting primarily of CNC milling, but also 3D printing, and laser cutting. Both positions are Full-Time.

Workshop Chief Technician: Mark MacGuigan Workshop Technician: Robert Wood

Manage and supervise the School's extensive wood and metal shop facilities, and ensure that work undertaken there is performed safely and correctly and adheres to the strict Health & Safety regulations of both the Provincial Government and the University. Mr. MacGuigan also supervises the Workshop Technician, Mr. Robert Wood. Both positions are Full-Time.

Digital Facilities Administrator: Mike Getz

Responsible for the development, operation and maintenance of the computer, software, and network resources used in the teaching, research and administrative activities of the School. Mr. Getz is also involved in the planning and implementation of computing and technology matters. Full-time position.

Special Projects and Research Facilitator: Mawuena Torkornoo

Provides administrative support for the research initiatives by the faculty of the School. Responsible for assisting the Director in the development and implementation of new initiatives for the advancement of the School, and assisting faculty in the pursuit and management of research grants. Full-time position.

3.6 Human Resource Development

3.6.a Program Policy Regarding Human Resources Development Opportunities

Within its limited means, the School of Architecture makes every effort possible to expose its students to a variety of resources, locations, individuals, and points of view. Programs like DSA and International Exchanges continue to thrive. The M.Arch Visiting Critics studio invites practicing architects from abroad to direct 12-15 students in a topically defined studio that culminates in an annual symposium.

Initiative include: Directed Studies Abroad programs (B.A.S. and M.Arch), the Forum Lecture Series, field trips, international exchange programs with other schools of architecture, design-build projects in association with local interest groups, Co-Op program, the annual CCA charrette, the Students Design Clinic, OAA CAUSE programs, KOSMIC, study tours with various faculty, contract work and research through the School's Organized Research Units, graduate thesis work with community organizations.

Announcements relating to these initiatives are updated on the School's website as well as with posters and flyers. Student representatives on Faculty Board contribute to the dissemination of information throughout the student body.

3.6.b Forum Lecture Series

The Forum Lecture Series is one of the School's oldest and most cherished traditions. Established in 1968, Forum aims to bring local, national and international architects to Ottawa to educate students, faculty and the general public about the profession and the impact architecture has on the design of buildings and cities. This endeavour provides access to different and provocative ideas in architecture and related disciplines. Historically, the Forum Lecture Series was presented in the Pit of the School of Architecture. With recent financial support from local architecture firms, development companies, material suppliers, architectural associations, printing and publication companies as well as embassies and other endowments, the Forum Lecture series has grown in its outreach as well as in exposure through local media. This precipitated a change of venue and the National Gallery of Canada auditorium, which can accommodate an audience of 400, now hosts the series.

In recognizing the need to have additional, and perhaps more intimate, exposure to visiting architects, critics and scholars, the school continues to host less formal lectures in a Pit Lecture Series managed by a faculty member and student volunteers from AASA. The Pit accommodates 180 seats.

Forum Lecture Series – Past and Present

2016 - 2017	tba
2015 - 2016	Jill Stoner , Director: Azrieli School of Architecture & Urbanism, Ottawa Alvin Huang , Synthesis Design, USC, Los Angeles Siamak Hariri , Hariri Pontarini Architects, Toronto Ricardo Carvalho , Carvalho + Vilhena Architects, Lisbon Manabu Chiba , Tokyo Vanessa Miriam Carlow , SOBE Architects, Berlin Jeanne Gang , Studio Gang, Chicago Francisco Spadoni , Sao Paulo
2014 - 2015	Hedwig Heinsman , DUS Architects, Amsterdam Gregory Henriquez , Henriquez Partners Architects, Vancouver Douglas Cardinal , Douglas Cardinal Architect Inc. Ottawa Maurizio Varratta , Maurizio Varratta Architetto, Genoa, Italy Daniel Libeskind , Studio Daniel Libeskind, New York

Michael McClelland, ERA Architects Inc. Toronto
Gilles Saucier, Saucier + Perrote Architectes, Montreal

2013 - 2014
Bruce Kuwabara, KPMB Architects, Toronto with
Barry Padolsky, Barry Padolsky Assoc. Inc. Ottawa
Martha Schwartz, Martha Schwartz Partners, London
David Leatherbarrow, Univ. of Pennsylvania, Philadelphia
Dorte Mandrup, Dorte Mandrup Arkitekter, Copenhagen
Antoine Picon, Harvard University, Boston

2012 - 2013
Alex Rankin, GRC Architects, & **Raymond Moriyama**, Moriyama & Teshima.
Emmanuel Combarel, ECDM Architects, Paris & Tania Concko, with
Tania Concko Architects, Amsterdam
Paul Goldberger, Architecture Critic for The New Yorker, New York, United States
Eva Jiricna, Eva Jiricna Architects, London (video)
Kenneth Frampton, Ware Professor, Columbia University, New York
Russell Acton, Acton Ostry Architects, Vancouver, British Columbia

2011 - 2012
Vesa Honkonen, VHARC, Helsinki, Finland
Gisle Lokken, 70N, Tromso, Norway
Gregory Burgess, Gregory Burgess Architects, Sydney, Australia
Johanna Hurme, 5468796, Winnipeg, Canada
Bernard Cache, Archilab Paris, France
Didier Faustino, Didier Faustino, Paris, France
Edouard Francois, Edouard Francoise, Paris, France

2010 - 2011
Aldric Beckmann, Beckmann N'thepe Paris, France
Mirko Zardini, Canadian Centre for Architecture, Montreal, Canada
Alessandra Cianchetta, AWP Paris, France
Larry Beasley, Beasley and Associates, Vancouver, Canada
Homa Farjadi, Farjadi Architects, London, England
Craig Dykers, Snøhetta, New York City, USA

PIT Lecture Series – Past and Present

- 2016 **Karen Franck**, College of Architecture & Design, New Jersey Inst. of Tech.
Francois Dallegret, Architect/Artist-Interventisoniste, Montreal
Robert M. Rubin, Cultural Historian, New York
Paulo Tavares, Architect-Urbanist, Quito & London
- 2015 **Bud Brannigan**, Bud Brannigan Architects, Brisbane, Australia
Dan Pitera, Detroit Collaborative Design Centre, Univ. of Detroit-Mercy
Katsuhiko Miyamoto, Katsuhiko Miyamoto & Assoc., Takarazuka, Japan
- 2014 **Andrew King**, AKA, Cannon Design, Montreal
Diogo Seixas Lopes, Barbas Lopes Arquitectos, Lisbon
Maria Denegri & Tom Bessai, Denegri Bessai Studio, Toronto
Claudio Sgarbi, Architect, Modena, Italy
Paco Medias Villatoro, Figueiras & Mejias Architects, Alicante, Spain
- 2013 **Jaime Salazar Ruckauer**, Architect, Bochum
Jonathan Hale, University of Nottingham, UK
Marjan Colletti, The Bartlett School of Architecture, London
- 2012 **Javier Sanchez**, Sarq Architecture Office, Murcia, Spain
Halldora Arnardottir, Sarq Architecture Office, Murcia, Spain
Gisle Lokken & Magdalena Haugarde, 70 N arkitektur, Tromso, Norway
Michael Tawa, University of Sydney
Alex de Rijke, dRMM de Rijke Marsh Morgan Architects, London
- 2011 **Alessandra Cianchetta**, AWP Paris
Nilly Harag, Arctic Architects & Urban Designers, Jerusalem
Teresa Sapey, Teresa Sapey Estudio de Arquitectura, Madrid
Hannes Stiefel, Stiefel Karamer, Vienna

3.6.c Visiting Critic Studio

Up until 2009-2010, the Visiting Critics studio was offered in the second term of the first year of the M.Arch professional program. National and International practicing architects are invited to direct 12-15 students in a topically defined studio that culminates in an annual spring public symposium. In 2009-2010, students were offered the option of studying under the direction of a Visiting Critic in either the fall term or the winter term. In 2010-2011, four scholars have been approached each to direct a six week studio [two Visiting Critics in the fall term – two Visiting Critics in the winter term].

Azrieli Visiting Critics

2010 – Andrew King, Cannon Design and AKA/andrewkingstudio, Montreal
2010 – Arturo Frediani, Frediani Arquitectura, Barcelona
2010 – Ferran Grau, SNF Arquitectes, Barcelona
2011 – Teresa Sapey, Teresa Sapey Estudio de Arquitectura, Madrid
2011 – Hannes Stiefel, Stiefel Kramer, Vienna
2011 – Nilly Harag, Arctic Architects, Jerusalem
2011 – Alessandra Cianchetta, AWP Paris
2012 – Michael Tawa, University of Sydney
2012 – Gisle Lokken & Magdalena Haugarde, 70 N arkitektur, Tromso, Norway
2012 – Halldora Arnardottir, Sarq Architecture Office, Murcia, Spain
2012 – Javier Sanchez Merina, Sarq Architecture Office, Murcia, Spain
2013 – Jonathan Hale, University of Nottingham, UK
2013 – Jaime Salazar Ruckauer, Architect, Bochum, Germany
2013 – Paco Mejias Villatoro, Alicante, Spain
2013 – Diogo Seixas Lopes, Barbas Lopes Arquitectos, Lisbon
2015 – Maurizio Varratta, Maurizio Varata Architetto, Genoa, Italy
2015 – Bud Brannigan, Bud Brannigan Architect, Brisbane, Australia
2016 – Quilian Riano, DSGN AGNC, Brooklyn, NY
2016 – Ricardo Carvalho, RCJV Arquitectos, Lisboa, Portugal
2017 – Pierre David, Paris
2017 – Dialog Architects, Toronto
2017 – Lior Gahli, Tel Aviv

Canadian Practitioners in Residence

2013 – Maria Denegri, Denegri Bessai Studio, Toronto
2014 – Tom Bessai, Denegri Bessai Studio, Toronto
2015 – John Cook, GRC Architects, Ottawa
2016 – Maria Denegri, Denegri Bessai Studio, Toronto
2017 – Robert Boraks, Parkin Architects, Ottawa
2017 – Lior Galili, Syracuse University, NY (tbc)

3.6.d Exhibitions

For some 30 years, exhibitions of Art and Architecture were mounted in the Michael Coote Gallery within the School of Architecture. These, accompanied by a vernissage and often a public lecture by the exhibitor(s) were advertised to the public and local architectural profession. With the opening of the David Azrieli Pavilion in 2002 came the inauguration of the “David Azrieli Gallery” located on the 4th floor of the pavilion adjacent to the spaces occupied by the graduate program from 2002 to 2015.

At this time, the Michael Coote Gallery was returned to its original use as a materials testing and assembly laboratory to serve numerous design-build workshops. With the recent addition of a CNC (Computer Numerical Control; 3-D router), the MC Gallery augments the adjacent woodworking facilities, the research units (CSALT, CIMS), as well as the related workshop curriculum while employing computer based modelling techniques introduced in the computer modelling core course.

With a growing student population, exhibition space has been supplanted by support facilities and necessary studio spaces. It is anticipated that in response to the population growth, additional space will be secured on the 5th floor of the Architecture Building (Building 22) in order to house studio and seminar spaces for both undergraduate and graduate students (in all programs and majors). This future renovation, to begin as early as January 2011, will return the Azrieli Gallery to its former use as

a public venue for the exhibition of professional as well as students projects. In the interim, efforts have been made to present exhibitions of student projects in the “Pit” of the School of Architecture, the central multi-purpose area of the Azrieli Pavilion (a.k.a. Middle Earth) as well as in the large demonstration space at VSIM.

Exhibitions – Past and Present

Carleton University Art Gallery

April 2015 & 2016 Annual Open House – Student projects from the BAS graduating class: Studio 7

School of Architecture Thesis Exhibition (Street, Rooms 204, 209, Pit)

April 2016 First Annual Exhibition of Final Thesis Projects – M.Arch

Azrieli Pavilion “Middle Earth”

April 2011 - 2015 Final Studio Projects – M.Arch “Gateway Studio”

The School administration is currently renovating the audio-visual area of Building 22. The vacated dark-room, as a new gallery, will provide a controlled and secure environment for the display of student work as well as exhibitions from external sources. The school anticipates a return to scheduled public exhibitions and vernissages which were once a hallmark of the school’s public activities. The renovated space will hold its first exhibition in time for the CACB Visiting Team, and will serve as its workspace (VTR) during the spring visit.

3.6.e Student Support Services

3.6.e.1 Academic Advising

The School has experimented with a number of approaches to student advising, including assigning faculty advisors to individual students. Currently the School’s Web Page provides most of the information on offerings, regulations and procedures while the General Office staff provides front-end assistance and offer clarification and interpretation. The Associate Directors of Professional Programs, Undergraduate and Graduate Studies, individual faculty councillors, as well as the Committee on Standing Promotions and Awards organize academic advising and provide final ruling in more complex cases. The Co-op Coordinator helps the student in deciding

their coop decisions and sequences. The Director and the Associate Directors have taken on the role of advisors for overall educational and career issues specific to their level of study.

With the instalment of three Associate Directors (Professional Programs, Undergraduate Studies and Graduate Studies) supported by key office staff positions (School Administrator, Undergraduate Administrator and Graduate Administrator), day-to-day counselling and academic advising has become more immediate as well as more accessible. In addition, the assignment of individual faculty academic councillors has been formalized with summer as well as year-round appointments and has added to a greater sense of access to information and personal advising. The school sees the academic progress assessment and curricular advising functions of its faculty as a critical element for the ongoing success of the BAS Majors as well as the M.Arch programs. Faculty chairing program specializations (one faculty chair plus a committee for each of the BAS Majors) in conjunction with the Director and Associate Directors will continue to deliver academic information sessions and other public information efforts (E.g.: Annual Career Day) to larger student groups.

Counselling:

The School has instituted a system of "Exit Interviews" in Design Studio courses. At the close of each term, studio faculty are asked to provide a private, structured interview to all students who request it. The purpose of this interview is to discuss the term's studio projects, their evaluation, and the student's overall performance. Faculty are instructed to encourage students to make use of the appropriate university services including: the First Year Experience Office, Student Academic Success Centre, Career Counselling Improving Academic Skills, Student Support Services, International Students Services Office, Awards & Financial Aid, Health & Counselling Services, Paul Menton Centre for Students with Disabilities, Accommodation: Housing and Food Services, Etc.

Preparation for Graduate Studies:

Most 2-year M.Arch graduate students are recruited directly from our BAS undergraduate student population. Indeed, the 4+2 sequence is generally perceived as a continuous academic pursuit. Students in the 4th year of the BAS are introduced to the professional M.Arch through various symposia, colloquia, workshops, exhibitions and presentations relating to content, research initiatives, applications processes, portfolio requirements, Etc.

With the introduction of the 3-year M.Arch1 program in 2010, the faculty responsible for graduate recruitment and admissions have endeavoured to reach out to universities across Canada as well as to international institutions. Information sessions, interviews and open houses introduce students with varied backgrounds to the opportunity of professional studies in architecture. Over the past seven cycles, observable patterns are emerging with interest originating from pre-professional design programs such as BCIT (British Columbia Institute of Technology), UQUAM (Université du Quebec a Montreal), BED - U of Manitoba (Landscape, Interior Design), various BID (Bachelor of Interior Design) programs, OCAD (Ontario College of Art & Design), BA Arch. Studies Univ. of Toronto, to name a few.

In the summer of 2016, as part of its recruitment efforts for the M.Arch1, the School launched "Studio 1^{first}" - an immersion studio for participants with no formal academic background in architecture. The main goal of the program is to generate portfolio material appropriate for application to the three year Master of Architecture accredited degree. The summer program is a five-week intensive introduction to studio culture, including field trips to prominent architectural landmarks in the Capital Region and Montreal, as well as focused lectures from major thinkers in the theory and practice of architecture, and workshops in digital applications, portfolio preparation, and statements of interest.

The School's Administration continues its discussions with the Faculty of Engineering in an attempt to bring certain components of the M.Arch in closer proximity to the students and facilities of the BAS. In this respect

the School has identified the need to bring grads and undergrads together for academic as well as social exchanges and has moved important M.Arch events (Colloquia, Symposia, exhibitions, etc.) to the School of Architecture (Building 22) and is in the process of vacating the Azrieli Pavilion in an exchange of spaces on the 5th floor of the original School of Architecture. This shift will allow for increased social and academic interaction while providing direct access to the school's numerous facilities for all undergraduate and graduate students.

3.6.e.ii University Services

Carleton University and the Carleton University Students' Association offer a wide range of services and facilities to students enrolled in our programs including health, counselling, support, recreational and cultural services and organizations. These include the following:

Academic Support

Carleton Complete

Carleton is dedicated to offering a comprehensive range of academic and personal support throughout a student's education and beyond graduation.

Carleton Complete highlights a complete university experience—everything from supporting academic success to ensuring participation in meaningful activities outside of the classroom.

Carleton students can highlight their complete university experience using the **Co-curricular Record**. The Co-curricular Record recognizes the “out of class” activities of all undergraduate and graduate students including extra-curricular involvement, student leadership development, community service learning opportunities and more.

Academic Support Services

Carleton University offers a variety of services designed to support students throughout their university experience. These services can assist them in achieving their academic goals by offering helpful and practical strategies to improve their research, time management, note-taking, studying, and exam-writing skills.

The **Student Experience Office (SEO)** helps new students adjust to university life and continues to support students throughout their time at Carleton. The office oversees a wide variety of programs, such as Summer, Fall and Winter Orientation sessions; Community Service Learning and Leadership Development.

The Student Academic and Career Development Services are Carleton's centralized holistic approach when supporting students' development of academic skills and career goals. The programs offered provide students with the tools to develop effective study skills and refine strategies for academic success while working towards long-term career goals. Advising appointments are available to students, at the **Academic Advising Centre**, on a walk-in basis daily or in learning support workshops, at the **Centre for Student Academic Support**, to help with time-management, note-taking, academic reading, exam preparation and more.

The **Maxwell MacOdrum Library** houses a collection of more than 3.4 million books, journals, government documents, maps, newspapers, music scores, CDs, microforms, archives and rare materials. A large proportion of the collection is available in digital format over the Internet. While in the Library, students can connect to the Library's wireless network or take advantage of the Library's Laptop Loan program. During the fall/winter term, the Library hours are extended to better accommodate students' needs.

Student Life Services

Student Life Services helps students set and strive for their academic, personal, and career goals via a wide range of programs and services.

The **International Student Services Office** provides services and programs designed to address the unique needs of international and exchange students studying in Canada. Services include orientation and welcome

programs, advising and counselling, student exchange programs, administration of the University Health Insurance Plan (UHIP) and immigration application procedures.

Career Services assists with students' career and employment exploration by offering services and programs such as online job postings, workshops, resume reviews, mock interviews, networking events, and the volunteer bureau.

The **Paul Menton Centre** co-ordinates academic and support services for students with disabilities. Services include academic accommodations, attendant services, alternate formats, adaptive technology, note-taking, sign language interpretation, learning support and services specific to educational-related disability needs.

Other Services

Awards and Financial Aid

Campus Card

Dining Services

Health and Counselling Services

Registrar's Office

University Safety

Graduate Student Services

The **Graduate Students' Association (GSA)** represents all graduate students at Carleton.

Accommodations

Housing services provides information to students regarding residence life, fees, meal plans, and buildings.

3.6.e.iii Internship & Co-op Placements

Working in close relationship with the Co-op and Career Services office, the School of Architecture has developed a Co-Op option in the undergraduate (BAS) Program. Co-Op at Carleton is not mandatory and is open to all students with the prerequisite CGPA (B- or above). Students apply to this option after the first term of their second year of studies. Co-Op is comprised of a minimum of three terms, two of which must be consecutive; normally the sequence is structured as a summer term after the student's second year and a full year (two or three terms) after the third year of studies. Students receive credit for their Co-Op terms toward the Co-Op designation on their transcripts and undergraduate degree; their employers also remunerate them for their work. Co-Op courses are done in addition to (not in place of) the 20 credits required for the B.A.S. degree. Currently, approximately 25% of undergraduate students participate in the Co-Op program.

Many Carleton alumni have expressed their positive impressions of the Co-Op program and have asked to be included on the growing list of professional partners.

The **Co-op and Career Services** department offers information to students on careers, jobs, and co-op placements, along with hosting fairs and events for job opportunities. They also liaise with employers to offer job postings to students. In Architecture, the Co-op program is coordinated by a faculty advisor in consultation with the Co-op office.

- administer co-op programs to participating faculties;
- career workshops;
- career advising;
- fairs and events;
- job postings; and
- resources on finding a job.

3.6.f Field Trips and Other Off - Campus Activities

3.6.f.i Directed Studies Abroad

Directed Studies Abroad (DSA) was first introduced into the curriculum in 1981 and has since become an integral part of the architectural education at Carleton. While Rome was the destination of the first and several subsequent DSA projects, what has since distinguished Carleton's study abroad option is its flexibility and variety. In addition to Italy, DSA has operated in Britain, the Czech Republic, India, Japan, France, Germany, Mexico, Spain, Switzerland, Thailand, Turkey, the United States, and Zambia. DSA has developed into a research opportunity that allows faculty to initiate and to collaborate on projects all over the world. For students, DSA marks a point of critical reconciliation between the more abstract reflections on architecture undertaken in the design studio and the visceral demands of living cities.

The School of Architecture now offers DSA options in both the undergraduate (BAS) and professional graduate (M.Arch) programs. In the undergraduate program, students have a variety of travel options in the second term of their third year. Travel takes place over a two to four week period in the winter term. Graduate study abroad options typically take place in the second term of the first year of the program (year two for M.Arch1 students).

In addition to the 3-week DSA programs (BAS) and the full term DSA (M.Arch), the School sponsors other opportunities for study abroad -- primarily through the formal exchanges it maintains with international universities through the ISSO (International Student Services Office). Each year, on average, the School of Architecture sends ten to eighteen students (mostly in the winter term of their 3rd year of BAS studies) on study-abroad programs and hosts an equal number of students from institutions with whom we maintain exchange agreements. These include the Technical University of Berlin, the Ecole spéciale d'architecture de Paris and ESA Paris-Malaquais, the Technion in Haifa Israel, the University of Westminster and University of Nottingham in the UK, University of New South Wales in Adelaide, Australia, as well as host universities in Mexico, Turkey, China and South Africa.

Directed Studio Abroad - M.Arch

The graduate DSA program has continued uninterrupted since its inception. In partnership with professional international architects and/or instructors, a group of 15 to 18 students have been hosted in numerous international cities.

Past Graduate DSAs include:

- 2011 – Berlin, Annette Homann, Adjunct Research Professor
- 2012 – Bologna, Claudio Sgarbi, Adjunct Research Professor
- 2012 – Paris, Alessandra Cianchetta, AWP Agence de reconfiguration territoriale
- 2013 – Helsinki, Tuomas Toivonen and Nene Tsuboi, NOW Office
- 2014 – Helsinki, Tuomas Toivonen and Nene Tsuboi, NOW Office
- 2015 – Lisbon, Patricia Barbas and Diogo Lopes, Barbas Lopes Arquitectos
- 2016 – Lisbon, Patricia Barbas and Diogo Lopes, Barbas Lopes Arquitectos
- 2017 – Lisbon, Patricia Barbas and Ricardo Carvalho, Carvalho Barbas Arquitectos

In-house Studio Placement (new in 2016-17)

- 2017 – Toronto Metropolitan Studio: DIALOG Architects, Toronto
- 2017 – Adaptive Re-use Studio, Ottawa (tbc)

3.6.f.ii Field Trips

In addition to the DSA program, BAS and M.Arch students accompany faculty members on architecturally based field trips as part of the Design Studio program. Past excursions have included short-term visits to New York, Boston, Philadelphia, Montreal, Toronto, Etc.

3.6.g Student Professional Societies, Honour Societies, Extra-curricular Activities, and other Campus-wide Activities

3.6.g.i Azrieli Architecture Students Association (AASA)

AASA – (Azrieli Architecture Students Association) is registered with the Carleton University Students' Association as the student society of the Azrieli School of Architecture & Urbanism and represents Carleton Architecture students to other schools and student societies across Canada and North America through their CASA representative. AASA is invited to have a representative at the ORSA (Ottawa Regional Society of Architects) meetings, the area chapter of the OAA (Ontario Association of Architects). AASA organizes social events, film screenings, Orientation Days for First Year students, participates in Ottawa's Architecture Week, and conducts fund-raising through activities like KOSMIC which support the In-house PIT Lecture series and Directed Studies Abroad (DSA) programs. A student representative from AASA works with a faculty member on both the lecture and DSA initiatives. Students will find their AASA membership card useful for discounts at area merchants and for other purposes throughout the academic year. AASA executive and board members are elected from the student body and all students are members. Along with NUG representatives they have a healthy voice on the School's Faculty Board. AASA membership is included in the fees students pay to the Business Office at the beginning of each year. Two of the major activities that AASA sponsors are:

KOSMIC – a student-organized cabaret (see item iv below) and The HUB. Until recently the HUB was a student run coffee shop on the main concourse of the Architecture Building. Financial deficits and decreasing profits, mainly due to increased costs and excessive rental fees for the coffee shop, led the students and faculty to agree to re-assign the Hub as a student lounge. It was recently renovated in the summer of 2016.

3.6.g.ii New University Government (NUG)

New University Government student representatives are elected annually from each Design Studio Year. Their role is to act as a voice for the student body on academic matters and to represent student interests to the Faculty Board and the Director. Meetings between the Director, NUG, AASA representatives, and the faculty/student liaison serve as a conduit of information between the School and the student body. NUG maintains six positions on the School of Architecture Faculty Board.

NUG was established following student upheavals in the early 1970's. It ensures that students are represented in academic decision-making that directly affects them. There are more than 150 NUG representatives from all departments on campus. They meet as a Caucus to coordinate their work.

Because the School is its own administrative unit, Architecture NUG representatives have the opportunity to be directly involved in its deliberations — more so than representatives in other Arts and Science departments. Each of the six NUG reps elected each fall sits as a full voting member of the Faculty Board. NUG representatives also sit on the various sub-committees where much of the preliminary work is done.

Students elect a representative and an alternate from each year. Nomination forms are available from the CUSA offices at the beginning of term. By convention, the Architecture NUG caucus chooses one of its member as a spokesperson for dealings with the Dean, the University administration, and the media.

Members of the previous year's NUG caucus are responsible to make sure that the student body is aware of NUG elections held at the beginning of the Fall term, so that a full complement of representatives are duly elected and registered with CUSA.

3.6.g.iii Carleton University Students Association (CUSA)

Located in the Unicentre, CUSA (<http://www.cusaonline.ca>) is the student government for all Carleton undergraduates; it is associated with the Graduate Student's Association: GSA, (<http://gsacarleton.ca>).

CUSA collects a levy from every undergraduate student. It uses this money for its day-to-day operations, and to fund a variety of student services.

CUSA maintains twelve permanent service centres as listed below. Each centre is run by a full-time coordinator.

- Service Centres
- Aboriginal Service Centre
- Bill Ellis Centre for Mature & Part-time Students
- Carleton Disability Awareness Centre
- Food Centre
- Foot Patrol
- Gender & Sexuality Resource Centre
- Health & Wellness Resource Centre
- International Students' Centre
- REC Hall
- Womyn's Centre
- Hatch
- Multi-faith Centre

The Students' Association is governed by a 34 member Council consisting of 30 constituency representatives (including one from Architecture), 1 Graduate student representative, 1 Residence Association representative, the President of CUSA, and the Finance Commissioner of CUSA. All executive members work as full-time employees and receive an honorarium. Each executive member (other than the President and the Finance Commissioner) is responsible for a specific aspect of CUSA affairs.

All Council and Executive members are elected by the undergraduate student body. Constituency representatives are elected by the students in their particular discipline.

The CUSA Council Architecture representative is elected during the General Election in February. Responsibilities of the representative include attending Council meetings, representing Architecture students' interests at Council and communicating the results of CUSA decisions and policies back to the School. This means being aware of issues, and talking to students in all years about them. There is a variety of administrative responsibilities associated with the position, so representatives should be well-of-Carleton University as a whole, rather than as Architecture students. Day-to-day academic matters, and administrative issues within the School of Architecture are handled by Architecture NUG representatives.

Ten Student Senators represent Carleton's student population to the Senate. Terms begin each July 1 for one year, by-elections are held in the Fall to fill the vacancies. Students must already have been elected as NUG representatives to run for CUSA members on Senate. Architecture and Industrial Design share a single Senate constituency.

School of Architecture students elect annually a representative to the Council of the Carleton University Students Association, which represents undergraduate student interests to the central University Administration. A School of Architecture student sits as a student member of the University Senate -- as part of the student delegation from the Faculty of Engineering and Design.

3.6.g.iv Kosmic Cabaret

KOSMIC is a student-organized cabaret held in the winter term. A committee of third-year students determines a theme, books bands and DJ's, designs and builds sets and decorations, installs lighting and sound equipment, and manages and promotes the event. Once held in the School of Architecture, Kosmic has, for the past 10 years, found local venues for their one-night celebration (Arts Court, Lansdowne Park, Barrymore's, and Ste. Brigid's Church to name a few). Money raised by KOSMIC is a significant source of support for other AASA directed activities including contributing to Forum and Directed Studies Abroad programs.

3.6.g.v Canadian Architectural Students Association (CASA)

Carleton Students have been active in CASA: The Canadian Architectural Students Association and have hosted their regional and national exhibitions at Carleton. The School has supported the observers to go to CASA, and its US counterpart, the AIAS (American Institute of Architecture Students) meetings.

<http://casa-acae.com>

3.6.g.vi Design Competitions

Competitions and Charrettes (short design workshops) are done through our studio program and as extra-curricular events. Thus students get to compete with their peers at Canadian, North American and international levels. For several years two groups of third and fourth year students enter the CCA (Canadian Centre for Architecture) competition and many have placed in the final and/or winning selections. In addition, we have numerous submissions to the OAA, ACSA and other ideas competitions as part of our 4th year studio line-up.

Since the last review, there has been significant advancement in relationships to the local professional and government communities. In this academic year, the School is collaborating in several of the local initiatives around Canada's One Hundred Fiftieth anniversary celebrations. A recent design-build studio resulted in two new "parklets" for the City of Ottawa, constructions that have received positive reviews in the local press and considerable interest and appreciation from the neighborhoods themselves.

Very recently, a group of our 4th year students in a year-long studio project designed around local community engagement led by Prof. Roger Connah proposed a redesign of the Vanier neighbourhood. This project was one of only six studios recognized in a competition sponsored by *Architect Magazine*.

3.6.h. Appointment, Promotion, Tenure and Faculty Development Opportunities

Note, all tenure and promotion guidelines follow the Collective Agreement between Carleton University and the Carleton University Academic Staff Association.

Approval Process:

Peer Review - Upon development, the unit approved standards are subject to a two-person peer review by tenured Carleton faculty members (with the rank of at least Associate Professor) appointed from outside the unit and by JCAA.

Periodic Review:

Every seven (7) years the unit must review their approved standards. If the unit decides to revise the approved standards, the procedure for approval shall be the same as above.

The following standards for Tenure and Promotion were adopted by the Faculty Board of the School in 2013. They are listed following the more general standards of Carleton University.

DISTRIBUTION OF WORKLOAD

This workload distribution is unique to the School of Architecture. The higher proportion of teaching relative to research and service is directly related to the time-intensive structure of design studio teaching.

TEACHING	50%
RESEARCH & CREATIVE WORK	35%
SERVICE	15%

TENURE

Unit Standards

The basic principle for tenure in the School of Architecture is excellence in carrying out the responsibilities of the position. The School measures excellence relative to colleagues of the candidate in the same field at similar stages in their careers. Candidates are evaluated not only on the basis of past performance, but on demonstrable promise for continued achievement.

Consistent with guidelines set forth in the Collective Agreement, teaching in the School of Architecture constitutes 50% of a faculty member's normal load, 35% is dedicated to Research and the remaining 15% to Administration and Service. Assignment of responsibilities to faculty members varies. Initial expectations are outlined in the candidate's letter of appointment and may be updated and revised as the needs of the School and the interests of the candidate change. In discussion with the Director, faculty may trade annual activity in one area against expectations in another. Candidates are encouraged to bring any such shifts in activity to the attention of the Promotion and Tenure Committee.

Academic and Professional Credentials

University Criterion - Possession of the normal credentials as defined for the position of Assistant Professor; usually an earned Ph.D. (or equivalent) or the degree that is determined as the terminal degree for the discipline and any additional credentials required for the specific position that were stated in the letter of appointment.

Unit Standards – The School of Architecture expects all tenure-track faculty to possess a professional degree in Architecture (whether at the undergraduate or master's level), a master's degree (professional or post-professional) and either a PhD or Professional Registration.

Teaching (50% of workload)

University Criterion - A record of successful and effective performance as a university teacher at Carleton University at all levels including advising and supervision of undergraduate and graduate students (as appropriate for the candidate and their academic unit).

Unit Standards – A normal teaching load in the School of Architecture is 4.0 credits per year; all full-time faculty are required to teach project-based design (a.k.a. studio) courses, core courses and elective courses. In addition, faculty are expected to supervise thesis students at the Masters and/or doctoral level. Given the substantial credit value and the number of contact hours involved, particular emphasis is placed on teaching for tenure evaluations. The School considers the teaching of project-based design courses to be creative enterprise constituting an important form of

research into the nature of architecture and its pedagogy. Candidates must present firm evidence of having contributed to the educational program of the School in these and other courses. Through course evaluations and other supporting materials, candidates must demonstrate an effective record of teaching. They are expected to have achieved or nearly achieved a rating of 4.0 or above (out of 5) on University course evaluations for each course within the context of a normal teaching load and/or to have met or exceeded the median scores in courses within the same category (ARCS, ARCH, ARCU, etc.). Where lower scores have been received, candidates should be able to demonstrate improvement in subsequent offerings of the same course and/or a pattern of improvement in overall teaching scores. Candidates may wish to bring additional information about teaching performance to the attention of the Promotion and Tenure Committee. Special consideration will be given to courses that the candidate has developed and/or taught for the first time.

Research, Scholarly and/or Creative Work (35% of workload)

University Criterion - A record of research, scholarship, and/or creative achievement as defined by the standards developed by the candidate's unit(s) including published work assessed by peer review, external research funding, and other forms of scholarly productivity as appropriate to the discipline.

Unit Standards – Scholarship in a professional school quite naturally takes more diverse forms than in some other parts of the University. Successful candidates for Tenure will be expected to demonstrate a substantial body of published, peer-reviewed work, whether written, built, installed, exhibited or otherwise 'presented' in the public realm. Whatever its form and mode of dissemination, *the measure of creative work is its overall significance in the field of Architecture and in closely related disciplines.*

Where research, scholarly and creative work are concerned, a distinction may be made between 1) candidates who received a PhD prior to their tenure-track appointment, 2) candidates who completed a PhD during the period of their tenure-track appointment and, 3) candidates who have not embarked on a PhD.

As in other creative fields, external research funding support is unusual for Architecture faculty teaching design. While such funding may figure positively in tenure evaluations, the absence of such funding should not be taken as a weakness in applications for tenure. However, candidates applying for tenure are expected to seek external funding, and at a minimum there should be a record of applications for external funding in the form of grants and/or contracts.

Service to the University, the Profession, and Society (15% of workload)

University Criterion - An appropriate record of service to Carleton University (and other institutions where appropriate), such as administrative and committee duties and other professional activities which contribute to the operations of the University. It is expected that assigned service, pre-tenure shall be below the average service levels of faculty members in the same unit.

Unit Standards – Responsibilities of a faculty member include student advising, committee work, other contributions to the School, Faculty and University, and various forms of public service. Successful candidates for Tenure will be expected to have contributed to the academic and administrative life of the School, to have taken initiative, and to have worked effectively with students, staff and colleagues in so doing. Community engagement is a component of Service, both within and beyond the University at large.

University Criterion - Where there is a significant record of service to society relevant to the employee's disciplinary expertise such as but not limited to consultancies or collaborations with governments, international development agencies, communities, or the private sector or participation in scholarly and professional organizations and other activities, which further the University's mission of service to society, this shall be recognized.

Unit Standards – The Unit Standards are the same as the University Criterion. Candidates are expected to submit evidence of service to the university, the profession and society as part of their application.

PROMOTION

Promotion to Associate Professor

Consideration for the awarding of promotion to Associate Professor is based on the following criteria assessed over the candidate's career achievements to date

Academic and Professional Credentials

University Criterion - Possession of the normal credentials as defined for the position of Assistant Professor; usually an earned PhD (or equivalent) or the degree that is determined as the terminal degree for the discipline, and any additional credentials required for the specific position that were stated in the letter of appointment.

Unit Standards – The School of Architecture expects faculty applying for promotion to the rank of Associate Professor to possess a professional degree in Architecture (whether at the undergraduate or master's level), a master's degree (professional or post-professional) and *either* a PhD *or* Professional Registration.

Teaching Effectiveness

University Criterion - A strong record of successful and effective performance as a university teacher at all levels including advising and supervision of undergraduate and graduate students (as appropriate for the candidate and their academic unit).

Unit Standards – Through course evaluations and other, supporting materials, successful candidates for promotion to the rank of Associate Professor must demonstrate an effective record of teaching in a range of courses including project-based design courses. Candidates are expected to have achieved or nearly achieved a rating of 4.0 or above (out of 5) on University course evaluations for each course within the context of a normal teaching load. Candidates are expected to develop a record of advising thesis students at the Masters or Doctorate level.

Research, Scholarly and/or Creative Work

University Criterion - A strong and sustained record of research, scholarship, and/or creative achievement as appropriate for the field of expertise as defined in the unit approved standards including published work assessed by peer review, external research funding, and other forms of scholarly productivity as appropriate to the discipline.

Unit Standards – Successful candidates for promotion to the Rank of Associate Professor will be expected to have demonstrated a substantial and significant body of published, peer-reviewed work, whether written, built, installed, exhibited or otherwise 'presented' in the public realm. Whatever its form and mode of dissemination, the measure of creative work is its overall significance in the field of Architecture and in closely related disciplines, *as reflected by the caliber of the publications, venues, etc. in which the work has appeared.*

Favorable consideration will be given to candidates who have pursued and procured external funding to support their research work. In tandem with the peer-reviewed publication of work, funding from national and international granting bodies is an important indication/validation of the relevance of the candidate's research.

Service to the University, the Profession, and Society

University Criterion - An appropriate record of service to Carleton University (and other institutions where appropriate), such as administrative and committee duties and other professional activities which contribute to the operations of the University. It is expected that assigned service, pre-tenure shall be below the average service levels of faculty members in the same unit.

Unit Standards – Successful candidates for Promotion to the Rank of Associate Professor must demonstrate a consistent track record in carrying out administrative duties in a timely, effective and collegial manner. Candidates must also provide evidence of significant engagement with the University and the larger community; local, national and/or international.

University Criterion - Where there is a significant record of service to society relevant to the employee's disciplinary expertise such as but not limited to consultancies or collaborations with governments, international development agencies, communities, or the private sector or participation in scholarly and professional organizations and other activities, which further the University's mission of service to society, this shall be recognized.

Unit Standards – The Unit Standards are the same as the University Criterion. Candidates are expected to submit evidence of service to the university, the profession and society as part of their application

Promotion to Full Professor

Promotion to the rank of Full Professor is based primarily on:

- intellectual maturity;
- outside recognition of the candidates as an authority in his/her chosen field; and
- significant contributions to research, scholarship and the profession and to the University.

Scholarship and significant contributions to one's professional field would be of paramount importance; teaching and other activities would receive less weight. Only in rare and exceptional cases would long years of valued service to teaching and to the University be expected to constitute sufficient grounds on their own for promotion to Full Professor.

Qualification

Unit Standards – Faculty applying for promotion to the rank to Full Professor are normally expected to have been granted tenure.

Teaching Effectiveness

University Criterion - A sustained record of successful and effective performance as a university teacher at all levels including advising and supervision of undergraduate and graduate students (as appropriate for the candidate and their academic unit).

Unit Standards – Through course evaluations and other, supporting materials, successful candidates for promotion to the rank of Full Professor must demonstrate an effective record of teaching in a range of courses including project-based design courses. Candidates are expected to sustain a significant record of Masters and PhD advising.

Research, Scholarly and/or Creative Work

University Criterion - A significant record of sustained and productive research, scholarship, and/or creative achievement as appropriate for the field of expertise, including published work assessed by peer review that has resulted in national and preferably international recognition and high standing in the discipline or field of expertise as defined in the approved standards developed by the candidate's unit(s).

Unit Standards – Consistent with University guidelines, the School places special emphasis on scholarly and creative output in applications to the rank of Full Professor. Dossiers should demonstrate evidence of outstanding and sustained contributions to the profession and/or the discipline of Architecture. Such contributions should also be of direct benefit to the School, the University and the larger scholarly and/or professional community. Emphasis will be placed on published, peer-reviewed output – whether written, built, exhibited or otherwise presented in the public realm – with broad dissemination and demonstrated scholarly recognition on both a national and international level. Normally candidates for Full Professorship are expected to have a record of external funding.

Service to the University

University Criterion - A significant record of service to Carleton University (and other institutions where appropriate), such as administrative and committee duties and other professional activities which contribute to the operations of the University

Unit Standards – Candidates for promotion to the rank of Full Professor should demonstrate a sustained track record of public service to the broader discipline/profession of Architecture. Special emphasis will be placed on leadership, awards and other forms of acknowledgement that candidates have received for service and/or for the quality of their work.

Service to the Profession and Society

University Criterion - Where there is a significant record of service to the profession and society relevant to the employee's disciplinary expertise such as but not limited to consultancies or collaborations with governments, international development agencies, communities, or the private sector or participation in scholarly and professional organizations and other activities which contributes to the University's mission of service to society, this shall be recognized.

Unit Standards – The Unit Standards are the same as the University Criterion. Candidates are expected to submit evidence of service to the university, the profession and society as part of their application.

3.6.h.i Faculty Appointments

University hiring guidelines mandate that all posts be advertised internally and externally, to obtain the most highly qualified candidates and to ensure fairness and accessibility. Appointments of extreme urgency may be made at the discretion of the University President. Canadian citizens and permanent residents are to be preferred over foreign applicants with equivalent qualifications. The University is a signatory to the Federal Contractors Employment Equity Program. Appointments are either term, preliminary, or tenured/confirmed.

3.6.h.ii Promotion

Promotion takes place at departmental, faculty, and University levels. Each faculty member is automatically considered for the appropriate promotional opportunity unless he or she requests otherwise. Consideration for promotion occurs after 5 years of service at the Assistant Professor level (or 6 years after doctoral degree) and after 7 years of service at the Associate Professor level (or 13 years after doctorate).

Promotion to the rank of Associate Professor is based on the effectiveness of the candidate's teaching, evidence of scholarship and/or professional achievement and contribution to the development of the School. Promotion to the rank of Professor is based on the candidate's intellectual maturity, independent recognition of authority in his or her chosen field and evidence of significant contributions to scholarship or to the profession and to the University. The competence of candidates is evaluated by external referees, peers, and members of related departments. Though the effectiveness of the candidate's teaching is considered to be an important consideration for promotion to the rank of Professor, an extended career of teaching is in itself not considered a substitute for any of the foregoing requirements.

3.6.h.iii Tenure

Tenure is granted to members of the faculty to maintain their right to academic freedom. Once tenure has been granted, faculty members are guaranteed permanent employment at the University, subject only to dismissal for just cause. Appointments without tenure may be 'term', without expectation of renewal, or 'preliminary', with expectation of tenure. Consideration for tenure must be given after 4 and before 6 successive term appointments, after 2 years as Associate or Full Professor, or at an earlier date agreed upon by all parties. The decision to award tenure is based on the faculty member's curriculum vitae, published work, teaching evaluations and the approval of the Director of the School.

3.6.h.iv Other Considerations

Assessment of teaching performance includes both peer evaluation by established colleagues and student teaching evaluations. Assessment of scholarship and professional achievement is based on the quality of published work and/or peer evaluation. Administrative contributions are evaluated by peers and senior faculty. The promotion process provides for a right to appeal these evaluations.

3.6.h.v Student Teaching Evaluations

A standard course evaluation mechanism is used in all Carleton University courses. Evaluation forms were once distributed to students in class towards the end of the term. While this option is still available, the majority of courses have made teaching evaluations available through the university's on-line system (Carleton Central). The evaluations are anonymous and consist of two sections: one for multiple-choice rankings, and another for comments. The comment sheet is circulated back to the instructor. The multiple choice rankings are processed by the University and the numerical ranking becomes part of the instructor's personnel file. While evaluations are performed in all courses, instructors each year designate in advance 2 courses which are use for the purposes of calculating a composite numerical ranking. Comment sheets are seen only by the instructor.

3.6.i Evidence of the Facilitation of Faculty Research

Attempts are made to both create opportunities and encourage faculty to initiate research, apply for funding, involve their students and collaborate with others within the Carleton community and beyond. As all Canadian programs in architecture have now moved to graduate structures there are both opportunities and expectations that those teaching architecture would be also engaged in specialized research. Carleton School of Architecture continues to take lead in such developments.

The impact and necessity of significant research agendas has become all-important with our post-professional and professional Masters of Architecture programs. Many Masters theses in the general areas of architecture and culture as well as architecture and related digital and non-digital technologies have been completed. Curricular structures within the undergraduate and graduate programs establish an integral and productive relationship between research and teaching (Research-based Workshops, Advanced Research Studio, Etc.). Complimentary projects, undertaken in the school's Organized Research Units, have a trickle down effect on undergraduate teaching.

The research within the School has positively affected the quality of undergraduate education through the implementation of innovative teaching methods and the involvement of graduate students as research/teaching assistants. Moreover, the continual upgrading of infrastructure associated with research will continue to impact the curricular development of the Undergraduate and Graduate Programs. Research programs and facilities are essential in the training of highly qualified architecture students who enter a wide variety of professions from architecture and urbanism to film production and digital animation.

With the establishment of a *Special Projects and Research Facilitator* the school's research agenda now benefits from administrative support for the research initiatives by the faculty of the School. The Facilitator is responsible for assisting the Director in the development and implementation of new initiatives for the advancement of the School, and assisting faculty in the pursuit and management of research grants.

3.6.i.i Support of Travel to Conferences & Symposia

The School (in conjunction with the Faculty of Engineering and the Office of Graduate Studies and Research) routinely supports faculty travel and accommodation costs associated with conferences. Funds are available on a first-come-first-served basis. Priority is given to faculty presenting research, chairing sessions or involved administratively with the event in question. Where conferences are held outside of Canada, travel is supported through a GR-6 grant, administered through the Faculty of Graduate Studies and Research.

3.6.i.ii Professional Development Monies

Carleton University provides each of its regular faculty appointees with an annual bursary of \$2,000 for "professional development." This money may be used to support conference registrations or to purchase books, equipment, etc.

3.6.i.iii GR-5 Research Grants

The Faculty of Graduate Studies and Research administers a small research grants program to support faculty research projects. Applications/recommendations are made through the School and approved by the Faculty of Engineering. Many young faculty within the School have benefited from such grants -- which are intended as seed monies to allow research proposals to be developed to the point where they can be submitted to larger granting agencies.

3.6.i.iv Carleton Immersive Media Studio (CIMS)

<http://www.cims.carleton.ca/>

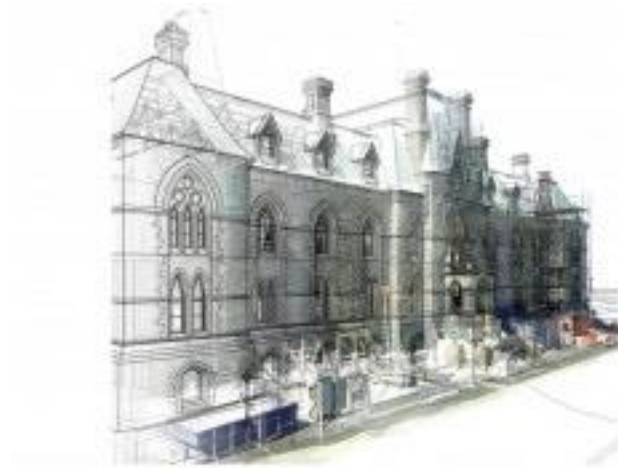
"Carleton Immersive Media Studio (CIMS) is a Carleton University research centre dedicated to the advanced study of innovative, hybrid forms of representation that can both reveal the invisible measures of architecture and animate the visible world of construction. As part of the Carleton University's Azrieli School of Architecture & Urbanism, we are committed to exploring and developing innovative symbiotic relationships between the digital and fabricated 2D and 3D modes of representation. Our mandate includes the advancement and development of the tools, processes and techniques involved in the transformation of data into tangible and meaningful artifacts that impact the way we see, think and work in the world."

The Carleton Immersive Media Studio is an interdisciplinary research unit that intertwines content-based and applied research agendas in new media development for architecture. CIMS brings together faculty and student researchers from architecture, art history, Canadian studies, computer science, human-computer interaction, industrial design, information technology, philosophy, and systems and computer engineering. Founded in 2002 with funding from the Canadian Foundation for Innovation, CIMS is recognized by the Office of the Vice- President Research and International as a Carleton University Research Centre, see: (<http://research.carleton.ca>).



Research at CIMS addresses the development, application and critique of digital, analogue and hybrid representation. The work is measured by our ability to reveal the invisible measures of architecture and animate the visible world of construction. As part of the Azrieli School of Architecture and Urbanism, CIMS is committed to exploring and developing, at all scales, innovative, symbiotic relationships between the digital and the fabricated.

Current projects include:



Centre Block Building Information Model

As part of the planning and preparation for the upcoming rehabilitation of the Centre Block, the Carleton Immersive Media Studio (CIMS) is working with the Heritage Conservation Directorate (HCD) and the Parliamentary Precinct Branch (PPB) of Public Works and Government Services Canada (PWGSC) on the creation of a Building Information Model (BIM).

Digitally-Assisted Stone Carving

In the context of the exterior preservation of Parliament Hill's East Block, undertaken by Public Works and Government Services Canada (PWGSC), CIMS is collaborating with the department on the replacement of a deteriorated sandstone relief sculpture on the exterior of the East Block. The work of replacing the sculpture combines digital acquisition and digital fabrication technologies with the skilled handcraft of the Dominion Sculptor.

West Block Rehabilitation: Building Information Model

The Carleton Immersive Media Studio (CIMS) is working with the Heritage Conservation Directorate (HCD) and the Parliamentary Precinct Branch (PPB) of Public Works and Government Services Canada (PWGSC) on the creation of a Building Information Model (BIM) of the West Block of Parliament Hill. The West Block BIM project continues CIMS research in the application of BIM in heritage conservation and rehabilitation.

Integrated Digital Technologies for the Architectural Rehabilitation & Conservation of Beinn Bhreagh Hall

This collaboration project between Carleton Immersive Media Studio (CIMS) and Heritage Standing deals with the use of digital technologies to document the Beinn Bhreagh Hall historic site (house and immediate surroundings) in Baddeck, Nova Scotia for its rehabilitation and protection.

West Block Rehabilitation: Sculptural Elements

CIMS has been working with the Heritage Conservation Directorate (HCD) and the Parliamentary Precinct Branch (PPB) of Public Works and Government Services Canada (PWGSC) in exploring diverse applications for the point-cloud datasets created for the documentation of the West Block of Parliament Hill. One such exploration is the use of digital fabrication technologies in the creation of maquettes of damaged stone sculptural elements.

Digital Campus Innovation

Digital Campus Innovation is an interdisciplinary effort to define, develop and evaluate new processes, methods and technologies towards a systemic, integrative and collaborative approach to decision-making in planning, designing, construction and operation of sustainable communities. Turning Carleton University's campus into a Living Laboratory will create a comprehensive living dataset of diverse types and forms of information used for teaching, research and everyday operation of the campus.

3.6.i.v Carleton Solids and Light Tectonics Laboratory (CSALT)

The C-SALT laboratory at the Azrieli School of Architecture and Urbanism is focused on the study of materiality in architecture. The goal of this research lab is to effect and contribute to the understanding, application and invention of the material nature of architecture, construction and design. Of particular interest in the lab are the secondary properties of materials, the combination of organic and inorganic materials and the reassessment of traditional materials and methods within the context of our contemporary condition. The Facility is located in the Architecture Building.

Key features of the lab include a physical materials library and research area where students can physically interact with an expanding collection of materials as well as further research them on adjacent

computers, a CNC machine where the interface of digital form and material are investigated, and a 'wetlab' where experimentation in plaster, concrete and a host of other wet materials can be worked with adjacent to the plaster sink. This year, we have also added a materials documentation library and study area in an adjacent room and a graduate modelling area, making the lower floors, an accessible and complete zone for material research and construction.

3.6.i.vi Government Grants and Grants at Large

Applying on a project by project basis, faculty have access to grants through government agencies such as the National Research Council (NRC), the Social Sciences and Humanities Research Council (SSHRC), National Science and Engineering Research Council (NSERC), the Canada Council and various Provincial agencies such as the Ontario Arts Council. Carleton also works closely with private funding agencies such as the Illuminating Engineers Society, the Graham Foundation, etc.

CFI: Canadian Foundation for Innovation

In direct collaboration with the Dean of the Faculty of Engineering and Design and the Vice President of Research, the Director of the School and the Special Projects & Research Facilitator continue to assist all faculty, especially the new ones, to take initiatives in collaborative research with industry and national/international centres of research. A number of past initiatives, including projects developed in the school's research Labs, continue to receive CFI Grants.

3.6.i.vii Educational Development Centre

The University promotes innovation in teaching and course development through the Educational Development Centre (<http://carleton.ca/edc/>). This Centre offers a variety of training seminars and Programs geared to more effective teaching and is dedicated to the support of teaching excellence at Carleton University. It provides a comprehensive range of pedagogical and technological teaching tools and resources to faculty, instructors and teaching assistants in order to ensure an exceptional learning experience for students in the classroom and beyond.

3.6.i.viii Directed Studies Abroad

In recent years the School has attempted to tie DSA studies to faculty research initiatives. Faculty proposing and /or mounting annual DSA programs are asked to demonstrate how the term abroad will further their research and lead to publishable work. Faculty are also encouraged to seek external funding sources to support their expenses while on DSA in order to broaden the experience beyond basic course delivery. Recent DSAs with research mandates include:

- DSA Trinidad & Tobago: A partnered research and documentation project with the support of Citizens for Conservation - Trinidad & Tobago and the Trinidadian Ministry of Culture hosting students in the BAS - Conservation & Sustainability program.
- DSA Peru: Carleton Immersive Media Studio (CIMS) at Carleton University under the auspices of The Getty Conservation Institute (GCI) collaborated on the documentation and condition assessment of the historic wall paintings at the church of Kuño Tambo (Peru), located in an Andean village two hours outside of Cusco.
- DSA Morocco: An architectural survey and training module at the request of the Getty Conservation Institution (GCI) and the Centre de conservation et réhabilitation du patrimoine architectural des zones atlasiques et sub-atlasiques (CERKAS) in order to prepare a series of architectural drawings for the earthen Kasbah de Taourirt, in the city of Ouarzazate in Morocco.

- DSA Barcelona: The technical documentation and visual recording of the Sant Rafael Pavilion, the largest modernist hospital in Europe. Research consisted of a comprehensive study of the history of Barcelona and the Hospital de Sant Pau, the influence of architect Lluís Domènech i Montaner, and on the traditional system of construction: the Catalan vault. As a result of this project, students were able to gain skills in documenting a UNESCO World Heritage Site and learned, in situ, about a variety of historical construction techniques, as well as about building materials and the principles that guide the conservation and adaptive re-use of heritage buildings.
- DSA Bagan, Myanmar: The international workshop in the archeological area of Bagan, Myanmar promoted learning through hands-on practice. The 15 architecture students from Azrieli School of Architecture worked in collaboration with the Association of Myanmar Architects, the Department of Archaeology, National Museum and Library (DoA) and with 45 students from the Yangon Technological University with the auspices of ICOMOS international and UNESCO. The workshop utilized advanced recording techniques for the documentation of historical brick buildings from 10th to 12th century.
- DSA Guadalajara, Mexico: The objective of the workshop was to create a learning environment for emerging heritage professionals through the use of advanced recording techniques for the documentation of modern architectural heritage in Guadalajara, Mexico. The selected site was Casa Cristo, one of the several architectural projects by Luis Barragán in Guadalajara. A systematic documentation strategy was developed for the site, using different survey equipment and techniques to capture the shape, color, spatial configuration, and current conditions of Casa Cristo for its eventual rehabilitation and conservation.

3.6.j Evidence of how Faculty Remain Current in their Knowledge of the Changing Demands of Practice.

Through numerous new initiatives, the School's faculty has endeavoured to further engage the local community of professionals and institutions. These efforts contribute to the faculty's understanding of current practice and the role that the school - its students and its instructors - can play in addressing the changing needs of architectural practice and related design professions.

Individual faculty participate in a variety of ways with the local professional community. A School member sits on the board of the Ottawa Regional Society of Architects (ORSA); two faculty sit on the assessment board of the CACB; individual faculty maintain relationships with a variety of professional organizations such as the OAA, the OAQ, the RAIC, the Illuminating Engineers Society, the Regional Green Building Council and the Urban Forum Group. The School as a whole participates in a variety of other ways in the local professional community. We take active part in the annual Architecture Week in the National Capital Region and volunteer to Open Doors Ottawa. Through research projects and design studios, our faculty and students contribute to the current needs of communities and institutions demonstrating a significant advancement in relationships with local professional and government communities.

Given that the RAIC (Royal Architectural Institute of Canada), is headquartered in Ottawa, the School often works with it on initiatives such as Awards presentations, student design competitions, and annual conferences and celebrations. Reciprocally, a representative from the RAIC is present at the graduation celebration, presenting M.Arch graduates with RAIC awards and memberships.

In addition, many of our Contract Instructors and Adjunct Faculty members are important players in the profession and local development industry. Their presence in the School is conducive to a healthy discourse among the academia and the profession. Local involvement in design reviews and thesis defenses, core comprehensive studios sponsored by local development companies and architectural practices, pro-bono teaching by award-winning members of the local professional community, and participation in the School's Local Advisory Board (LAB) to guide these ongoing relationships, are some of the outcomes.

A recent meeting of the ASAU Local Advisory Board (LAB) reported the following initiatives:

Local Advisory Board Meeting 2, Nov. 1, 2016

Item 1: Updates on Community Engagement, 2016-17

Initiatives within the Local Ottawa Community – what is the School doing in Ottawa and with whom?

I. Sponsored Studios

1. *Uptown East*. Redevelopment of Manor Park Estates, 4A, Housing Studio. Sponsorship: Manor Park Management. Work with owner and Manor Park Community Association. Lead: Benjamin Gianni
2. *Lebreton Flats*. Explore the build-out of several parcels of the Rendezvous Lebreton plan for Lebreton Flats, 4A, Housing Studio. Sponsorship: Trinity Development/B.J. Hobin Architects. Work with NCC and Community Association. Lead: Clarice Kramer.
3. *Transit-Oriented Kanata*. Explore build-out of Kanata site (opposite Canadian Tire Centre). Sponsorship: Broccolini. 3rd-year Urbanism studio. Lead: Catherine Bonier.
4. *Eerie Aerie*. Renovation/reconstruction of the Ottawa New Edinburgh Club. Sponsorship: ONEC Board (**TBC**). 4th-year Conservation Studio, Winter 2017. Lead: Mariana Esponda.

Note: In addition to sponsorships by Ottawa firms for projects in Ottawa, the School has received in-kind sponsorship for two other studios in the 2016-17 year: Parkin Architects (*Extreme Landscapes* studio) and DIALOG Architects (Embedded Toronto Studio).

Questions on sponsored studios:

1. What other studio sponsorship opportunities might exist in Ottawa? How might we make connections with potential sponsors?
2. Are there other models of sponsorship that the School should pursue in addition to the current model?

II. Other course-related projects involving the Ottawa community

1. *Main Street North*. Redevelopment of parcel bounded by Main, Echo and Queensway, Old Ottawa East, 4A, Housing Studio. Work with OOE Community Association (Steve Pope, John Dance, etc.). Lead: Roberto Campos.
2. *“Civic” Engagement*. Proposals for redevelopment of the Civic Hospital site, Carling Ave. Work with Civic Hospital Neighborhood Association. 3rd-year Urbanism Studio. Lead: Christopher Hoyt.
3. *Growing Ottawa*. Studio to explore how Ottawa will accommodate its next 1 million inhabitants. M.Arch. Option studio, Winter Term (6-weeks). Lead: Pierre David (visiting critic from Paris). Combined with Toronto studio.
4. *Post Inspiration*. Re-use and repurposing of shipping containers associated with the Canada 150 *Inspiration Village Project* slated to be erected on York St. in the Byward Market. 3rd-year Design studio, Winter Term. Work with the City of Ottawa and Canada 150 Committee. Lead: Benjamin Gianni.
5. *Storytelling Pavilions* for Canada 150 anniversary, George St., Byward Market (in collaboration with STO Union). 4th-year Design Studio (Design/Build). Lead: Johan Voordouw.
6. *Local Roots*. Indigenous-themed Design-Build Project in tandem with the RAIC and local aboriginal groups. Linked to RAIC Symposium in Ottawa, May, 2017. 4th-year Design Studio (Design/Build), Lead: Johan Voordouw.
7. Adaptive re-use of the former American Embassy, Wellington St, in conjunction with Public Service and Procurement Canada (Parliamentary group). 3rd-year Conservation Studio, Winter 2017. Lead: Mariana Esponda.

Questions on other course-related collaborations:

1. With what organizations are you involved? Are these organizations undertaking initiatives that might form the basis of course-related work?
2. Beyond these organizations, are you aware of other course-related opportunities for collaboration with the community?

III. Other (non-course-related) Initiatives in Ottawa

Continuing Education

1. Inauguration of *Azrieli Continuing Education* program (ACE) in January 2017. Ongoing relationship with the professional community in the area of learning, and earning required continuing education credit hours.
2. Carleton's *Leaning in Retirement* lectures. Series of six lectures on the Design of Western Landscapes from the Renaissance to the Present. Lead: Paul Kariouk.

Exhibitions

1. Exhibition of Canadian Modern Houses (with Strutt Foundation and NCC). Lead: Mariana Esponda.
2. Exhibition of "Ottawa, You're So Vanier" model and panels undertaken in 2015/16 year. Venues: City Hall (Nov. 2016); Richelieu Community Centre (Nov. 20 – May 2017). Lead Roger Connah.

Public Lectures and Symposia

1. *Forum and Open Forum* lecture series. Seven Forum lectures (held at the National Gallery) and seven Open Forum lecture (held in the School of Architecture).
 - a. Six founding sponsors, which, together, have created an endowment for ongoing support of the series.
 - b. Four firms have sponsored individual lectures for 2016-17 year.
 - c. Seven institutional sponsors.
2. PopCan Crit symposium, Oct. 21, 2016.

Installations/Public Art

1. Stage for Canadensis Garden, Arboretum. Lead: Johan Voordouw. **TBC**
2. *Starlings One*, research-based balloon pop-up interactive installation at William Square in the ByWard Market on Oct. 1st, 2016. Public engagement and participation project launching the independent research lab pHacktory. Lead: Manuel Baez.
3. Community-based interdisciplinary proposal under development with the ByWard Market BIA, local/regional groups, organizations and professionals. Lead: Manuel Baez.

Research

1. Ongoing research and contract work through the *Carleton Immersive Media Studio* (CIMS). Lead: Stephen Fai.
 - a. Documentation and modeling the Houses of Parliament, with Public Services and Procurement Canada.
 - b. Development of an on-line 'tour' for the Senate for *Canada 150* in association with Senate Communications and the Heritage Conservation Directorate (HCD) and PPB at PSPC. This includes bi-lingual narration, interactive digitized artifacts, animated models, and 360 images (still and moving).
 - c. Work with John Cooke on the rehabilitation of three lock stations on the Rideau Canal: Edmonds, Slys, and Poonamalie. This includes documentation (laser scanning and photogrammetry), promotional animations, and BIM --including new ways of using BIM for masonry call outs.
 - d. Installation of seven-axis Robot in School of Architecture, November 2016.

Questions on non-course-related initiatives:

- 1 Are there other ways in which the School might increase its visibility and relevance within the community?
- 2 Can you imagine other opportunities for the School to engage in research and contract work through *CIMS* or the new *Urban Resilience Lab*?

Initiatives Outside of Ottawa

1. GTA (ongoing efforts to increase profile of the School):
 - a. Exhibition of student work and alumni reception in Toronto, Dec. 4 – 11, 2016, Peter MacKendrick Gallery, Wychwood Barns. Show consists of eighteen “Faculty Choice” winners from 2016/16 year. Sponsorship from six Toronto firms.
 - b. “Embedded” 6-week studio in Toronto at offices of DIALOG Architects. M.Arch. Option Studio, Winter Term.
2. 2016/17 Study abroad options for students:
 - a. *Portugal*. 6-week trip, Winter Term, Graduate Option Studio, Winter Term. Lead: Roberto Carvahlo
 - b. *India*: 10-day trip, 3rd-Year Design and Urbanism students, Winter Term. Will engage with Kathputli Community on redesign of slum in western Delhi. Leads: Catherine Bonier and Benjamin Gianni.
 - c. *Japan*: 10-day trip, 3rd-Year Design students, Winter Term. Lead: Tom Leung.
 - d. *Northern Europe* (Berlin, Amsterdam and Rotterdam): 3rd-Year Design students, Winter Term. Lead: Honorata Pienkowska.
 - e. *Barcelona*: 10-day trip for M.Arch. 1 students, Winter Term. Lead: Paul Kariouk.
3. 4th-year Option Studio, Winter 2017. The studio will explore an impoverished community north of Rio de Janeiro where some of the Olympic facilities were built, along with a major train line. This formerly disconnected community is now hyperconnected to Rio and the balance of South America, and has high quality infrastructure. As such, it is under pressure to develop. The studio will propose sustainable development methods that preserve the local ecosystems (rainforests + rivers). Lead: Giancarlo Mangone.
4. Graduate Option Studios, Winter 2017:
 - a. *Extreme Landscapes*: M.Arch. studio, Winter Term. Six weeks designing for a site in the **Negev Desert** and six weeks in **Canada’s far north**. Instructors: Lior Galili and Robert Boraks. In-kind sponsorship from Parkin Architects.
 - b. *The Canadian Metropolis*. M.Arch. studio, Winter Term. Divided between six-week studio in **Toronto** exploring the decking over of the CN tracks and six weeks in Ottawa working with Pierre David (visiting critic from Paris) to explore ways to accommodate Ottawa’s next 1 million inhabitants.
 - c. *Material Adaptations* Divided between 6-week studio in **Portugal** with Roberto Carvalho and six weeks in Ottawa working with Garth Rockcastle (visiting critic from Maryland). Adaptive reuse in Lisbon and Ottawa.

Item 2: Other issues to discuss with LAB

1. Open positions on Local Advisory Board from the NCC and City. Staffing changes are ongoing in both organizations.
2. Accreditation visit, March 2017 – would like LAB to be involved.
3. “Dinner in the Street” celebration of Master of Architecture thesis: Board members invited; ideas for sponsorship.
4. *Giving Tuesday*, November 29. University matches funds dollar for dollar up to \$1000.
5. School’s revenue generation initiatives:
 - o Continuing Education/Professional Development (*ACE*) to launch this winter. Four courses.
 - o *Studio First* (geared to undergrads studying in other fields, and considering pursuing Architecture at the masters level). 5-week summer program.
 - o Program for high-school student considering Architecture at the undergraduate level. Weekend and 1-week summer programs: L.A.B. 101 and L.A.B. 102.
6. Alumni reception for 40-year graduates, September 2017 (during Throwback). Class includes Gord Lorimer, Bill Metz, John Davies, Bill Crompton, Susan Smith, John Keen.

- a. Folded into Carleton's 75th anniversary celebrations?
- b. Fundraising opportunity (e.g., gift on behalf of classes of '76, '77 and '78)?
- 7. Planning for School's 50th anniversary in 2018.
- 8. Renovations and additions to the Architecture Building.
 - a. Exchanging space in the Azrieli Pavilion for space on the 5th floor of the Architecture Building.
 - i. Putting pressure on the University to extend the elevator to the 5th floor of the Architecture building.
 - ii. Renovations to the 5th floor.
 - 1. Reconfiguration of rooms and circulation spaces.
 - 2. Adding stair from "upper street" to 5th floor (current stair access is limited to hard-to-find exit stairs at corners of the building).
 - 3. Adding skylights.
 - 4. Expanding floorplate of 5th floor by extending mezzanines into double-height portions of 4th-floor studio spaces.
 - b. Other additions renovations to the building:
 - iii. New façade/extension on south side of building.
 - iv. Shared materials lab with Industrial Design in current ID woodshop space.
 - c. Fundraising to help cover costs.
 - i. Capital Campaign.
 - ii. Naming rights for building.
- 9. Strengthening ties with India through local development community:
 - a. Exchanges with Univ. of Delhi (Kochar Family)
 - b. DSA to India
 - c. Co-sponsored events (such as film screening on Kathputli Colony by Martine Palmer).
 - d. Exploration of role of private sector in slum redevelopment (and urban redevelopment, generally).

Questions on "other issues":

1. Should we establish LAB sub-committees/working groups to address any of the issues identified above?
2. If so, which of these issues/initiative interests you?

Item 3: General Updates

10. Student and faculty numbers, 2016-17:
 - e. Current enrolment: approx. 480 students
 - f. Anticipated flow-through enrolment: 500
 - g. Number of faculty: 19
 - h. Number of FTE 17.5
 - i. Number of contract instructors (paid from operating funds): 15
 - j. Number of visiting critics (paid from endowment and studio fund): 10
11. Urbanism initiatives
 - k. Two new hires in Urbanism: Catherine Bonier and Ozayr Saloojee.
 - l. Creation of "Urban Resilience Lab."
 - m. Symposia on theme of "Fluid Infrastructures" in Winter 2017 and 'Capital Water" in Fall 2017.
 - n. 2nd international Conference on Canadian, Chinese and African Sustainable Urbanization (ICCCASU II), Cameroon, Dec. 2017.
 - o. Work with Urbanism Lab at NCC to organize "Smart City" symposium exploring impact of sensors, autonomous vehicles, internet of moving things, etc., on volume and modes of transportation.
12. School is launching another faculty search in 2016-17 (replacing vacated position).
13. Recent/upcoming change of Dean of Faculty of Engineering.

3.7 Physical Resources

CURRENT BUILDING IMPROVEMENT PROJECTS

During summer 2016, the School engaged in a program of minor but significant improvements to the building. These fall into three main categories:

Student Services Spaces

3-d printing lab: We purchased four new 3-d printers, and installed these in a room that had been reserved for occasional meetings. The machines are on view from the main street, so the printing is also an exhibition of student work in the making, in real time. The room is staffed by a student assistant.

Audio-visual, print and laser lab: We have expanded our capacity for printing and laser-cutting, and our newly hired Digital Technologist has increased the visibility, accessibility and ambiance of these student service facilities.

CNC lab: The CNC machine has been relocated to a former photo studio, with good daylight, and a purpose-built office for the CNC technician.

Stoner-Cutting robot lab: The most ambitious of our recent acquisitions, the stone-cutting seven-axis robot occupies its own space, with glazed garage doors for easy access and daylight, a new crane for lifting the stone. The robot will be cutting replacement stone pieces for the Houses of Parliament, as part of the work of the Carleton Immersive Research Studio (CIMS).

Public Outreach and Exhibition Spaces

HUB Gallery: We have renovated two obsolete spaces as galleries. One, in the former student lounge, is organized as a study room with display walls. This room will change its exhibits often, to reflect current student work.

White Gallery: The White Gallery, in the space of the former darkroom, is a secure gallery space for exhibition of traveling exhibits, thesis work, alumni shows, and other special exhibitions. One masonry wall was removed and replaced with floor-to-ceiling glazing in the style of the original building.

Main Street: We have activated the main street of the school as a public space with street banners, street lighting, locked exhibit cases, and café tables. This space is now clearly the heart of the school.

Administrative and Faculty Spaces

Main Office: A long-needed renovation to the main office has made the space brighter, more welcoming, with a new staff office, acoustical modifications, and gallery lighting.

Director's Office: The Director's office is also upgraded, with new lighting, carpet for sound modification, gallery walls, and a visitors area in which the School's publications are available.

Faculty Lounge: An underused faculty office is now the home of the copy machine, coffee and supplies, and allows small committee groups to meet in private.

Visiting Critic Office: We have reprogrammed the relocated 'loan pool' as an office for visiting critics from abroad.

FUTURE IMPROVEMENTS

While these minor renovations can happen incrementally, we have a major challenge in the expansion of our studio spaces on the 5th floor. These plans, and the funding agreement with the University, are evolving during the current academic year.

3.7.a The Architecture Building (Building 22)

Since 1973 the School of Architecture has enjoyed the use of a purpose-built facility designed by Toronto architect Carmen Corneil. The building provides exceptionally well-designed accommodation for the students and faculty, and is equipped with a wide range of service and support facilities. The building's unique design makes possible a wide range of activities, and its architectural character has been a source of inspiration to several generations of students and faculty.

In the late 1980s an incongruous roof-top addition was built to accommodate new programs in Engineering. These occupied the entire floor-plate until relatively recently when the Faculty of Engineering began to consolidate its numerous programs within new and expanded facilities: namely the Minto Centre addition and the new Canal Building. The gradual vacating of the 5th floor by engineering, allowed the school of architecture to begin plans for the consolidation of its own expanding programs. As of 2016, the School of Architecture occupies roughly 75% of the 5th floor and has plans to reclaim and renovate the entire roof-top. This physical consolidation is supported by the faculty's ideological & pedagogical position that exchange between specializations (Design, Urbanism, Conservation & Sustainability) and levels of study (Undergraduate, Graduate) are beneficial to students and faculty alike. In doing so, the decision to vacate the Azrieli Pavilion (former studios for the M.Arch program) was perceived as beneficial to the entire architecture community. For relocated Grad students, this meant a return to the *Building 22* facilities and services that support their academic studies and their lives as students.

On the 4th floor, each Studio year is served by a 4 to 5-bay space accommodating 50-70 students. Currently, studios on the 5th floor are held in large classrooms furnished for 12 to 30 students. Strategic distribution of design-based courses on the 4th and 5th floors allow for students from different programs to work adjacent to each other. In studios, each student is assigned to a central workspace with a common gathering/discussion table, perimeter drafting tables, chairs, and personal lockers. Durable, 'rough and ready' finish treatments permit students to pursue their work in an active, 'laboratory' setting.

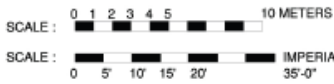
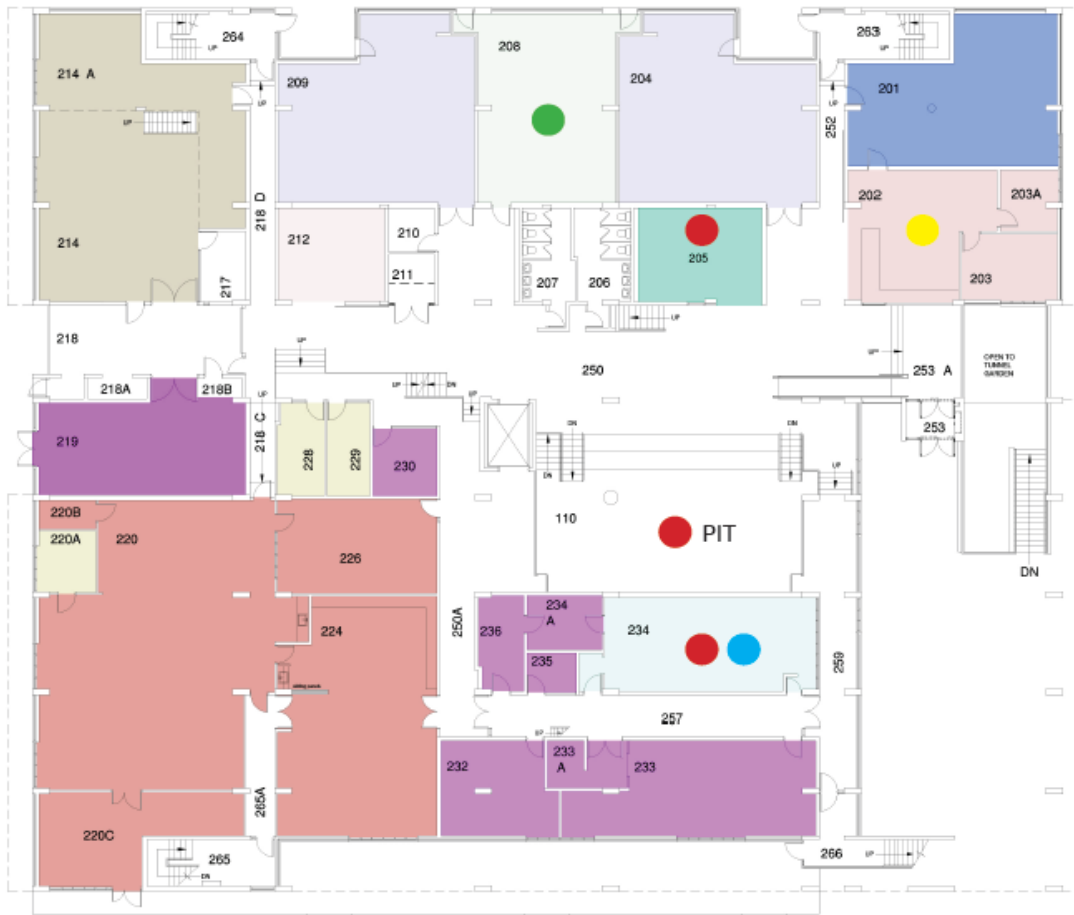
Building 22's design features two wide corridors known as "the Streets." The Upper and Lower Streets serve as informal meeting places and are central to the social and intellectual life of the School. The 4th floor Upper Street is frequently used for displays of student work. Large lecture classrooms on the ground floor adjoin the Lower Street, and smaller rooms for critiques and discussion are located in a number of levels in the building. Faculty offices are distributed in a variety of locations, mostly adjacent to Studio spaces, throughout the School.

A large, multi-purpose meeting area known as "the Pit" is located off the Lower Street. The Pit is used for the Pit Lecture series, impromptu lectures, film and video screenings, jury reviews, theatre productions, as well as informal meetings of all types. The Pit features a lighting grid, a large projection screen, a P/A system, and a motorized curtain enclosure for sight and sound control.

Renovations of the Architecture Building

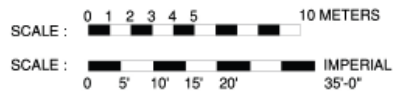
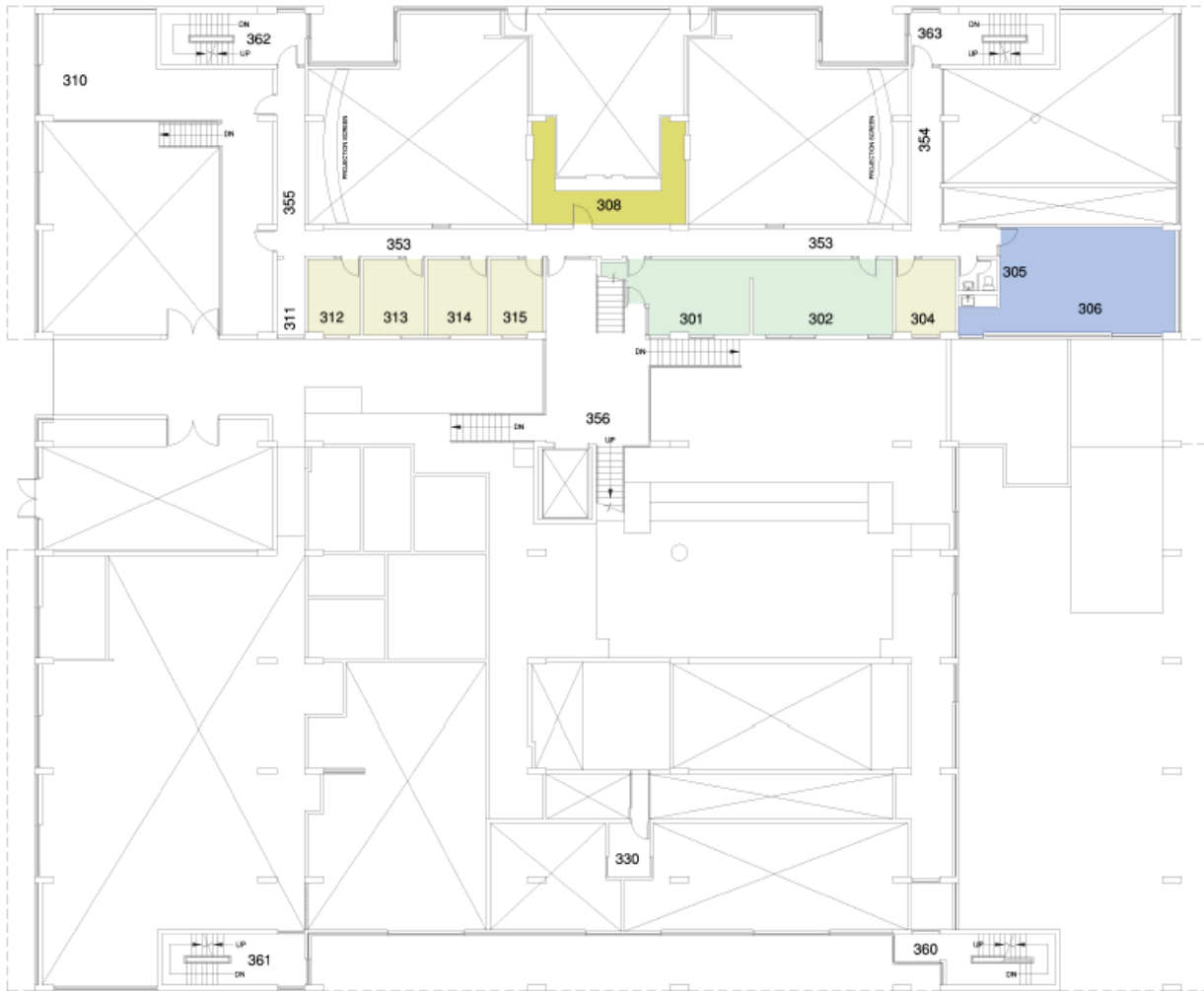
As the School prepares for a large, steady state, of 450+ students in the combined undergraduate and graduate programs, the use of the Architecture Building will require optimization. The faculty intends to continue its efforts to consolidate and enhance its physical resources within *Building 22* in order to benefit learning, experimentation, open discourse and dissemination.

3.7.a Plans of the Architecture Building (Building 22)



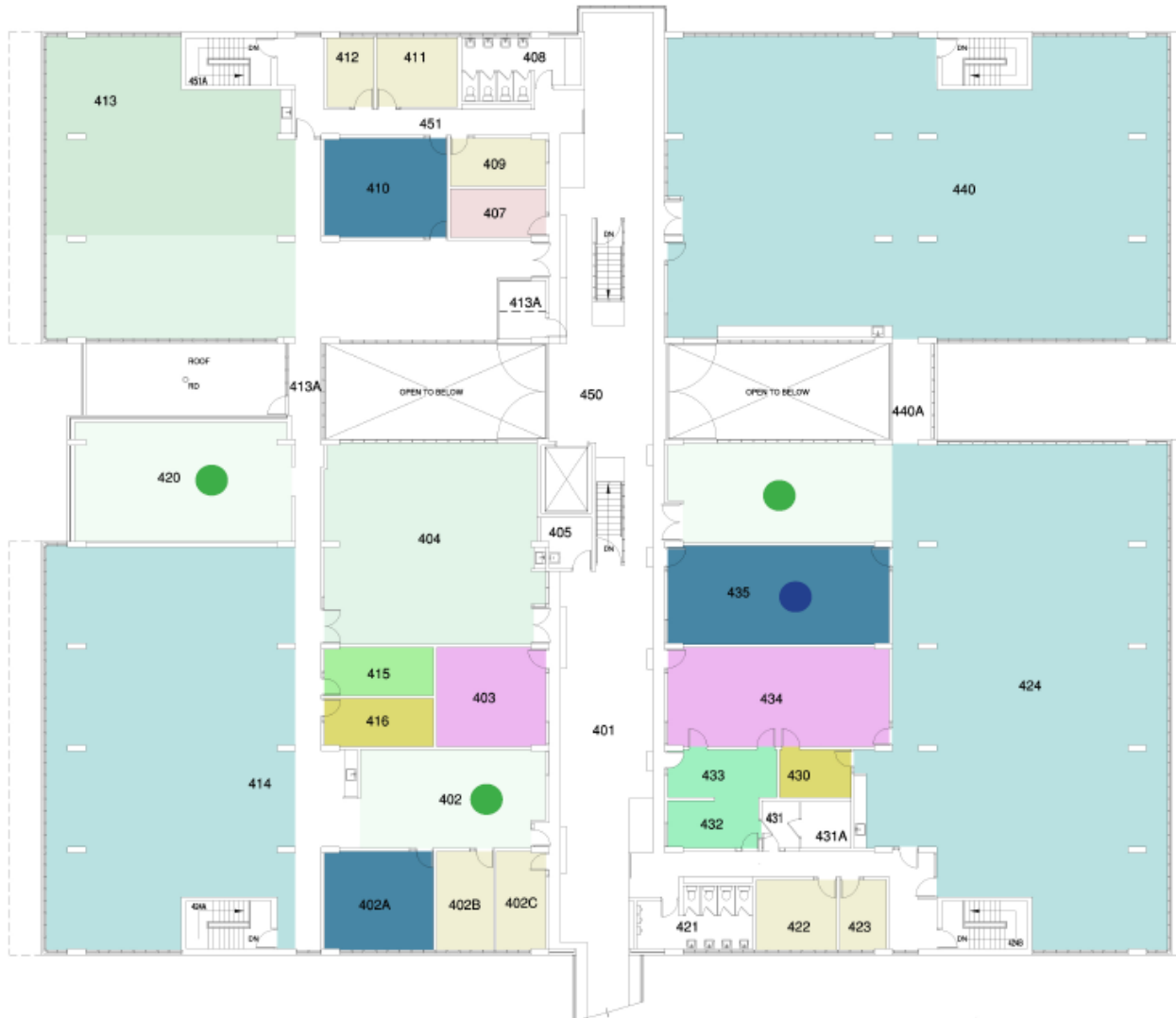
Architecture Building, Level 2

- | | |
|---|---|
| <ul style="list-style-type: none"> Wood & Metal Shop I.D. Wood Shop M. Arch. Thesis Studio (208) Lecture Rooms (204 & 209) Storage Faculty/Staff Offices Gallery (224) Main Office (202-203) Technical Data Room (201) Hub Gallery A.V. Studios, CNC, Digital Fabrication Michael Coot Gallery/Robot Room | <ul style="list-style-type: none"> Exhibition Rooms Team Room APR Documents Graduate Studio & Thesis Work in Progress |
|---|---|



Architecture Building, Level 3

- Director's Seminar Room
- Director's Office
- Faculty & Staff Offices
- Sessional Office



SCALE : 0 1 2 3 4 5 10 METERS
 SCALE : 0 5' 10' 15' 20' 35'-0" IMPERIAL

Architecture Building, Level 4

- BAS Studios
- M. Arch. 1 Studio
- M. Arch. Studios
- Student's work (415)
- Computer Server & Offices (432-433)
- M. Arch. Thesis Studios
- Seminar/Crit Rooms
- Faculty/Staff Offices
- Sessional Offices
- Tech. Room/Printer
- Computer Labs
- Graduate Studio & Thesis Work in Progress
- Team Interview Room (435)



Architecture Building, Level 5

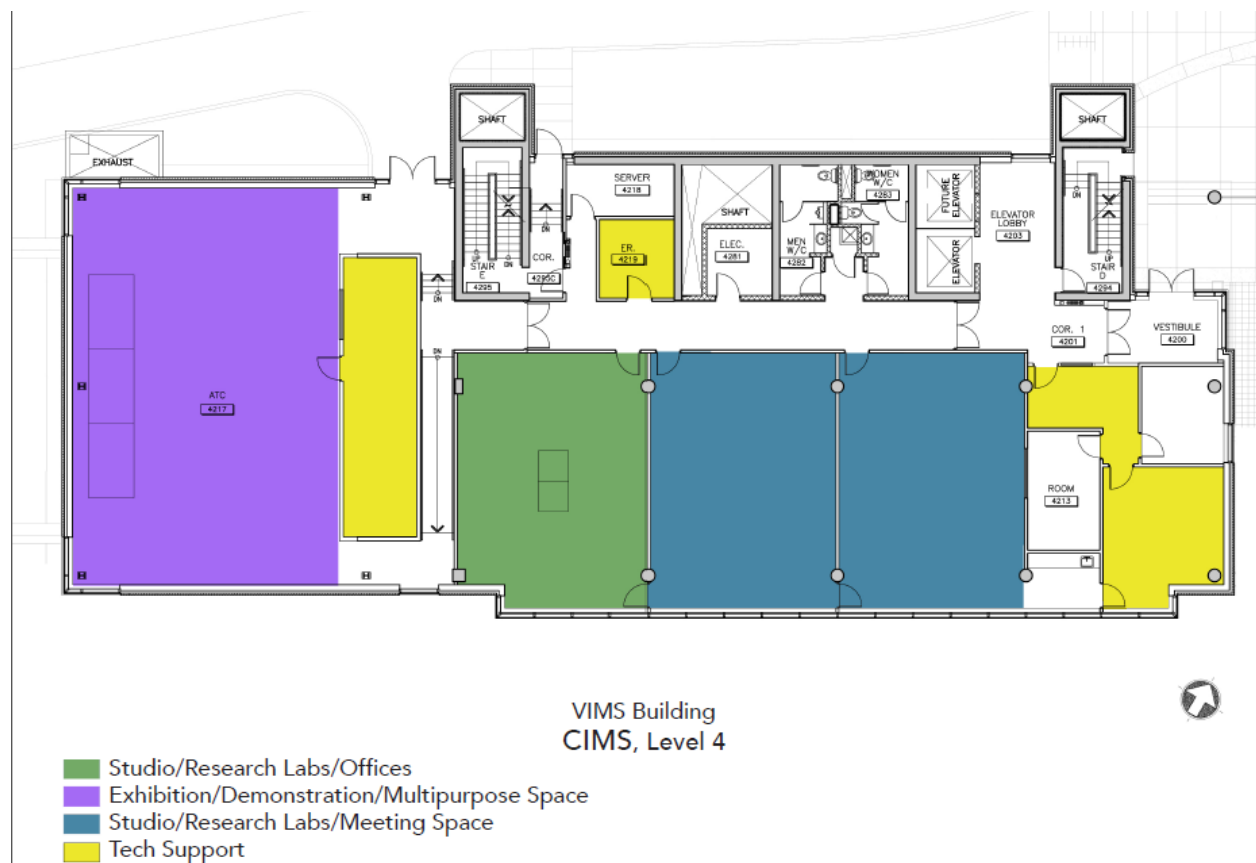
- Conservation & Sustainability Studio
- Urbanism Studios
- BAS 4th Year Studios
- Seminar/Crit Rooms
- Faculty/Staff Offices
- PhD Offices
- Computer Labs

3.7.b The Azrieli Pavilion

Until recently, the David Azrieli Institute for Graduate Studies in Architecture occupied a 7000 square ft space on the fourth floor of the Azrieli Pavilion, located on the campus' main quad. The Institute accommodated studios for 67 graduate students, two faculty offices, a seminar room, and a large multipurpose space for presentations and gatherings. However, this divided the school into two buildings, and created a separation between graduate and undergraduate students. In order to bring the school under one roof the faculty now occupies much of the 5th floor of the Architecture Building, renovating engineering classrooms and labs originally designed for engineering courses. Gradually, in negotiation with the dean of engineering, an increasing number of rooms and spaces are being turned over to our architecture programs with the expectation that the entire 5th floor will serve the school of architecture and will undergo appropriate renovations in the near future. Sharing of spaces and facilities fosters a greater sense of community and promotes an awareness of the work produced at all levels of architectural inquiry. Public exhibitions, colloquia, critiques and defences add to this shared experience and encourage dialogue between students, instructors, staff and members of the greater community.

3.7.c VSIM

The Carleton Immersive Media Studio (CIMS) research facility is located in the Visualization and Simulation Building (VSIM) on the Carleton University Campus. The VSIM building is a 4000 m², multi-disciplinary research centre built in 2007 with funding from CFI, OIT, and industry partners. It is the home of the Centre for Advanced Studies in Visualization and Simulation. CIMS occupies the 4th floor and has over 800m² of research space including modelling labs, immersive environments, and an audio/video studio.



3.7.d Services

3.7.d.i Computer Facilities

Digital Facilities Administrator: Michael Getz (full-time)

A total of 63 workstation computers serve students in the Computer Facilities in the School of Architecture Building. Total enrolment (B.A.S. and M.Arch) is approximately 445 students (an increase from 367 in 2010). Over the past 5 years, the ratio of seats per student have been increased from 1/9.2 to **1/7.1**

Servers:

Lab Storage/Authentication:

1	Win2k8	Dell R710	
1	Win2k8	Dell R710	10TB storage
1	Win2k8	Dell R730	10TB storage

Render Farm

10 blade Dual 6 Core Xeon E5 processor render farm

Computer Hardware:

Room 204

Presentation computer Core2Duo 3Ghz + permanently installed projector

Room 209

Presentation computer Core2Duo 3Ghz + permanently installed projector

Room 435

Presentation laptop computer (i5) + permanently installed projector

PC Lab (Room 403) :

Computers:

6	i7-4790 3.6GHz PC, 500GB SSD, 16GB Ram, 22" LCD
1	i7-3770 3.4GHz PC, 500GB SSD, 32GB ram, 22" LCD
4	i7-860 2.8GHz PC, 500GB SSD, 8GB ram, 23" LCD

I/O Devices:

10000XL Epson Expression 12x17" Colour flatbed scanner

PC in studio Lab (Room 420) :

Computers:

4 i7-4790 3.6GHz PC, 500GB SSD, 16GB Ram, 23" LCD

PC in studio Lab (Room 208) :

Computers:

1 i7-4790 3.6GHz PC, 500GB SSD, 16GB Ram, 23" LCD

PC Lab (Room 434) :

Computers:

20 i7-860 2.8GHz PC, 500GB SSD, 8GB ram, 23" LCD

I/O Devices:

HP5200tn 11"x17" 1200x1200 Monochrome Laser Printer
Xerox Phaser 7500DT Colour 11"x17" Laser printer
10000XL Epson Expression 12x17" Colour flatbed scanner
1 Permanently installed projector

PC Lab (Room 513) :**Computers:**

27 i7-3770 3.4GHz PC, 500GB raid 0 HD, 32GB ram, 24" LCD

I/O Devices:

HP5200tn 11"x17" 1200x1200 Monochrome Laser Printer

3.7.d.ii Digital and Audio-Visual Facilities

Manager: Steve MacLeod (Full-time)

The School is equipped with excellent digital fabrication facilities as well as printing and imaging technology resources. Two, large format, poster printers print on a variety of media. Three laser cutters, five Makerbot 3D printers, and a large CNC router allow for the creation of parts for student models. A photographic studio area is equipped with backdrop and lights. An equipment loan pool provides a wide selection of digital and film photographic equipment, tripods, audio equipment, projectors, etc., for student and faculty use. The facilities are staffed and supervised by a full-time Manager, a part time technician, and student assistants. Nominal fees are charged for student use of facilities and services.

Equipment List:

1 - HP Z6200 42" Poster Printer
1 - HP Z3200 42" Poster Printer
1 - 8"x12" Dye Sublimation Printer
1 - 42" Large Format Scanner
1 - 60" Mat Cutter
5 - Makerbot 2 3D Printers
1 - 75 Watt Laser Cutter
2 - 60 Watt Laser Cutters
1 - XYZ, 9 HP, 4' x 8' CNC Router
35 - DSLR Cameras
A variety of vintage 35 mm and medium format Film Cameras
2 - Film Enlarging Stations
A wide variety of specialized photographic lenses
8 - Lowell DP Photography Lights
A variety of basic audio amplification and recording equipment
2 - GPS Waypoint Recorders
18 - Digital Projectors
1 - 50" LCD Monitor
1 - 40" LCD Monitor

3.7.d.iii Workshop Facilities

The School enjoys first-class shop facilities. Separate areas are equipped for sheet metal work, machining (with lathes and milling machines), welding (including MIG, oxyacetylene torches, cutting and brazing, and metal cutting), woodworking (full range of equipment).

Recent equipment acquisitions, including digital robotic milling machines, are leading to an expanded workshop zone. The CNC router which was installed in the Michael Coote Gallery in 2010 has been moved to the space once occupied by the photo-studio in order to make room for the new robots. These digital fabrication tools will complement the traditional tools in the existing shop as well as the digital imaging/printing components in the AV section.

All new undergraduate and graduate students attend a shop safety introduction course before they are permitted to use the shop facilities. The shop is open weekdays from 8:30 am - 5:00 pm.

In addition, a model assembly room adjoins the workshop and provides additional space for the assembly of larger works. It is open to students during normal shop hours, and on a 24-hour basis by special arrangement.

Additional Workshop:

The Industrial Design Workshop: is located in Room 214 of the School of Architecture building and is equipped with specialized woodworking equipment. The Industrial Design Mass Production Lab is located in Room 2493 of the Mackenzie Building. The Lab features machining and precision metal working equipment, plastics and vacuum-forming facilities, and sandblasting equipment. Architecture students have access to this work through prearrangements with the School of Industrial Design.

3.7.d.iv Exhibitions: The Michael Coote Gallery, The David Azrieli Gallery, The New Gallery

For some 30 years, exhibitions of Art and Architecture were mounted in the Michael Coote Gallery within the School of Architecture. These, accompanied by a vernissage and often a public lecture by the exhibitor(s), were advertised to the public and local architectural profession. With the opening of the David Azrieli Pavilion in 2002 came the inauguration of a new gallery – the “David Azrieli Gallery” located on the 4th floor of the pavilion adjacent to the spaces occupied by the graduate program. Through public exhibitions the DAG gallery highlighted graduate student work, studios and theses.

At this time, the Michael Coote Gallery was returned to its original use as a materials testing and assembly laboratory to serve numerous design-build courses and workshops. In 2010 it was renovated to accommodate a CNC - 3-D router (since moved to Photographic studio) and in 2016 was extensively fit-up to house new digital robots. The MC Gallery and Photographic Studio augment the adjacent woodworking facilities, the research units (CSALT, CIMS), as well as the related workshop curriculum while employing computer based modelling techniques introduced in the computer modelling core course.

With an increase in digital fabrication technologies and a growing student population, exhibition space has been supplanted by support facilities and necessary studio spaces. In response to this growth, additional space is being secured on the 5th floor of the Architecture Building (Building 22) in order to house studio and seminar spaces for both undergraduate and graduate students (in all programs and majors). In exchange for this floor plate, the Azrieli Pavilion has been vacated. The gradual inhabitation of the 5th floor includes the exhibition of student work within the public zones and corridors. Concurrently, the obsolete darkroom in Bldg 22's AV section has been revived as a public venue for the exhibition of professional as well as students projects. The first exhibition, selected work from this Accreditation event, will highlight the diversity of the school's programs and inaugurate the school's new exhibitions mandate.

3.7.d.v Other Facilities

The CSALT laboratory at the School of Architecture is focused on the study of materiality in architecture. The goal of this research lab is to effect and contribute to the understanding, application and invention of the material nature of architecture, construction and design. Of particular interest in the lab are the secondary properties of materials, the combination of organic and inorganic materials and the reassessment of traditional materials and methods within the context of our contemporary condition. The Facility is located in the School of Architecture.

Key features of the lab include a physical materials library and research area where students can physically interact with an expanding collection of materials as well as further research them on adjacent computers, a CNC machine where the interface of digital form and material are investigated, and a 'wetlab' where experimentation in plaster, concrete and a host of other wet materials can be worked with adjacent to the plaster sink. This year, we have also added a materials documentation library and study area in an adjacent room and a graduate modelling area, making the lower floors, an accessible and complete zone for material research and construction.

3.8 Information Resources & Information Technology

Introduction:

Students of the Azrieli School of Architecture & Urbanism have access to Information Resources through three main sources:

- On-line information resources are facilitated by a school-wide wi-fi network which gives access to all portable devices and lap-top computers. In addition, all in-house computers, housed in two central labs and in small clusters throughout the Architecture building ensure readily available, hard-wired and wireless on-line access.
- The School's TDR (Technical Data Room) is located on the Main Floor of the Architecture Building. It is open to all students as a reference resources and a reading/study space with a collection of reference books, periodicals, past Theses and Faculty publications.
- MacOdrum Library holds the majority of the School's Information Resources with an excellent and growing collection of books, periodicals, maps, drawings and other dedicated information on architecture, design, urbanism, art, etc.

3.8.a TDR (Technical Data Room)

The Technical Data Room (TDR), located in the School of Architecture Building contains a non-circulating collection of books, architectural periodicals, reference manuals and student Theses. The TDR is staffed by student monitors hired under the OSAP work-study Program and is accessible throughout the academic year. The collection of approximately 1,400 volumes is static, with the exception of a recently reintroduced budget for current periodical subscriptions, occasional donations of books and reference materials and yearly additions to the student Thesis archive. The Room features an extensive collection of architectural periodicals from the period 1960 and is a convenient reference centre for students engaged in historical research. The Room is equipped with a photocopier, and reading tables.

The progressive tightening of the budget (per student) as the School grows in size and scope of its programs has led to serious depletion in budgets for the Technical Data Room (TDR), which has been, historically, an important part of the School's services. This has led to a refocusing of the TDR's mandate with increased reliance on the MacOdrum Library for primary acquisitions of architectural texts. The TDR will continue to maintain published M.Arch theses, periodicals and donated books and will accommodate online sources of architectural and related literature. We have at present one computer station in the Technical Data Room that is dedicated to on-line literature search. The in-house wireless network further facilitates this access for students with laptop computers. Additional computer stations in the School's computer labs are hard-wired to the Web and the students have unlimited access.

1.1 Context: The TDR was established as a reading/study space to house a special collection of books. The school has collected and kept Theses from past students dating back to the mid to late 1980s. In addition, architecture and design periodicals are kept current as reference material while a number of stacks hold technical documents (e.g. Building Codes, Product Specifications) and other reference books donated to the school throughout its 50-year history.

1.2 Subject coverage: The bulk of the TDR's collection keeps technical architectural reference books and construction manuals. Donated books are more diverse in their subject matter ranging from architectural history-theory, to portfolios of architectural projects by students and professionals.

2. Staff

2.1 Structure: The TDR is supervised by students enrolled in the Ontario Work Study Program (part of OSAP), managed by the school's Financial Administrator. A number of positions are filled in order to ensure that the resource is readily available to students during a scheduled working week. A faculty member advises on the collection acquisitions and periodicals subscription and reports to the Faculty Board for recommendations and input.

2.2 Numbers: Through the Work Study Program the running of the TDR is sustainable. It is readily accessible with a clearly demarcated weekly schedule.

3. Facilities

3.1 Space: As a complement to the excellent facilities provided by the MacOdrum Library (see below), the school's TDR is a popular reference and study space. Students appreciate the quiet and light-filled attractive space where they can study with few distractions. Students appreciate the collection of supplemental technical information, as well as the growing collection of student Theses, Faculty publications and student work publications (e.g. Building 22, Carleton Folio, etc.). The TDR also benefits from its proximity to the public spaces within the Architecture building.

3.2 Equipment: The TDR provides a photocopy machine, a computer station and wi-fi connectivity, all for dedicated student use.

3.3 Furnishings: The TDR is one of the school's most delightful spaces and is popular with students due to its quiet environment with plenty of natural light. The room allows for personal study as well as small group discussions amongst students and faculty. During off-hours, the TDR also functions as a formal meeting space for committees and Faculty Board as well as more informal gatherings for lunches with visiting critics or off-campus guests. During the Accreditation Visit, the TDR is reserved for the Visiting Team.

Types of Collections		Expenditures		
		Before Last	Budget Year Last Year	This Year
Books	Donations	n/a	n/a	na
Periodical Subscriptions	Multiple titles	\$500	\$500	\$500
Theses	Printing/Binding	\$200	\$200	\$200

3.8.b Carleton University: MacOdrum Library

The MacOdrum Library is the central resources for all schools and departments on campus including a dedicated collection for the School of Architecture. It holds a comprehensive collection of architecture & design resources, disseminated in both print and digital formats.

In order to insure an adequate and up-to-date collection of resources appropriate to Architecture & Urbanism, a faculty member, representing Faculty Board, consults with the Library Administration and staff.

Institutional Quality Assurance Process

Library Report for the Azrieli School of Architecture and Urbanism

Accreditation and Cyclical Program Review

Date: August 15, 2016

Compiled by: Kristof Avramsson, Science and Engineering Librarian

Submitted to: John Shepherd, Vice-Provost and Associate Vice-President (Academic)

cc: Jill Stoner, Director, Azrieli School of Architecture and Urbanism

Overview and Recommendations

An analysis of Carleton University Library's resources and services in support of the Azrieli School of Architecture and Urbanism undergraduate and graduate programs, demonstrates that the Library does not require additional funds for continued support.

Library Collections

Subject Specific

The Library's collection includes specific resources to support the Azrieli School of Architecture and Urbanism's undergraduate and graduate programs. According to SCImago and Journal Citation Reports, the Library currently subscribes to 23 of the top 25 ranked Architecture journals, and 23 of the top 25 ranked journals in the related discipline of Civil Engineering.

During the 2015/2016 academic year, the Library's spending for collections in all areas was \$6,097,308. About \$4,931,206 was spent on general electronic resources which benefit all subject areas. In addition, the following table shows the amounts spent on electronic resources (databases, journals, ebooks, indexes), print journals, and monographs in Architecture and the related discipline of Architectural History/Theory, Urbanism & Urban Geography, Design & Industrial Design, Civil & Environmental Engineering:

Library Collections Spending, 2015/2016			
Subject	Electronic Resources	Print Journals	Monographs
Architecture	\$17,716.02	\$9,643.45	\$4,617.41
Civil Engineering	\$28,281.33	\$1,176.66	\$5,696.25

Over the past eight years, the Library has spent the following on monographs in Architecture and the related discipline of Civil Engineering:

Library Collections Spending, Monographs								
Subject	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Architecture	\$15,635.74	Not Available	\$7,562.74	\$16,240.13	\$14,312.84	\$7,875.35	\$8,877.11	\$4,617.41
Civil Engineering	\$6,793.87	Not Available	\$9,995.92	\$8,175.22	\$7,199.95	\$7,871.09	\$12,331.71	\$5,696.25

Specialized Collections

MADGIC:

The Maps, Data, and Government Information Centre (MADGIC) is comprised of the Library's cartographic collection, the government documents collection, the Data Centre's statistical consultation service, and geospatial data and geographic information systems (GIS) collections.

Of particular significance for architecture and urbanism students are MADGIC's GIS resources. GIS data includes vector files (roads, rivers, buildings, boundaries, points of interest) and raster files (aerial and satellite images and digital elevation models). Azrieli School students are currently the top users of GIS resources. These students are also regular users of MADGIC's Ottawa Room, which collects extensively on the Ottawa area through collaboration with the City of Ottawa and the National Research Commission.

ARC:

The Library's Archives and Research Collections (ARC) acquires and preserves archival collections and rare documents of all types. ARC provides instruction in archival theory and practice, including practicum experience for students. Azrieli School students are frequent users of this collection, which includes drawings and models produced by architects Douglas Cardinal and George Bemi.

Staffing: Teaching, Learning, and Research

The information-literate student is one who is able to access information efficiently, critically assess it, assimilate and synthesize it effectively. The Library's programs and services are grounded in Ontario's Quality Assurance Framework, articulated in *Ensuring the Value of University Degrees in Ontario*, the Council of Ontario Universities' guide to degree level expectations in the province.

The Science and Engineering Librarian works collaboratively with faculty to address students' information competencies through a number of methods, including the following:

Instruction, Teaching, and Practicums

The total number of in-class instruction sessions provided by Library staff in all subject areas during 2014/2015 was 482, and the total number of students attending was 15,581. There were a total of 12 practicums (hands-on learning opportunities, critical enquiry projects) in all subject areas. The Librarian designs classes and practicum opportunities to meet the needs of specific assignments and course requirements while addressing broad learning objectives.

The Library offers workshops for graduate students in research and writing through the Faculty of Graduate and Postdoctoral Affairs (FGPA). FGPA hosts Grad Navigate: a hub of graduate-specific workshops and services that assist graduate students in navigating different aspects of their graduate school experience and developing professional skills. Examples include workshops discussing copyright, citation management, research data management, NVIVO, scholarly journal writing, research impact, and data visualization.

Learning Support – Provided Online

The Library website (library.carleton.ca) is designed to support each step of the research process: identifying, accessing, borrowing, evaluating, and citing resources. Google Analytics recorded almost 1 million visits to the Library website during 2014/2015. Library users can now easily conduct a comprehensive search of the entire collection using the new Summon search interface.

Research Partnerships

Active research is the foundation of a strong academic program, and an increasingly important part of student learning and development. The Library provides resources, services, and expertise to facilitate research at all levels and through all stages of the research process. This research support is provided at key service points, and through consultations and more formal collaborations.

Facilities, Services and Spaces

Individual Research Consultations

Library staff provided 6721 individual research consultations in total in 2014/15 for all faculties. Consultations can be scheduled for quantitative and qualitative research, as well as for GIS support.

Research Help Desks

Onsite research help is also available at three service points: the main Research Help Desk, the MADGIC (Maps, Data, and Government Information Centre) Desk, and the Archives Help Desk. The Research Help and MADGIC Desks are open seven days a week during the fall and winter terms, and are supplemented with phone, email, and chat reference services. These three service points had a total of 14,291 visits in 2014/15.

General Information about the Library

The Library underwent extensive renovations in 2012-13, including two additions (West and East), and extensive renovations to the interiors. The East addition consists of five storeys of renovated space, totaling 28,500 square feet, punctuated by a large new reading room on the main floor, an Ottawa Community Resource Room, and an open-concept façade from top to bottom. The West addition consists of a two-storey addition (floors four and five), totaling 45,700 square feet of new library space. The new design for the fourth and fifth floor addition located at the rear of the building includes expanded group study rooms, digital media study rooms, the Discovery Centre with three innovative learning labs, and a special collections study area. Throughout the existing portion of the library, approximately 34,700 square feet was renovated, creating many modernized departmental spaces, including Reference Services, MADGIC, ARC, Reserves, and Interlibrary Loans.

The Discovery Centre is a 9,500 square foot collaborative workspace for undergraduate research. This dynamic learning environment is outfitted with ergonomic, accessible, and stylish furniture as well as state-of-the-art technology. Complete with three Library Laboratories (a gaming lab, a learning lab, and a multimedia lab), this multi-purpose space can be adapted to suit a wide range of needs.

The Library's collection includes 1,084,374 print-monographs and 777,395 e-books, and licensed access to 68,033 electronic journals. In addition, the Library has substantial collections of government documents and other resources, including: maps, data, rare books and other special research collections, printed journals, archives, theses, multimedia resources (audio, DVD, streaming video), musical scores, computer games, as well as licensed access to a broad range of fulltext and indexing databases. For a snapshot of details, see Appendix.

Subject specialists and liaison librarians, working with faculty members and coordinated by the Head of Collection Development and Acquisitions, build and maintain the Library's collection by developing subject-specific collection policies which guide the systematic selection of materials. The Library also provides a request form on its website where a user may suggest a book or other items for purchase. Although many monographs are collected in print format, the library is actively increasing its e-book collections. Students and faculty therefore have access to an ever increasing number of e-books in a wide range of subjects and disciplines.

In order to enhance its purchasing power (particularly for electronic resources), the Library is an active member of two major cooperative partnerships: the Ontario Council of University Libraries (OCUL), a consortium of the 21 academic libraries in the province; and the Canadian Research Knowledge Network (CRKN), a consortium of 75 academic libraries across the country.

The Library's annual acquisitions budget for the 2015/2016 fiscal year was \$6,097,308, and its staffing and operating budget was over \$10 million.

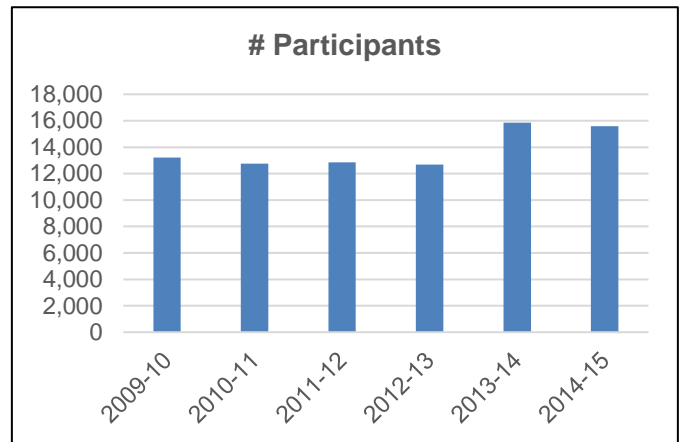
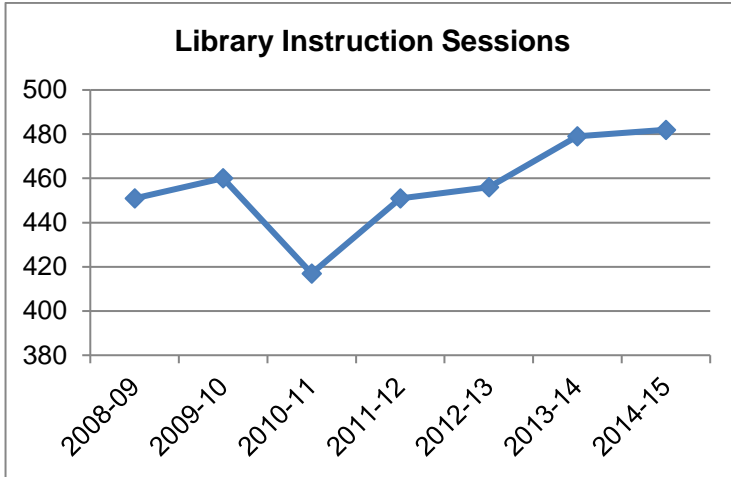
The Library acquisitions budget is not protected from inflation, exchange rates, or cuts, which often challenges the Library's ability to provide all the necessary resources in support of teaching, learning, and research at Carleton. Consideration of the funds necessary for the Library's acquisitions budget is part of the academic planning and Quality Assurance processes for new programs. In relation to other Canadian academic libraries,

Carleton's acquisitions budget is small, and comparisons on specific metrics also generally place Carleton at the back. Carleton's budget has increased by about 36% since 1999/2000 – slightly less than the increase in the national average of academic library budgets over the same period. But the main problem is that Carleton's dollar amount is historically small in comparison to the national average, and since 1999/2000 it has not caught up: it remains at about 56% (Carleton = about \$5.5 million and the national average = about \$9.9 million as of 2012/2013, the latest year for which comparative figures are available). The Library is dedicated to regular assessment of its resources and services. Staff use an assortment of qualitative and quantitative techniques to evaluate collections and services in order to make sound decisions within budget parameters. The Library strongly supports the principles and practices of open access. The University's institutional repository, CURVE, was established in 2011 and is maintained by the Library. It includes not only a growing archive of the broad intellectual output of the University, but also digitized versions of most of the theses accepted at Carleton since 1955 – and as of 2014 houses all new Carleton theses deposited electronically. The Library contributes to CURIE, the University's program to provide funding for faculty and researchers who are publishing in open access journals, and also hosts 5 OA journals online using the Open Journal Systems management and publishing system.

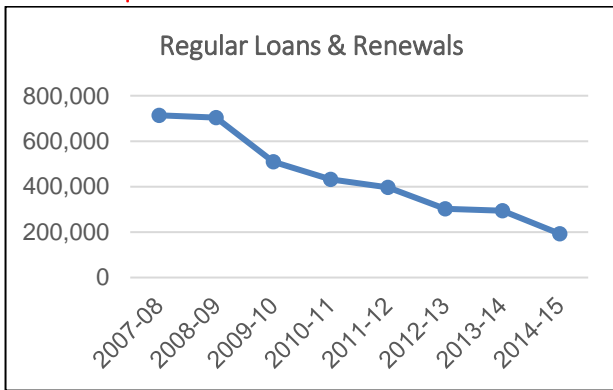
APPENDIX - AT A GLANCE: CARLETON UNIVERSITY LIBRARY

Statistics as of May 1, 2015 except where indicated.

Teaching, Learning, & Research



Research Experience

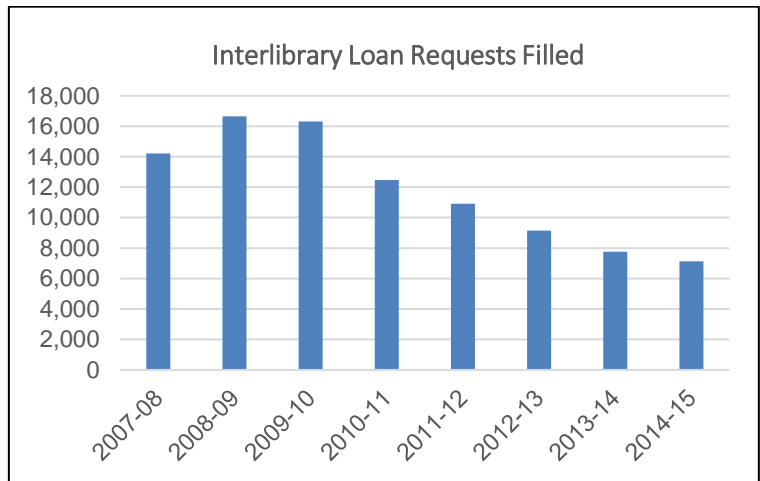
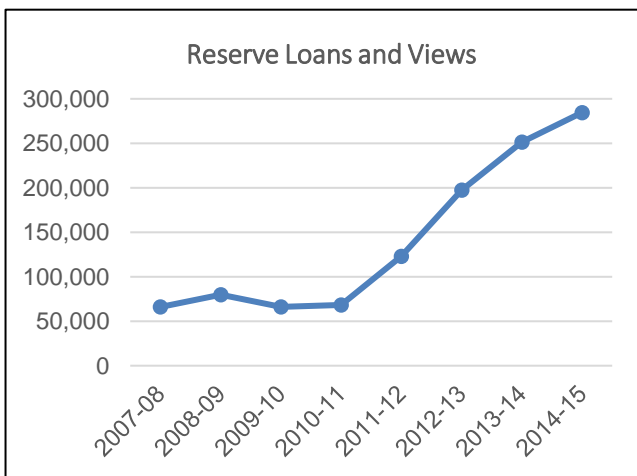


- Highlights:**
- CURVE - Carleton's Institutional Repository
 - Open Access Funding for Faculty, Staff, & Students
 - Research Data Management Training
 - Open Access Awards for Graduate Students
 - Discovery Centre for Undergraduate Research & Engagement
 - Professional Skills Training for Graduate Students

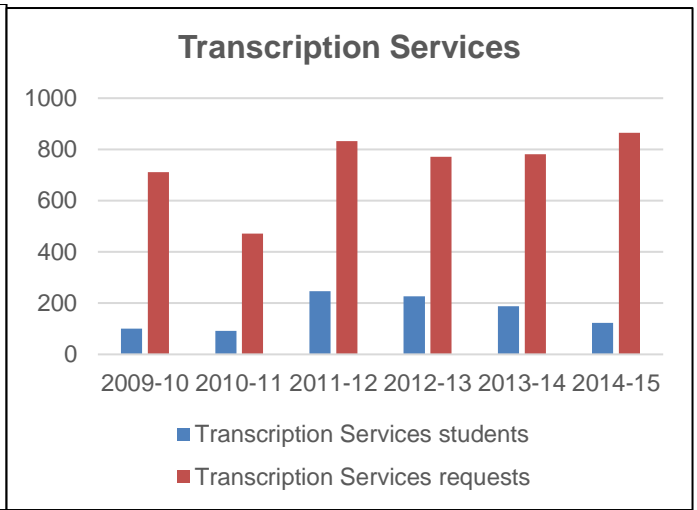
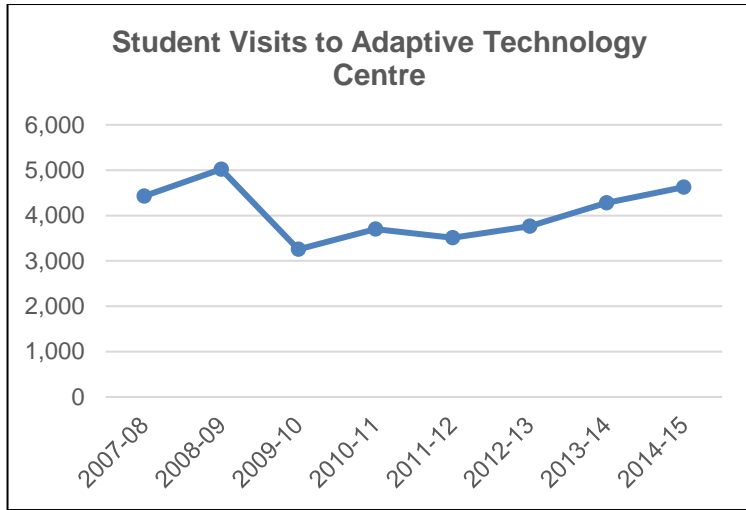
Electronic Usage
E-journal downloads (2013-14):
 1,416,164

E-book uses (2014):
 1,311,448

Library Web Visits (2014-15):
 1 million



Student Learning Experience



- Highlights:**
- 2,000 seats
 - 178 workstations
 - Group & graduate study rooms
 - Innovative Study areas
 - Adaptive Technology Centre
 - 24 hour access at peak times

Organizational Excellence

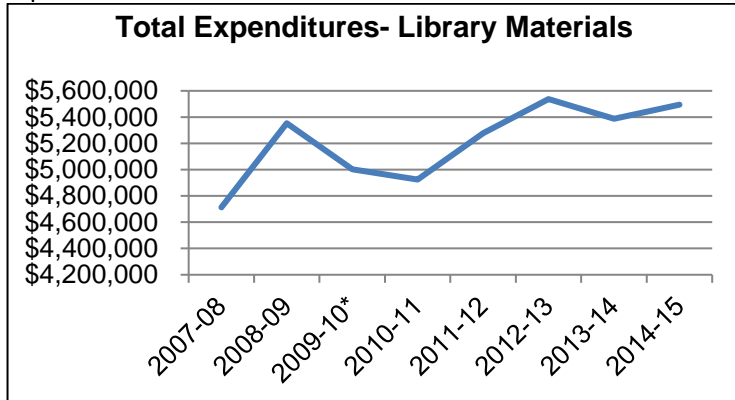
Collection Facts

# Print Volumes	1.8 million
# Manuscripts & Archives	1637.4 linear metres
Percentage of Total Collection Budget Allocated to E-Resources	76%
# Cartographic Materials	162,000
# E-books	952,958
# E- Journals	94,000

Ranking & Comparisons

Globe & Mail (2013)	
B+	Availability of Materials
B	Study Spaces
A	Hours of Operation
Maclean's - Comprehensive Universities (2015)	
3 rd /15	% of University budget devoted to Library Services
10 th /15	% of Library budget allocated to collections

Expenditures



Library collections budget (2012/13)	Carleton = \$5,537,282 National Average = \$9,969,112
Library collections budget as a percentage of University budget (2012/2013)	Carleton = 1.6% National Average = 1.86%

*Amount as of April 9, 2010

3.9 Financial Resources

3.9.a Budget Summary (2015-2016)

Total Budget Including Salaries	Operating Budget	Research (\$)	#Faculty FTE	# of Students	Faculty/Student Ratio	Total Budget Per Student	Operating Budget Per Student	Total Space sq.ft. Space per Student
2009-10								
\$3,422,157.00	\$402,737.00	\$360,498.00	16.5	TOT 389	1/23.6	\$8,797.00	\$1,035.00	51,357 132.0
2015-16								
\$3,070,000.00	\$438,722.00	\$1,540,000.00	17.5 ¹	u/grad: 322 grad: 123 TOT: 445	1/25.43 ²	\$6,898.87	\$986.00	54,740 123.0
<p>1¶ In 2017, the FT faculty will be increased by 2 positions.</p> <p>2¶ With Contract Instructors the total FTE is maintained at = 25; with a Faculty/Student ratio 1/17.8</p>								

3.9.b Operating Budget

The operating budget does not include full-time faculty and staff salaries.

Title	Base Budget
Contract Instructors P/T Salaries	250,248.00
Grad Academic Assistants (TA's)	30,264.00
Summer Contract Instructors-CUASA	0
Administrative P/T Salaries	4,500.00
Adm. P/T-leaves, replacements, etc	0
Central MSA P/T Salary costs	0
Student P/T Salaries -Administrative	0
Other P/T Admin Salaries	0
Internal FMP Labour Charges	0
Office Supplies	5,500.00
Reference Materials	0
Subscriptions	500
Computer Supplies	1,000.00
Lab, Chemical, Water Treatment Supplies	0
Other Supplies	2,600.00
Student Text & Supply Recovery	2,000.00
Shop Supplies Exp.	7,000.00
P-Card Expenses	0
Photocopying Charges & Supplies	9,000.00
Printing Costs & Supplies	0
Photography Costs & Supplies	13,000.00
Long Distance Charges	1,250.00
Postage Expense	1,000.00
Courier & Freight Charges	1,100.00
Telephone Equipment Rentals	10,500.00
Equipment Maintenance	1,250.00
Research & Publications	14,000.00
Society Membership Fees	15,800.00
General Advertising/Publicity	2,000.00
Networking/Reception Expenses	7,500.00
Staff Development Costs	0
Contrib'n to Student Group Activity	2,500.00
Honoraria/Guest Lecturer Fees	11,450.00
Building Repair/Maintenance	7,500.00
Travel - General Costs	21,500.00
Faculty/Staff Recruit Travel-General	0
Local Surface Transportation	2,560.00
Equip/Computer items <\$10,000	4,700.00
Furniture Purchases < \$10,000	1,000.00
Equipment Exp >\$10,000	7,500.00
Unallocated Budget Provision	0
Prior Year Budget Carry-forward	0
Total School Operating Budget	438,722.00

3.9.c Endowments

3.9.c.i Special Purpose Fund

* Interest payments from Azrieli Endowment – Which fluctuates annually

July 2016 Instalment	\$146,765.00
January 2017 estimated Instalment	\$146,765.00
Estimated total Available for 2016-17	\$293,530.00

Expenditures

Azrieli PhD Scholarships (5) for PhD @10,000	\$50,000.00
Azrieli MAS Scholarships (2) for MAS @5,000	\$10,000.00
Azrieli Travel Scholarships for PhD/MAS (5) @1000	\$5,000.00
Azrieli Awards for M1/MArch1 (6) @2000	\$12,000.00
Faculty Research supplements	\$45,000.00
DSA 6 week (instructor, space, seminar)	\$15,000.00
DSA 6 week (instructor, space, seminar)	\$15,000.00
Azrieli Visiting Critic (6 weeks)	\$10,000.00
Azrieli Visiting Critic (6 weeks)	\$10,000.00
Visiting Critic Accommodations	\$8,000.00
Visiting Canadian Architect (fall)	\$24,000.00
Visiting Canadian Architect (winter)	\$24,000.00
Faculty Travel for DSA reviews)	\$4,000.00
Thesis Colloquium 2	\$6,000.00
Final Thesis Reviews	\$10,000.00
PhD Special Guests (for Colloquium)	\$2,000.00
3rd year DSA (4K x 4)	\$16,000.00
School Library enhancements (books)	\$3,000.00
Recruitment Support: Building 22	\$13,500.00
Building 22 copies for school promotion (75 x \$25)	\$1,875.00
Azrieli Council meeting 1@\$2000	\$2,000.00
Conservation Special Guests	\$1,000.00
Conservation trips/DSA	\$3,500.00
Design Special Guests	\$3,000.00

3.9.c.ii Azrieli Urbanism Endowment 2016/17

* Interest payments from Azrieli Endowment – Which fluctuates annually

July 2016 Instalment	\$21,214.00
January 2017 Instalment (estimate only)	\$21,214.00
Estimated total Available for 2016-17	\$42,428.00

Expenditures

Visiting Critic for Urbanism	\$14,000.00
Winter Colloquium	\$14,000.00
Infrastructure for new Urban Residence Lab	\$14,000.00

3.9.d Scholarships

A variety of entrance and in-course scholarships are offered by the University. Architecture students are automatically considered for the scholarships and awards available to them. Studio, non-studio, and overall grade point averages are used as criteria.

Graduation Awards

University Medal

Awarded annually, when merited, to the graduating student standing highest in the Architecture Program.

Senate Medals

Awarded, when merited, to graduating students of outstanding academic achievement. Established 1952.

OAA Medal

Awarded annually in recognition of outstanding academic achievement and professional promise.

RAIC Student Medal

Awarded annually to the graduating student completing the outstanding design thesis of that academic year. The winning thesis will be published in the RAIC Student Design Annual. Selection is made by the Director and two other faculty members associated with the student's work.

Alpha Rho Chi Medal

Awarded annually to the graduating student who has shown an ability for leadership, performed willing service for the School, and gives promise of real, professional merit through his or her attitude and personality. The purpose of the Award is to encourage and promote professional qualities which do not necessarily pertain to scholarship.

The American Institute of Architects Henry Adams Medal

Awarded annually to a student for outstanding academic achievement and professional promise.

The American Institute of Architects Certificate of Merit

Awarded annually to a student in recognition of general excellence in academic performance.

In-course Scholarships

Michael Russell Coote Memorial Award

Awarded annually, on the recommendation of the Director of the School of Architecture, to a promising student who has successfully completed First Year in the School of Architecture. Donors: Friends, family and colleagues of the late Michael R. Coote. Endowed 1983 in memory of Michael R. Coote, a member of the faculty since 1970 and Director of the School of Architecture from 1978 to 1982.

The Education Foundation of the Federation of Chinese Canadian Professionals of Ontario Scholarship Annual entrance scholarship of \$750, awarded to a student entering the first year of the School of Architecture. The award is based on academic achievement and financial need. Established 1987.

Ontario Association of Architects Awards

Value: \$2,400. Awarded annually to a deserving student enrolled in the second year of the School of Architecture (award of \$1,200) and to a deserving student enrolled in the Third year of the School of Architecture (award of \$1,200). Donor: Ontario Association of Architects. Established 1972.

Jacques and Helene Sabourin Memorial Scholarship

Awarded annually, on the recommendation of the Director of the School of Architecture, to the student showing the greatest proficiency in a course devoted to lighting for architecture. Donated by the Illuminating Engineering Society and its members in memory of Jacques and Helene Sabourin who were active in the field of illumination and who tragically lost their lives in an automobile accident in 1984. Endowed 1985.

Nicholas C. Scolozzi Scholarship in Architecture

Value \$600. Awarded annually, on the recommendation of the Director of the School of Architecture, to a deserving student who excels in the Fourth-year studio of the Architecture program. Endowed in 1997 by family and friends in memory of Nicholas Scolozzi, a former Carleton University architecture student.

Murray and Murray Prize in Architecture

Value: \$1,000. The Murray and Murray Prize is awarded annually to a graduate or undergraduate student in the M.Arch./B.A.S. program at Carleton University following a juried competition. The competition presents an architectural idea through hand-drawn drawings and to demonstrate an exceptional ability in using scaled and rendered drawings that include the conventions of plan, section and elevation. The competition takes place in the first week of the fall term and celebrates the beginning of a new year. Endowed in 2003 by friends, family, and colleagues of Tim and Pat Murray.

3.10 Administrative Structure

3.10.a Statement Verifying Institution's Accreditation by a Recognized Agency

Accreditation of the University

Carleton University, a founding member of the Council of Ontario Universities, enjoys full accreditation by the Ministry of Education and Training of the Province of Ontario.

The University is a charter member of the Association of Universities and Colleges of Canada. It is a member of the Association of Commonwealth Universities and participates fully in the Commonwealth Scholarship and Fellowship Plan. It is also a member of the International Association of Universities.

The baccalaureate degree programs in Aerospace, Computer Systems, Civil, Electrical, Environmental and Mechanical Engineering are accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.

The Bachelor of Computer Science Honours Degree Program is accredited by the Accreditation Council of the Canadian Information Processing Society and the Computer Science Association.

The School of Industrial Design was established at Carleton on the recommendation of a study prepared by the Association of Canadian Industrial Designers. Initial funding for the school was supplied by Design Canada, Ministry of Industry, Trade and Commerce.

The School of Social Work program has been formally accredited by the Canadian Association of Schools of Social Work.

Carleton University participates in the Ontario Student Assistance Program, other provincial assistance programs and the Canada Student Loans Program and is fully recognized as one of the few participating institutions outside the province of Quebec for bursary assistance through the Quebec Loans and Bursaries Program.

Carleton University's degree programs are recognized in the United States by the Federal Guaranteed Student Loans Program and for student aid to veterans through the Veterans Administration.

3.10.b Administrative Structure of the Azrieli School of Architecture & Urbanism

The School of Architecture reports administratively to the Dean of the Faculty of Engineering and Design. Academically, the School reports directly to Senate. This hybrid structure is enjoyed by only four units in the University: School of Architecture, School of Industrial Design, Information Technology, and the School of Computer Science. All other units on campus report both academically and administratively to their dean. Architecture and Industrial Design are the only units on campus to have their own faculty boards.

Generally this arrangement has worked well for the School. The School of Architecture is too small to be administratively autonomous and recent Deans in the Faculty of Engineering and Design have been as supportive of the School as possible. Engineering, especially under the University's current strategic goals, tends to be a strong administrative unit. There is no evidence to indicate that Architecture would be better off as a stand-alone faculty or in another administrative unit.

3.11 Professional Degrees and Curriculum

3.11.a Specification of Degrees Offered

The following section outlines the delivery of undergraduate studies in architecture and the three Majors in the BAS and their corresponding curricula. These courses of study are meant to broaden the academic and career options for all students who apply to the BAS. While each new Major has a precise pedagogical structure and area of study, they share numerous courses and have overlaps in their course offerings. For example, all BAS Majors will study Architectural Technology (prerequisite sequence of 4 courses), Morphology of the City, and History of Modern Architecture (to name a few) as part of their required core courses, demonstrating that the study of architecture necessarily involves an understanding of building technology, history & theory of architecture, urbanism & city structures, Economics, etc.

Sequence & Prerequisites

It should be noted that many courses are sequential and therefore require the attempt of one course as the prerequisite for the next. I.e. Architectural Technology 1 is a prerequisite to Architectural Technology 2, etc. The same applies to the design courses where Studio 1 is prerequisite to Studio 2 (in the BAS Design) or Urbanism in Practice 1 is the prerequisite to Urbanism in Practice 2 (in the BAS Urbanism). To access all History-Theory courses and electives, students must complete the 1st year Art and Society courses as well as the 2nd year Intro to Modernism course. All prerequisites are identified in the undergraduate and graduate calendars and are communicated in each student's yearly APE (Academic Performance Evaluation).

Links to courses & Prerequisites:

Undergrad: <http://calendar.carleton.ca/undergrad/undergradprograms/architecturalstudies/#courseinventory>

Grad: <http://calendar.carleton.ca/grad/gradprograms/architecture/#courseinventory>

All BAS Majors (Design, Urbanism, Conservation & Sustainability) share many common 1st year course sequence. This year lays a broad foundation on which further architectural studies are built. General studies elective courses allow for each Major to specify introductory content related to the individual disciplines including courses in Engineering, Art History, Geography, or Social Sciences.

Course common to all BAS Majors:

yr	FALL			WINTER		
1	ARCS 1005	Drawing	.5	ARCS 1105	Studio 1	1.0
	ARTH 1100	Art and Society: Prehistory to Ren.	.5	ARTH 1101	Art and Society: Renaissance to the Present	.5
	ARCH 1000	Intro. to Architecture	.5	ARCC 1202	History of Structures	.5
	ARCN 2106	Intro to Multimedia	.5		Elective or Major Specific Course	.5
		Free Elective	.5			
2	ARCH 2300	Intro. to Modern Architecture	.5	ARCN 2105	Computer Modeling of Form	.5
	ARCC 2202	Arch. Technology 1	.5	CIVE 2005	Arch. Technology 2 (elective for Urbanism)	.5
3	ARCC 2203	Arch. Technology 3	.5	ARCU 3100	Morphology of the City	.5
4	ARCC 3202	Arch. Technology 4	.5	ARCC 4500	Design Economics	.5

The School recognizes that in Canada, all provincial associations recommend a degree from an accredited professional degree program as a prerequisite for licensure and that The Canadian Architectural Certification Board (CACB), which is the sole agency authorized to accredit Canadian professional degree programs in architecture, recognizes two types of accredited degrees: the Bachelor of Architecture and the Master of Architecture. Carleton's BAS/M.Arch 4 + 2 program sequence currently holds a six-year accreditation, granted in 2010. A Focused Review in 2013 extended the accreditation status to a new 3-year M.Arch1 program which is also outlined in this APR.

Our Master of Architecture degree program, with two curricula, requires a pre-professional undergraduate degree in order to access the professional graduate degree, which, when earned sequentially, comprise an accredited professional education. Pre-professional degrees, (Carleton's BAS or an Honours degree from other institutions) are not, by themselves, recognized as accredited degrees.

The School has structured its curriculum in order to ensure that a sequence of professional courses is available to all undergraduate BAS Majors. In addition, these courses are central to the requirements of the 3-year M.Arch curriculum, described in the Graduate Calendar as "Professional Curriculum". In granting the accredited professional M.Arch degree, the School confirms that the core professional curriculum has been met by all graduates.

Advanced Standing and Course Equivalency

Applicants to the Azrieli School of Architecture & Urbanism come from diverse backgrounds. The school recognizes that applicants to both the undergraduate BAS and to the professional graduate program may have undertaken architecture-related courses in other post-secondary institutions including CEGEPs and community colleges throughout Canada.

College diplomas from CEGEP and Community Colleges (normally 2 to 3 year courses) are not recognized as Honours degrees required to access the 3-year M.Arch curriculum. Individual courses related to architecture (in building technology or material science for example), may be a match to the content of the undergraduate professional curriculum. It is for this reason that the school has established a review process for the transfer of credit from other institutions.

Through the Committee and Standings and Promotion and under the review of the Assoc. Director (Professional Programs), the School has developed a specific policy for transfer of credits and advanced standing in undergraduate and graduate studies. The policy requires an application by students requesting advanced standing supported by information including, but not limited to, syllabi, credit values, the courses' hourly schedule, assignment list (and samples when applicable), and final official grades.

Frequently, a number of combined past courses are used in order to match the course content of a Carleton architecture course and to derive equivalency for the transfer of credit. More information on this process has been outlined in section 4.2 Student Progress Evaluation.

3.11.b Program Requirements: BAS Majors

BAS with a Major in Design — 4 Year Program (20.0 credits)

Course Distribution	Nomenclature	# of courses	Credits	Total Credits
Studio Core	ARCS	4	1.5	6.0
Studio Core	ARCS	3	1.0	3.0
Design Techniques	ARCS, ARCN	3	0.5	1.5
History/Theory Core	ARCH, ARTH	4	0.5	2.0
Tech/Professional Core	ARCC, CIVE	6	0.5	3.0
Urban Theory	ARCU	1	0.5	0.5
History Theory Electives	ARCH, ARCU, ARTH	3	0.5	1.5
Free Elective	any	5	0.5	2.5
Note: 1.5 cr = 12 hrs/week; 1.0 cr = 8 hrs/week; 0.5 cr. Lecture = 3hrs/week; 0.5 cr. Workshop = 6 hrs/week				

The existing BAS, undergraduate program in Architectural Studies, will continue to provide for the majority of architecture students who are seeking a professional career in architecture with an emphasis on design. The strength of the existing program lies in its ability to deliver an architectural education through an exploration of diverse disciplines that influence the built environment. This model of architectural education is, by necessity, a comprehensive one. It not only prepares students for a future in the profession of architecture but also provides a broad-based foundation for a multitude of interdisciplinary and related design fields. Students learn not only to handle the conflicting demands of function, aesthetics, technology and economy, but are trained in a variety of means of expression including writing, model-making, drawing, photography, video, digital media, digital craft, and verbal presentations. The current B.A.S. is not only a prerequisite for the 2-year M.Arch. (professional) degree but an excellent and comprehensive undergraduate degree for a range of careers or further studies in all design fields.

In the BAS – with a Major in Design, years two through four, Students pursue intensive, studio-based studies supported by courses in Architectural History and Architectural Technology complemented with studies-abroad programs (DSA), or international exchanges organized for the second-term of the third year.

The BAS – Major in Design leads directly to the 2-year M.Arch – (Professional). The 4 + 2 sequence is currently recognized and accredited by the CACB (Canadian Architectural Certification Board) and leads to the professional degree required for professional licensure.

BAS with a Major in Urbanism – 4 Year Honours Program (20 credits)

Course Distribution	Nomenclature	# of courses	Credits	Total Credits
Design Core	ARCS, ARCU	4	1.0	4.0
Design Core	ARCU	1	1.5	1.5
Design Techniques	ARCS, ARCN	3	0.5	1.5
History/Theory Arch Core	ARCH, ARTH	4	0.5	2.0
Tech/Professional Core	ARCC	4	0.5	2.0
Urban Theory Core	ARCU, GEOG, GEOM	13	0.5	6.5
Core Electives	ARCC, ARCH, ARCU, CDNS, GEOG, CIVE	2	0.5	1.0
Free Elective	any	3	0.5	1.5
Note: 1.5 cr = 12 hrs/week; 1.0 cr = 8 hrs/week; 0.5 cr. Lecture = 3hrs/week; 0.5 cr. Workshop = 6 hrs/week				

This 4-year degree program explores architecture as a component of the larger built environment – which is an increasingly important component of the global organic ecology. The curriculum is designed to raise awareness and promote stewardship of the built environment. Courses examine the implications of mass urbanization in the 20th century on both the traditional urban core and on development on the periphery. Students analyze patterns of human settlement over time in relation to culture, climate, technology and political systems.

The Urbanism Major includes courses on housing, urban intensification, green-field development, urban ecology, and municipal infrastructure. Topics include the impact of transportation and communication technologies on urban form in both practical and ideological terms. Students examine the phenomenon of suburbanization in the post-war period as part of the slate of challenges facing cities in the post-industrial era. The role of government is questioned – from direct building through policies, programs, zoning and covenants. Students examine the role of design in accommodating diversity, contributing to the quality of life and promoting the health both of society and the natural environment.

The Urbanism Major includes courses that are common to all BAS Majors, key courses developed for the urban specialization, and courses drawn from other disciplines. Students explore ideas through design as well as

through other forms of research, including discussion, writing and multi-media representations. As a 4-year undergraduate honours degree, the BAS – Urbanism program gives access to the 3-year Professional MArch1. The course sequence of the BAS – Urbanism includes numerous history- theory, architectural technology, & professional courses, which currently satisfy performance criteria in the M.Arch. With advanced standing credits, students from the BAS – Urbanism may accelerate the 3-year MArch1.

It is anticipated that some students completing this program may choose to pursue graduate studies in planning or urban design.

BAS with a Major in Conservation and Sustainability – 4 year Honours Program (20 credits)

Course Distribution	Nomenclature	# of courses	Credits	Total Credits
Design Core	ARCS, ARCC	3	1.0	3.0
Design Core	ARCC	1	1.5	1.5
Design Techniques	ARCS, ARCN	3	0.5	1.5
Conservation Techniques	ARCN	2	0.5	1.0
History/Theory Arch Core	ARCH, ARTH, ARCU	5	0.5	2.5
Tech/Professional Core	ARCC, CIVE	8	0.5	4.0
Conserv. & Sust. Theory	ARCC, ENVE, CDNS	7	0.5	3.5
History/Theory Electives	ARCH, ARCU, ARTH	2	0.5	1.0
Core Electives	ARCC, ARCH, ARCU, CDNS, GEOG, CIVE	2	0.5	1.0
Free Elective	any	2	0.5	1.0
Note: 1.5 cr = 12 hrs/week; 1.0 cr = 8 hrs/week; 0.5 cr. Lecture = 3hrs/week; 0.5 cr. Workshop = 6 hrs/week				

This 4-year degree program delivers specialized courses in the conservation of historical architecture as well as courses and workshops in the principles of sustainable design of architecture and the urban fabric. While an emphasis is placed on historical practises, students enrolled in this Major also specialize in contemporary theories and principles relating to design, building methods and construction materials. With the collaborative course delivery between the School of Architecture and the Dept. of Civil and Environmental Engineering, students in the Conservation and Sustainability Major are exposed to an in-depth understanding of integrated building systems, methods of historical analysis, as well as the ethical and philosophical approaches to sustainable design and historical conservation. Included in the pedagogical structure of the program are courses in architectural representation, architectural technology, history and theory of architecture, heritage conservation, civil and environmental engineering, urban morphology, conservation philosophy and ethics, historic sites recording, building pathology and rehabilitation, design economics, and architecture and the environment. A focused list of electives, complements the core course line-up with courses in sociology, geography and Canadian studies.

As a 4-year undergraduate honours degree, the BAS – Major in Conservation and Sustainability gives access to the 3-year Professional MArch1. The course sequence of the BAS – C&S includes numerous history- theory, architectural technology, professional & engineering courses, which currently satisfy performance criteria in the M.Arch. With advanced standing credits, students from the BAS – C&S may accelerate the 3-year MArch1.

Program Majors – Requirements

(Source: Carleton University Undergraduate Calendar 2015-16)

Architectural Studies

Azrieli School of Architecture and Urbanism
(Faculty of Engineering and Design)
202 Architecture Bldg.
613-520-2855
<http://arch.carleton.ca>

This section presents the requirements for programs in:

Design B.A.S. Honours
Urbanism B.A.S. Honours
Conservation and Sustainability B.A.S. Honours

The **Co-operative Education Option** is available with the Bachelor of Architectural Studies.

The Azrieli School of Architecture and Urbanism cooperates with the School for Studies in Art and Culture in offering the B.A. Honours and B.A. General programs in History and Theory of Architecture (see the **Art History program** section of this Calendar for details).

Graduation Requirements

In addition to the requirements listed below, students must satisfy the University regulations (see the **Academic Regulations of the University** section of this Calendar), and the *Academic Regulations of the Bachelor of Architectural Studies*.

Students should consult the School when planning their program and selecting courses.

Residency Requirement

B.A.S. Hons.

Conservation and Sustainability
Urbanism

To be eligible to graduate, students in these programs must present a minimum of 5.0 residency credits in their degree program.

B.A.S. Hons.

Design

To be eligible to graduate, students in this program must present a minimum of half the total number of credits required in their program as residency credits.

For more information, consult section 5.3 Minimum Number of Carleton Credits (Residency and Advanced Credits), in the Academic Regulations of the University section of this Calendar.

Academic Performance Evaluation

B.A.S. Hons.

Conservation and Sustainability
Design
Urbanism

These programs follow the academic performance evaluation regulations governing Honours programs as described within sections 7.1 - 7.5 of the Academic Regulations of the University, and regarding the B.A.S. specifically.

Course Categories

Urbanism Core Electives

ARCC 1202	[0.5]	History of Structures
ARCH 4105	[0.5]	Theories of Landscape Design
ARCH 4502	[0.5]	Research and Criticism
ARCU 3405	[0.5]	Urban Design
ARCU 3902	[0.5]	Urban Studies
ARCU 4400	[0.5]	City Organization and Planning
ARCU 4808	[0.5]	Independent Study
ARCU 4901	[0.5]	Topics in Applied Urbanism
ARCN 4100	[0.5]	Historic Site Recording and Assessment
CDNS 2300	[0.5]	Critical Nationalism
CDNS 2400	[0.5]	Heritage Conservation in Canada
CDNS 3600	[0.5]	Cultural Politics and Identities in Canada
CDNS 4400	[0.5]	Cultural Landscape and Cultural Identity in Canada
CIVE 2005	[0.5]	Architectural Technology 2
ENST 2001	[0.5]	Sustainable Futures: Environmental Challenges and Solutions
GEOG 3021	[0.5]	Geographies of Culture and Identity
GEOG 3023	[0.5]	Cities in a Global World
GEOG 4021	[0.5]	Seminar in Culture, Identity and Place
GEOG 4023	[0.5]	Seminar in Special Topics on the City
GEOG 4304	[0.5]	Transportation Engineering and Planning
HIST 3209	[0.5]	Canadian Urban History

Conservation and Sustainability Core Electives

ARCC 4103	[0.5]	Energy and Form
ARCC 4300	[0.5]	Building Materials
ARCC 4400	[0.5]	Design for Construction
ARCC 4801	[0.5]	Architectural Technology
ARCH 4206	[0.5]	Recycling Architecture in Canada and Abroad
CDNS 2300	[0.5]	Critical Nationalism
CDNS 2400	[0.5]	Heritage Conservation in Canada
CDNS 3901	[0.5]	Selected Topics in Canadian Studies
CDNS 4400	[0.5]	Cultural Landscape and Cultural Identity in Canada
CDNS 4901	[0.5]	Selected Topics in Canadian Studies
CIVE 3203	[0.5]	Introduction to Structural Analysis
CIVE 3204	[0.5]	Introduction to Structural Design
CLCV 2305	[1.0]	Ancient Science and Technology
ENVE 4106	[0.5]	Indoor Environmental Quality
GEOG 2200	[0.5]	Global Connections
GEOG 2300	[0.5]	Space, Place and Culture
GEOG 3021	[0.5]	Geographies of Culture and Identity
MATH 1004	[0.5]	Calculus for Engineering or Physics

Retention of Work

Keeping a good portfolio is a most important part of architectural education. A portfolio represents a record of the student's progress and design experience over the years, and is an indispensable requirement for any future job application. A portfolio is started in first year and continues to expand until graduation. The School, therefore, requires that each student produce reductions (normally 8 1/2 x 11 inch reproductions, colour or black and white, slides, and/or digital format CD) of his or her work at the end of each term. One copy of the work should be put in the student's portfolio and the other turned in to the instructor for retention in the School's archives. (This facilitates retrospective exhibitions of work, accreditation, publications and any future references for pedagogic purposes.) Original work is the property of the students, but the School retains the right to keep work of merit for up to two years after the date of submission. The School will make every effort to preserve the work in good condition, and will give authorship credit and take care of its proper use.

Program Requirements

Design

B.A.S. Honours (20.0 credits)

Requirements

1. 4.0 credits in:		4.0
ARCS 1005 [0.5]	Drawing	
ARCS 1105 [1.0]	Studio 1	
ARCN 2106 [0.5]	Introduction to Multimedia	
ARCH 1000 [0.5]	Intro. to Architecture	
ARTH 1100 [0.5]	Art and Society: Prehistory to the Renaissance	
ARTH 1101 [0.5]	Art and Society: Renaissance to the Present	
ARCC 1202 [0.5]	History of Structures	
2. 4.0 credits in:		4.0
ARCH 2300 [0.5]	Intro. to Modern Architecture	
ARCC 2202 [0.5]	Architectural Technology 1	
CIVE 2005 [0.5]	Architectural Technology 2	
ARCN 2105 [0.5]	Computer Modeling of Form	
ARCC 2203 [0.5]	Architectural Technology 3	
ARCU 3100 [0.5]	The Morphology of the City	
ARCC 3202 [0.5]	Architectural Technology 4	
ARCC 4500 [0.5]	Design Economics	
3. 8.0 credits in:		8.0
ARCS 2105 [1.5]	Studio 2	
ARCS 2106 [1.5]	Studio 3	
ARCS 3105 [1.5]	Studio 4	
ARCS 3107 [1.0]	Studio 5	
ARCS 4105 [1.5]	Studio 6	
ARCS 4107 [1.0]	Studio 7	
4. 2.0 credits in	approved history/theory elective from approved list	2.0
5. 1.0 credit in	a free elective	1.0
6. 1.0 credit in	a workshop or free elective.	1.0
Total Credits		20.0

Note: in the first and second year of the B.A.S. Design program, studios must be taken in sequence. In the third and fourth years, studios may be taken out of sequence, with the permission of the CSPA.

Urbanism
B.A.S. Honours (20.0 credits)

A. Credits Included in the Major (15.0 credits)

1. 1.5 credits in:		1.5
ARCH 1000 [0.5]	Intro. to Architecture	
ARTH 1100 [0.5]	Art and Society: Prehistory to the Renaissance	
ARTH 1101 [0.5]	Art and Society: Renaissance to the Present	
2. 10.5 credits in:		10.5
ARCC 2202 [0.5]	Architectural Technology 1	
ARCC 2203 [0.5]	Architectural Technology 3	
ARCC 3202 [0.5]	Architectural Technology 4	
ARCC 4500 [0.5]	Design Economics	
ARCH 2300 [0.5]	Intro. to Modern Architecture	
ARCH 4201 [0.5]	History of Modern Housing	
ARCU 3100 [0.5]	The Morphology of the City	
ARCU 3303 [1.0]	Urbanism in Practice 1: Urbanism in the Core	
ARCU 3304 [1.0]	Urbanism in Practice 2: Urbanism on the Periphery	
ARCU 3501 [0.5]	Fundamentals of Urbanism	
ARCU 4300 [0.5]	History of Theories of Urbanism	
ARCU 4303 [1.5]	Urbanism in Practice 3: Housing	
ARCU 4304 [1.0]	Urbanism in Practice 4: Global Perspectives	
ARCU 4600 [0.5]	Post-WWII Urbanism	
ARCU 4700 [0.5]	Urban Utopias	
ARCU 4801 [0.5]	Selected Topics in Urbanism	
3. 3.0 credits in:		3.0
CIVE 4303 [0.5]	Urban Planning	
GEOG 1020 [0.5]	People, Places and Environments	
GEOG 2200 [0.5]	Global Connections	
GEOG 2300 [0.5]	Space, Place and Culture	
GEOG 2400 [0.5]	Cities and Urbanization	
GEOM 2007 [0.5]	Geographic Information Systems	
B. Credits Not Included in the Major (5.0 credits)		
4. 2.0 credits in:		2.0
ARCN 2106 [0.5]	Introduction to Multimedia	
ARCS 1005 [0.5]	Drawing	
ARCS 1105 [1.0]	Studio 1	
5. 0.5 credit in:		0.5
ARCN 2105 [0.5]	Computer Modeling of Form	
6. 1.0 credit in Urbanism core electives		1.0
7. 1.5 credits in free electives		1.5
Total Credits		20.0

Note: no more than 1.5 credits in directed readings and/or the honours research project may be used to fulfil B.A.S. Urbanism program requirements, except by permission of the School.

**Conservation and Sustainability
B.A.S. Honours (20.0 credits)**

A. Credits Included in the Major (14.5 credits)

1. 2.0 credits in:		2.0
ARCH 1000 [0.5]	Intro. to Architecture	
ARTH 1100 [0.5]	Art and Society: Prehistory to the Renaissance	
ARTH 1101 [0.5]	Art and Society: Renaissance to the Present	
ARCC 1202 [0.5]	History of Structures	
2. 9.5 credits in:		9.5
ARCH 2300 [0.5]	Intro. to Modern Architecture	
ARCH 4200 [0.5]	Architectural Conservation Philosophy and Ethics	
ARCC 2202 [0.5]	Architectural Technology 1	
ARCC 2203 [0.5]	Architectural Technology 3	
ARCC 3202 [0.5]	Architectural Technology 4	
ARCC 3301 [1.0]	Conservation in Practice 1: Historical Analysis and Adaptive Re-use	
ARCC 3302 [1.0]	Conservation in Practice 2	
ARCC 3501 [0.5]	Fundamentals of Conservation and Sustainability	
ARCC 4301 [1.5]	Conservation in Practice 3	
ARCC 4500 [0.5]	Design Economics	
ARCH 4002 [0.5]	Canadian Architecture	
ARCC 4207 [0.5]	Advanced Building Assessment	
ARCU 3100 [0.5]	The Morphology of the City	
ARCN 4100 [0.5]	Historic Site Recording and Assessment	
ARCN 4200 [0.5]	Building Pathology and Rehabilitation	
		3.0
3. 3.0 credits in:		
CIVE 2005 [0.5]	Architectural Technology 2	
CIVE 2700 [0.5]	Civil Engineering Materials	
CIVE 2200 [0.5]	Mechanics of Solids I	
ENVE 4105 [0.5]	Green Building Design	
CDNS 2400 [0.5]	Heritage Conservation in Canada	
ENVE 1001 [0.5]	Architecture and the Environment	

B. Credits Not Included in the Major (5.5 credits)

4. 2.0 credits in:		2.0
ARCN 2106 [0.5]	Introduction to Multimedia	
ARCS 1005 [0.5]	Drawing	
ARCS 1105 [1.0]	Studio 1	
5. 0.5 credit in:		0.5
ARCN 2105 [0.5]	Computer Modeling of Form	
6. 1.0 credit in history/theory electives from approved list		1.0
7. 1.0 credits from Conservation and Sustainability core electives		1.0
8. 1.0 credit in free electives		1.0

Total Credits **20.0**

Note: no more than 1.5 credits in directed readings and/or the honours research project may be used to fulfill B.A.S. Conservation and Sustainability program requirements, except by permission of the School.

Suggested Sequencing of Courses in the BAS – by Program for 2016-17

BAS Design
Suggested Sequencing

Y R	FALL			WINTER		
1	ARCS 1005	Drawing	.5	ARCS 1105	Studio 1	1.0
	ARTH 1100	Art and Society: Prehistory to Ren.	.5	ARTH 1101	Art and Society: Renaissance to the Present	.5
	ARCH 1000	Intro. to Architecture	.5	ARCC 1202	History of Structures	.5
	ARCN 2106	Introduction to Multimedia	.5		Free Elective	.5
		Free Elective	.5			

2	ARCS 2105	Studio 2	1.5	ARCS 2106	Studio 3	1.5
	ARCH 2300	Intro. to Modern Architecture	.5	ARCN 2105	Computer Modeling of Form	.5
	ARCC 2202	Architectural Technology 1	.5	CIVE 2005	Architectural Technology 2	.5

3	ARCS 3105	Studio 4	1.5	ARCS 3107	Studio 5	1.0
	ARCC 2203	Architectural Technology 3	.5	ARCU 3100	Morphology of the City	.5
		H/T elective	.5		H/T elective	.5
					Free/HT elective	.5

4	ARCS 4105	Studio 6	1.5	ARCS 4107	Studio 7	1.0
	ARCC 3202	Architectural Technology 4	.5	ARCC 4808 C	Independent Study	.5
	ARCC 4500	Design Economics	.5		H/T elective	.5
					Free/HT elective	.5

BAS Urbanism
Suggested Sequencing

Y R	FALL			WINTER		
1	ARCS 1005	Drawing	.5	ARCS 1105	Studio 1	1.0
	ARTH 1100	Art and Society: Prehistory to Ren.	.5	ARTH 1101	Art and Society: Ren. to Present	.5
	ARCH 1000	Intro. to Architecture	.5	GEOG 2300	Space, Place & Culture	.5
	ARCN 2106	Introduction to Multimedia	.5		Free/HT Elective	.5
	GEOG 1020	People, Places, & Environs	.5			

2	ARCH 2300	Intro. to Modern Architecture	.5	ARCN 2105	Computer Modeling of Form	.5
	ARCU 2202	Architectural Technology 1	.5	ARCU 3100	Morphology of the City	.5
	ARCU 3501	Fundamentals of Urbanism	.5	GEOG 2007	Geographic Information Sys	.5
	GEOG 2200	Global Connections	.5	GEOG 2400	Cities and Urbanization	.5
		Free/HT Elective	.5		Free/HT Elective	.5

3	ARCU 3303	Urbanism in Practice I	1.0	ARCU 3304	Urbanism in Practice II	1.0
	ARCC 2203	Architectural Technology 3	.5	ARCU 4300	Hist. of Theories of Urbanism	.5
	ARCU 4801	Selected Topics: Urbanism	.5	ARCU 4600	Post WWII Urbanism	.5
	GEOG 4303	Urban Planning	.5		Core/Free Elective	.5

4	ARCU 4303	Urbanism in Practice 3	1.5	ARCU 4304	Urbanism in Practice 4	1.0
	ARCH 4500	Design Economics	.5	ARCU 4700	Urban Utopias	.5
	ARCC 3202	Architectural Technology 4	.5	ARCH 4201	History of Modern Housing	.5
			.5		Core Elective	.5
			.5			

BAS Conservation
Suggested Sequencing

Y R	FALL			WINTER		
	1	ARCS 1005	Drawing	.5	ARCS 1105	Studio 1
ARTH 1100		Art and Society: Prehistory to Ren.	.5	ARTH 1101	Art and Society: Ren. to Present	.5
ARCH 1000		Intro. to Architecture	.5	ARCC 1202	History of Structures	.5
ARCN 2106		Introduction to Multimedia	.5	ENVE 1001	Architecture and the Environment	.5
		Free Elective	.5			

2	ARCH 2300	Intro. to Modern Architecture	.5	ARCN 2105	Computer Modeling of Form	.5
	ARCC 2202	Architectural Technology 1	.5	CIVE 2005	Architectural Technology 2	.5
	ARCC 3501	Fund. of Conservation	.5	ARCU 3100	Morphology of the City	.5
	CIVE 2700	Civil Engineering Materials	.5	CDNS 2400	Heritage Conservation in Canada	.5
	ARCN 4100	Historic Site Recording and Assessment	.5		Core/HT/Free elective	.5

3	ARCC 3301	Conservation in Practice I	1.0	ARCC 3302	Conservation in Practice II	1.0
	ARCH 4200	Arch'l Conservation Philosophy and Ethics	.5	ARCN 4200	Building Pathology and Rehabilitation	.5
	ARCC 2203	Architectural Technology 3	.5	ARCC 3202	Architectural Technology 4 (or Core Elective)	.5
	CIVE 2200	Mech. Solids 1	.5		Core/HT/Free elective	.5

4	ARCC 4301	Conservation in Practice III	1.5	ARCH 4002	Canadian Architecture	.5
	ARCH 4500	Design Economics	.5	2	Core/Wkshp/HT elective	1.0
		Core/Wkshp/HT elective (or ARCC 3202)	.5	ARCC 4207	Adv Building Assessment	.5
				ENVE 4105	Green Building Design	.5

WORKSHOP ELECTIVES

BAS – Design [2.0 credits], BAS – C&S [1.0 credits], BAS – Urbanism [1.5 credits] from:

Note: Workshop and Free Electives are Mandatory Electives – BAS students are required to choose courses from the following list in order to fulfil their requirements for graduation. On average three to seven of these courses are offered each term. Offerings vary from year to year.

ARCH 3902 [0.5 credit] <i>Theory of Architecture: Crossings</i>	Winter 2016
ARCC 3004 [0.5 credit] <i>Workshop: Energy and Form</i>	Winter 2017
ARCC 3305 [0.5 credit] <i>Materials Application</i>	Winter 2017
ARCC 3902 [0.5 credit] <i>Architectural Technology: Chair Prototyping</i>	Winter 2016, 2017
ARCC 4208 [0.5 credit] <i>Workshop: Structure and Form</i>	
ARCU 3405 [0.5 credit] <i>Urban Design</i>	
ARCU 3409 [0.5 credit] <i>City Organization and Planning Processes</i>	
ARCU 3902 [0.5 credit] <i>Urban Studies</i>	
ARCN 3003 [0.5 credit] <i>Theatre Production</i>	Winter 2016, 2017
ARCN 3305 [0.5 credit] <i>Materials Applications</i>	
ARCN 3400 [0.5 credit] <i>Visual Design</i>	
ARCN 3902 [0.5 credit] <i>Architectural Techniques</i>	
ARCN 4103 [0.5 credit] <i>Digital Fabrication</i>	Fall 2016
ARCN 4808 [0.5 credit] <i>Colour Workshop</i>	Fall 2016

APPROVED ELECTIVES (History/Theory Electives)

These are the approved history/theory electives that will be offered this academic year (2016/2017). This list will be updated on the School's web-site ahead of each academic term to reflect actual course offerings.

ARCH 4002	Canadian Architecture	(Fall Term Only)
ARCH 4004	Architecture Theory	(Winter Term Only)
ARCH 4105	Landscape Design	(Winter Term Only)
ARCH 4200	Conservation Philosophy & Ethics	(Fall Term Only)
ARCH 4206	Recycling Architecture in Canada and Abroad	(Fall Term Only)
ARCH 4801	Theory of Architecture	(Winter Term Only)
ARCU 4300	History of Theories of Urbanism	(Winter Term Only)
ARTH 1105	Art as Visual Communication	(Winter Term Only)
ARTH 3002	Canadian Architecture (see ARCH 4002)	(Fall Term Only)
ARTH 2300	Italian Renaissance Art	(Winter Term Only)
ARTH 4800	Topics in Architectural History	(Winter Term Only)
CDNS 2400	Heritage Conservation in Canada	(Winter Term Only)
HIST 3209	Canadian Urban History	(Winter Term Only)
ARCH 2006	The History and Theory of Industrial Design	(Fall Term Only)
HIST 3209	Canadian Urban History	(Winter Term Only)
IDES 1001	Industrial Design Analysis	(Winter Term Only)
IDES 3502	Contextual Nature of Products	(Fall Term Only)
PSYC 2800	Introduction to Human Factors	(Fall Term Only)

3.11.c Program Requirements: Professional MArch

Courses common to the 2-Year and 3-Year M.Arch Curricula

FALL			WINTER		
ARCH 5200	Grad Seminar I	.5	ARCH 5201	Grad Seminar II	.5
ARCS 5105	Grad Studio I (Gateway)	1.5	ARCS 5106	Grad Studio II	1.5
ARCS 5909	Thesis Studio	2.0	ARCS 5909	Thesis Studio	0.0
ARCC 5100	Adv. Bldg Systems		ARCC 5200	Professional Practice	0.5
	Elective	0.5	Elective	0.5	

Course Distribution

2-Year M.Arch – 8.0 credits

Course Distribution	Nomenclature	# of courses	Credits	Total Credits
Studio Core	ARCS	2	1.5	3.0
Thesis	ARCS	1	2.0	2.0
History/Theory Core	ARCH	2	0.5	1.0
Tech/Professional Core	ARCC	2	0.5	1.0
Free Elective	any	2	0.5	1.0

Note: 1.5 cr = 12 hrs/week; 1.0 cr = 8 hrs/week; 0.5 cr. Lecture = 3hrs/week; 0.5 cr. Workshop = 6 hrs/week

3-Year M.Arch1 – 15.5 credits

Course Distribution	Nomenclature	# of courses	Credits	Total Credits
Studio Core	ARCS	5	1.5	7.5
Thesis	ARCS	1	2.0	2.0
Design Techniques	ARCN	1	0.5	0.5
History/Theory Core	ARCH	3	0.5	1.5
Tech/Professional Core	ARCC	8	0.5	4.0
Free Elective	As required		0.5	

Note: 1.5 cr = 12 hrs/week; 1.0 cr = 8 hrs/week; 0.5 cr. Lecture = 3hrs/week; 0.5 cr. Workshop = 6 hrs/week

Sequence & Prerequisites

It should be noted that many courses are sequential and therefore require the attempt of one course as the prerequisite for the next. I.e. Building Technology 1 is a prerequisite to Building Technology 2, etc. The same applies to the design courses where M.Arch1 Studio 1 is prerequisite to M.Arch1 Studio 2. All prerequisites are identified in the graduate calendar and are communicated in each student's yearly APE (Academic Performance Evaluation). See also:

<http://calendar.carleton.ca/grad/gradprograms/architecture/#courseinventory>

Advanced Standing and Course Equivalency

Applicants to the Azrieli School of Architecture & Urbanism come from diverse backgrounds. The school recognizes that applicants to the professional graduate program may have undertaken architecture-related courses in other post-secondary institutions both internationally and throughout Canada.

College diplomas from CEGEP and Community Colleges (normally 2 to 3 year courses) are not recognized as Honours degrees required to access the 3-year M.Arch curriculum. In 4-year degree programs, including BID (Bachelor of Interior Design), BSc-Arch (Bachelor of Building Science) to name a few, individual courses related to architecture (in building technology, architectural history/theory or material science for example), may

be a match to the content of the graduate professional curriculum and the SPCs. It is for this reason that the school has established a review process for the transfer of credit from other institutions.

Through the Committee and Standings and Promotion and under the review of the Assoc. Director (Professional Programs), the School has developed a specific policy for transfer of credits and advanced standing in undergraduate and graduate studies. The policy requires an application by students requesting advanced standing supported by information including, but not limited to, syllabi, credit values, the courses' hourly schedule, assignment list (and samples when applicable), and final official grades. Frequently, a number of combined past courses are used in order to match the course content and SPCs of a Carleton architecture course and to derive equivalency for the transfer of credit. More information on this process has been outlined in section [4.2 Student Progress Evaluation](#).

Program Requirements Details

Source: Carleton University Graduate Calendar 2016-17;

Note: M.A.S., PhD and GDAC have been removed for clarity

Architecture

Azrieli School of Architecture and Urbanism

Architecture Building

Rm. 202

613-520-2855

<http://carleton.ca/architecture>

M. Architecture

Academic Requirements

See the [General Regulations](#) section of this Calendar.

Architecture permits the C+ option in the 13.0-credit MArch 1 curriculum only. (see Section 11.2 of the [General Regulations](#)).

Admission Requirements

Successful completion of a degree in architectural studies with a minimum academic average of B- in their undergraduate studies.

Application must be accompanied by:

1. an essay of no more than 1500 words stating the topic of their future thesis, their selected focus of study defined geographically, temporally and architecturally including possible primary sources;
2. a portfolio of projects and creative works; and
3. a review of their interaction and experience in architectural or related practice (may be text, drawings and models, or built work) if applicable.

Professional experience may be taken into consideration.

Where applicants do not hold a degree in architecture but possess an honours degree in a related discipline, equivalence may be considered on the basis of a demonstrated, exceptional research ability and high academic standing (B+ minimum average).

When professional work is included as part of an applicant's portfolio, a precise description of the applicant's involvement and responsibilities in the completion of the project must be included.

All applicants must provide two confidential letters of reference on the prescribed forms and a statement of academic and professional objectives.

The Faculty of Graduate and Postdoctoral Affairs requires applicants whose native tongue is not English to be tested for proficiency in English, as described in Section 3.6 of the [General Regulations](#) of this Calendar.

An admissions committee, which includes the supervisor of graduate studies, will determine the merits of each applicant on the basis of academic record, evidence of visual and architectural design ability, and, where applicable, professional experience. Enrollment is limited. The School's admission policy is governed by the availability of graduate student space.

Source: Carleton University Graduate Calendar 2016-17;

Note: M.A.S., PhD and GDAC have been removed for clarity

Courses for the Professional MArch Program

Architecture - Studio (ARCS) Courses

ARCS 5102 [1.5 credit]

MArch. 1 - Studio I

Sensory components of architecture: use, effect, and symbolic potential. Light, lighting, sound, sensation of heat and cold, and related phenomena studied in modest building proposals. Social considerations of architecture. The conventions of architectural drawing. Computer Modeling as a medium of architectural analysis, documentation, and presentation.

ARCS 5103 [1.5 credit]

MArch. 1 - Studio II

Building materials and practices within the context of increasingly complex building programs. Social context of architecture in relation to material expression. Modeling is stressed. (Core course).

ARCS 5104 [1.5 credit]

MArch. 1 - Studio III

A comprehensive studio dealing with issues of program and site as the culturally defining aspects of architectural practice within complex urban and social situations, using difficult sites and hybrid programs. Projects brought to a high degree of technical, formal, and graphic resolution. (Core Course).

ARCS 5105 [1.5 credit]

Graduate Studio 1

An architectural investigation within a contemporary urban setting, usually dealing with central-city sites and complex programs. Projects address the question of urban architecture both from practical and theoretical perspectives. Architecturally relevant building technology and systems will be introduced in the Studio as required.

ARCS 5106 [1.5 credit]

Graduate Studio 2

The design of a large-scale and culturally significant building project, set within a prominent urban or natural landscape. Integrated resolution of the combined issue of site, program, and expression is expected. Architecturally relevant building technology and systems will be introduced in the Studio as required.

Prerequisite(s): [ARCS 5105](#).

ARCS 5909 [2.0 credits]

Thesis - Independent Study

Student-initiated design investigation, developed with a thesis supervisor, supported by text and appropriate methods of two and three-dimensional representation. Proposals must be approved by the Graduate Committee of the Azrieli School of Architecture and Urbanism. M.A.S. Thesis (ARCT).

Architecture - Technical (ARCC) Courses

ARCC 5000 [0.5 credit]

Directed Studies in Architecture and Technology

Reading and research tutorials.

Prerequisite(s): permission of the School.

ARCC 5001 [0.5 credit]

Introduction to Design and Multimedia

Multimedia and interactive design as they relate to architecture and the field of design. Special topics include virtual environments, user interface in software, Web and product design, perceptual and cognitive science, navigation, film/video and sound editing and animation technologies.

ARCC 5002 [0.5 credit]

Topics in Design and Multimedia: Information Architecture and the World Wide Web

Introduction to the design of Web-based applications, focusing on process, site architecture, usability testing, and Web functionality. Students synthesize and customize software applications. Client and server-side functionality.

Introduction to relational database design, JavaScript, cgi scripts, and «middleware» products such as WebObjects and ColdFusion.

ARCC 5003 [0.5 credit]**Design and Technology Workshop**

The prime objective of the workshop is to investigate issues in architectural design in relation to technology as a cultural paradigm. The workshop operates as a directed study with specific content, objectives, and scheduling arranged between student and academic advisor.

ARCC 5096 [0.5 credit]**Building Technology I**

General introduction to materials and methods of construction with particular focus on wood and timber frame construction. Site conditions, foundations, structure and envelope in terms of their response to local climate: sun (light and heat), wind, moisture.

ARCC 5097 [0.5 credit]**Building Technology II**

Technical issues involved in architectural design of buildings from ancient times to the present. Technological innovation and materials related to structural developments, and the organization and design of structures. Basic concepts of equilibrium, and mechanics of materials. Final projects developed in conjunction with design studio.

ARCC 5098 [0.5 credit]**Building Technology III**

Wood frame, post and beam, steel and concrete systems and construction techniques. Structural systems and building envelope principles and practice are explored in conjunction with mechanical and electrical systems in small buildings. Final projects developed in conjunction with design studio.

ARCC 5099 [0.5 credit]**Building Technology IV**

Medium scale steel, concrete, and wood frame buildings as case studies to explore approaches to building science principles, building envelope design, advanced construction methods and materials, acoustics and sound control, and fire protection, with a focus on sustainable design strategies and environmental impact.

ARCC 5100 [0.5 credit]**Advanced Building Systems**

Introduction to advanced design in building technology and systems integration. Leading edge building materials, technologies and philosophies will be explored through intensive case study research and analysis, comparing, and critically evaluating, traditional methods with current computer modeling and analysis techniques.

ARCC 5200 [0.5 credit]**Professional Practice**

The practice of architecture. Professional organization and conduct, the architect's services, business law, office organization and management, contract documents, building codes, contract management, cost control, accounting and site supervision. Guest speakers and case studies.

Precludes additional credit for ARCU 4200.

ARCC 5401 [0.5 credit]**Workshop: Technical Studies in Heritage Conservation**

Prerequisite(s): permission of the School.

Architecture - Techniques (ARCN) Courses

ARCN 5000 [0.5 credit]

Directed Studies in Computer-Aided Design

Reading and research tutorials.

Prerequisite(s): permission of the School.

ARCN 5001 [0.5 credit]

Directed Studies in Architecture and Morphology

Reading and research tutorials.

Prerequisite(s): permission of the School.

ARCN 5005 [0.5 credit]

Theory and Practice of Architectural Representation

Free-hand drawing as a way of observing and understanding the world. Various media and techniques introduced through a wide range of studio and outdoor exercises. (Theory/History Elective).

ARCN 5100 [0.5 credit]

Representation and Documentation in Architectural Conservation

An in-depth study of the conventions and history of heritage recording including traditional field survey, photogrammetry, laser scanning technologies, and hybrid representations.

Workshop, six hours a week (including field trips and on-site work).

ARCN 5101 [0.5 credit]

Interactive Design Workshop I

An intensive introduction to the design of interactive environments, using multimedia software including Adobe Photoshop, Illustrator, Premiere, Macromedia, Dreamweaver, Fireworks, Director, 3D Modeling programs, and sound editing. Basic design, graphic design, and software literacy. Presentations by design professionals.

ARCN 5102 [0.5 credit]

Interactive Design Workshop II

An introduction to the logistic aspects of producing multimedia products with an emphasis on usability testing and user interface design. Topics include: storyboarding and graphic design, instructional design, rapid prototyping, project streaming, management and marketing, technical writing and product evaluation. Organized as a seminar. Work is done in teams.

ARCN 5301 [0.5 credit]

Workshop: Daedalic Exercises I

Experimental mediation, materiality and making.

ARCN 5302 [0.5 credit]

Workshop: Daedalic Exercises II

Innovative mediation, materiality and making.

ARCN 5909 [2.0 credits]

Thesis - Directed Research Studio (DRS)

An intensive research-based design project. The unit is initiated and guided by a faculty member engaged in organized research. Proposals must be approved by the Graduate Committee of the Azrieli School of Architecture and Urbanism.

ARCN 6001 [0.5 credit]

Workshop: Daedalic Exercises I

Experimental mediation, materiality and making. This course is required of all first year doctoral students in architecture.

ARCN 6002 [0.5 credit]

Workshop: Daedalic Exercises II

Experimental mediation, materiality and making. This course is required of all first year doctoral students in architecture.

ARCN 6901 [0.5 credit]**Placement in Architecture**

An opportunity to earn academic credit by engaging in research activities under the supervision of a professional architect or researcher in architectural, government, non-governmental or other professional settings. Placement research must be related to the preparation of the doctoral research. Design Studios/Design Thesis/Research (ARCS).

Architecture - Theory/History (ARCH) Courses**ARCH 5000 [0.5 credit]****Directed Studies in History and Theory of Architecture**

Reading and research tutorials.

Prerequisite(s): permission of the School.

ARCH 5001 [0.5 credit]**Architecture Seminar I**

An introduction to the intellectual frameworks connecting design and culture as manifest in theories of culture and architecture. The seminar builds on previous undergraduate studies, and is not an introduction to these fields. The field of inquiry is both historical and contemporary.

ARCH 5002 [0.5 credit]**Architecture Seminar II**

A continuation of [ARCH 5001](#), this seminar follows the same general description, but concentrates more on architectural design, on the contemporary condition, and on the ways of thinking that characterize embodiment of cultural content in architecture and other artifacts.

Prerequisite(s): [ARCH 5001](#).

ARCH 5003 [0.5 credit]**Design and Culture Workshop**

The prime objective of the workshop is to investigate cultural issues in architectural design. The workshop operates as a directed study with specific content, objectives, and scheduling arranged between student and academic advisor.

ARCH 5010 [0.5 credit]**History and Theory of Modern Architecture**

Architectural and urban ideals of modernism with emphasis upon the development of the avant-garde in the early twentieth century. The phenomenon of modern architecture within the broader framework of the development of western thought.

ARCH 5100 [0.5 credit]**Directed Studies in Architecture and Society**

Reading and research tutorials.

Prerequisite(s): permission of the School.

ARCH 5101 [1.0 credit]**Colloquium I**

This seminar brings together graduate students with architectural faculty to present their work-in-progress. It focuses on an immersion in conventions of theoretical and methodological approaches to advanced architectural research, including research ethics, proposal writing and research funding.

ARCH 5200 [0.5 credit]**Graduate Seminar 1: Introduction to Critical Thought in Architecture**

Critical theories and research approaches relevant to the field of architecture. Identification of issues through a coordinated series of lectures and readings. Development of analytical and interpretative skills through seminar discussions and writing culminating in a scholarly position paper by the student.

ARCH 5201 [0.5 credit]**Graduate Seminar 2: Contemporary Theoretical Perspectives in Architecture**

Lectures, readings, and case studies on contemporary issues in architecture and allied fields of study. Critical analysis of trends and possibilities set against traditional modes of architectural thought and practice. This course serves as a forum for a preliminary articulation of the thesis proposal.

Prerequisite(s): [ARCH 5200](#).

ARCH 5301 [0.5 credit]**Seminar: Vitruvian Exercises I**

Investigation of the cunning and graphic intelligence of architects: i.e. architectural modes of research.

ARCH 5302 [0.5 credit]**Seminar II: Vitruvian Exercises II**

Seminar II builds upon the fall term with a focus on the study of the fabric of architectural theory stretched within the marble loom of construction. This course is required of all first year M.A.S. students.

ARCH 5402 [0.5 credit]**Evaluation of Heritage Properties**

The cultural, political, economic and legal factors that shape our definition of heritage architecture. Processes for and implications of heritage designation, cultural value and costs associated with restoration and ongoing preservation. (Theory/History Elective).

Lectures, three hours a week.

ARCH 5600 [0.5 credit]**Housing and Culture Seminar**

Housing as a function of social organization, demographics, market demand and governmental policies. The evolution of housing form, the role of the state, and the participation of architects in the housing marketplace promoting design as a form of social reform.

Precludes additional credit for [ARCH 4201](#).

ARCH 5909 [2.0 credits]**MArch. Post-Professional Thesis (Architecture and Cultural Diversity)**

A scholarly, written thesis supported by appropriate methods of two and three-dimensional representation. Research undertaken by the student is expected to engage one of the research topics outlined above. Proposals must be approved by the graduate committee of the Azrieli School of Architecture and Urbanism. Final thesis documentation must satisfy the requirements established by the Faculty of Graduate and Postdoctoral Affairs.

Architecture - Urban (ARCU) Courses**ARCU 5000 [0.5 credit]****Directed Studies in Architecture and the City**

Reading and research tutorials.

ARCU 5402 [0.5 credit]**Workshop: Urban Studies in Heritage Conservation**

Prerequisite(s): permission of the School.

Summer session: some of the courses listed in this Calendar are offered during the summer. Hours and scheduling for summer session courses will differ significantly from those reported in the fall/winter Calendar. To determine the scheduling and hours for summer session classes, consult the class schedule at central.carleton.ca

Not all courses listed are offered in a given year. For an up-to-date statement of course offerings for the current session and to determine the term of offering, consult the class schedule at central.carleton.ca

MArch- 8 credit

Suggested Sequencing

YR	Fall		Winter	
1	ARCH 5200	Grad Seminar I	ARCH 5201	Grad Seminar II
	ARCS 5105	Grad Studio I	ARCS 5106	Grad Studio II
	ARCC 5100	Advanced Bldg Systems	.5 credit elective or ARCC 5200	Prof. Practice or elective
2	ARCS 5909	Thesis Studio	ARCS 5909	Thesis Studio
		.5 credit elective	ARCC 5200 or .5 elective	Prof. Practice or elective

MArch-15.5 credit

Suggested Sequencing

YR	Fall		Winter		Summer	
1	ARCN 5005	Theory & Prac Represent.	ARCN 5000	Computer Aided Design	ARCS 5104	M.Arch Studio III
	ARCC 5096	Bldg Tech I	ARCC 5097	Bldg Tech 2	ARCC 5098	Bldg Tech 3
	ARCS 5102	M.Arch Studio I	ARCS 5103	M.Arch Studio II		
	ARCH 5010	Mod. Arch				
2	ARCC 5100	Adv. Bldg Systems	ARCH 5201	Grad Seminar II		
	ARCC 4500	Design Economics	ARCC 5099	Bldg Tech 4		
	ARCS 5105	Grad Studio I	ARCS 5106	Grad Studio 2		
3	ARCH 5200	Grad Seminar I	ARCC 5200	Prof Practice		
	ARCC 5100	Adv Bldg Systems	ARCS 5909	Thesis Studio		
	ARCS 5909	Thesis Studio				

Full time studies

Full-time master's candidates must complete their degree requirements within three calendar (seven terms of which the last term is a summer term) years after the date of initial registration. Terms of non-registration are equated to full-time registration terms when calculating the overall time to program completion.

Part-Time Studies

Generally, students admitted to the seven-term M. Arch 1 Program pursue the degree full-time. We do not encourage part-time enrolment in the professional streams of the degree, though on occasion, part-time status will be granted for medical reasons

3.12 Student Performance Criteria

(See attached Matrix under separate cover)

The roster of 31 SPC's is organized according to four categories, intended to foster an integrated approach to learning that cuts across subject categories:

A: Critical Thinking and Communication [9 SPC]

B: Design and Technical Skills [12 SPC]

C: Comprehensive Design [4 SPC]

D: Leadership and Practice [6 SPC]

These criteria, in turn, encompass two levels of accomplishment:

- *Understanding*: means the assimilation and comprehension of information without necessarily being able to see its full implication,
- *Ability*: means the skill in using specific information to accomplish a task, in correctly selecting the appropriate information, and in applying it to the solution of a specific problem.

For the purposes of accreditation, graduating students must demonstrate *understanding* or *ability* in the above areas, according to an established sequence.

Summary

Architectural education at the Azrieli School of Architecture & Urbanism has a long history of Studio-based exploration and production. Indeed, design, craft, skills and critical inquiry are the very foundation of the school's ideology. Pedagogically, the school continues to promote a hands-on approach to problem solving supported by a discursive open studio environment. Studio courses represent the larger share (50%) of an architecture student's weekly in-class schedule. It is in this studio setting that topics, presented in other parts of the curriculum, can be discussed and explored through design. It is for this reason that certain categories of the SPCs intersect lecture-based course and the content of the Studio coursework. Further, in-studio lectures and workshops are devised to foster this interrelationship and to further bridge theory and practice.

The school's curriculum is structured around three primary subject streams or sequences namely:

- Studio Courses (ARCS, ARCN)
- History/Theory Sequence (ARTH, ARCH, ARCU)
- Professional Coursework Sequence (ARCC)

This structure is complemented by an open elective requirement which accesses non-core courses within the school and across the greater campus.

Hence, as a general strategy, the curriculum reflects the following alignments:

A: Critical Thinking and Communication – Required of all History-Theory and Professional Coursework and supported by Studio presentations, reviews and the preparation of portfolios

B: Design and Technical Skills – Required of all Studio and media Courses; supported by certain assignments in technical courses.

C: Comprehensive Design – Demonstrated, incrementally, by certain Studios in conjunction with 1 to 2 Professional Courses

D: Leadership and Practice – Presented by specific Professional courses (Design Economics, Professional Practice) and Co-op studies (optional).

The curricular structure was designed such that the Studio topics and projects would benefit from core courses taught in the same semester while incrementally accommodating the 31 SPCs. Generally, Fall-term studios in 2nd, 3rd and 4th year have one studio, one theory course and one technical course each dealing with incrementally more complex topics and applied knowledge. The Winter term of 1st and 2nd years follow a similar structure with Studios supported by a history/theory course and a structures course. The Winter term of 3rd and 4th year are more loosely structured allowing for Directed Studies Abroad and International exchange studies in 3rd year (paired with a course in Urban Morphology) and Topic Studios in 4th year supported by studies of interest through the elective and workshop options.

Many lecture courses in the H/T and Professional streams are expected to deliver course content at the level of “understanding” and to introduce information that can be further developed and applied to specific projects within the course or in assignments in other courses, thus demonstrating a student’s “ability” to critically deploy information in an appropriate manner and across the curriculum including Studios.

Recognizing this, the three subject streams have been structured in an incremental manner with each subsequent course building on previous, prerequisite course material. Further, the school has experimented with introductory “comprehensive” studios at the undergraduate level in order to foster relationships across the three curricular streams. Examples include the following course pairings:

Course Pairings	Pedagogical Objectives
Undergraduate	
ARCS 2106 Studio 3 CIVE 2005 Arch Tech 2	Structural modelling exercises in Studio benefit from the Structural analysis assignments in AT2
ARCS 3105 Studio 4 ARCC 2203 Arch Tech 3	Building envelope design and integration of long-span structures are tested in Studio 4 and Studio 5 and presented in AT3; exercises in Studio also consider heat, lighting and acoustics, etc. presented in the AT3 core course. A faculty member is common to both courses in order to coordinate these assignments.
ARCS 4105 Studio 6 ARCC 4500 Design Economics ARCC 3202 Arch Tech 4	The studio’s emphasis on high-density urban (Housing) projects benefits from a thorough study of the economics of development, sustainability and demographics presented in the Design Economics course. Building material and assemblies, both traditional and emerging, are presented in AT4 with assignments based on the Studio designs. These 3 courses also promote teamwork and group participation.
Graduate	
ARCS 5105 Gateway Studio ARCC 5200 Adv. Bldg Sys	This graduate studio is designed to experiment with large scale projects while discovering and implementing complex relationships of form, structure, materials and assemblies, building systems, sustainable solutions, etc. It is the culminating comprehensive studio which aims to reflect an ability to implement prior curricular content (technical, cultural, historical, etc.).

The “comprehensive” nature of these early undergraduate studios are designed relative to the student’s experience and level of understanding. They are meant to bring awareness of the complex interrelationships between various aspects of architectural inquiry, from the theoretical, cultural and historical to the more applied principles of architectural systems, assemblies and technologies.

This culminates in the Graduate Studio 1 – “Gateway”, designed as a mandatory comprehensive studio, required of all M.Arch students.

3.12a Overview (Performance Grids)

See attached matrix

3.12b Courses Mapped to Criteria

COURSES OFFERED 2016-2017

A1. Critical Thinking Skills.

Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well reasoned conclusions, and test them against relevant criteria and standards

ARTH 1100 Art & Society: Prehistory to Renaissance

ARTH 1101 Art & Society: Renaissance to Present

ARCH 1000 Introduction to Architecture

ARCH 2300 Introduction to Modern Architecture

ARCH 5010 History/Theory of Modern Architecture

ARCH 5200 Grad Seminar 1: Introduction to Critical Thought in Architecture

ARCH 5201 Grad Seminar 2: Contemporary Theoretical Perspectives in Architecture

ARCC 4500 Design Economics

ARCC 5100 Advanced Building Systems

ARCU 3100 Morphology of the City

ARCS 1005 Drawing

ARCN 2105 Computer Modeling and Form Analysis

ARCN 5000 Digital Modeling and Form Finding

ARCN 5005 Architectural Representation – Theory & Practice

ARCS 1105 Studio 1

ARCS 2105 Studio 2

ARCS 2106 Studio 3

ARCS 3105 Studio 4

ARCS 4105 Studio 6

ARCS 4106 Studio 7

ARCS 5102 M.Arch 1 Studio 1

ARCS 5103 M.Arch 1 Studio 2

ARCS 5104 M.Arch 1 Studio 3

ARCS 5105 Graduate Studio 1 - Gateway

ARCS 5106 Graduate Studio 2

ARCS 5909 Thesis

ARCN 5909 Thesis, Directed Research Studio

ARCH 2006 History/Theory of Industrial Design

ARCH 2101 Industrial Design Analysis

ARCH 3902 Theory of Architecture – Crossings

ARCH 4002 Canadian Architecture

ARCH 4009 Theory of the Avant Garde

ARCH 4105 Theories of Landscape Design

ARCH 4200 Conservation - Philosophy & Ethics

ARCH 4201 History of Modern Housing
ARCH 4206 Recycling of Architecture in Canada & Abroad
ARCH 4502 Research and Criticism
ARCH 4808 Independent Study: Hist./Theory of Architecture
ARCH 5003 Design & Culture Workshop – Energy & Form
ARCH 5003 Design & Culture Workshop – Theatre Production
ARCH 5301 Vitruvian Exercises I
ARCH 5302 Vitruvian Exercises II

ARCC 3004 Workshop: Energy & Form
ARCC 3305 Workshop: Materials Application
ARCC 4808 Independent Study: Architectural Technology
ARCC 5000 Directed Study: Architectural Technology

ARCU 3303 Urbanism in Practice I
ARCU 3304 Urbanism in Practice 2
ARCU 3501 Fundamentals of Urbanism
ARCU 4300 History of Theories of Urbanism
ARCU 4303 Urbanism in Practice 3
ARCU 4700 Urban Utopias
ARCU 4801 Selected Topics in Urbanism
ARCH 4201 History of Modern Housing

ARCU 4400 City Organization and Planning
ARCU 4600 Post WWII Urbanism
ARCU 4801 Selected Topics in Urbanism
ARCU 4808 Independent Study
ARCU 5001 City Organization and Planning

ARCH 4200 Conservation Philosophy and Ethics
ARCH 4206 Recycling Architecture in Canada
CDNS 2400 Heritage Conservation in Canada

ARCC 3301 Conservation in Practice 1
ARCC 3302 Conservation in Practice 2
ARCC 3501 Fundamentals of Conservation & Sustainability
ARCC 4301 Conservation in Practice 3
ENVE 1001 Architecture and the Environment
ENVE 4105 Green Building Design

ARCN 4100 Historic Site Recording & Assessment
ARCN 4200 Building Pathology & Rehabilitation

ARCN 3003 Theatre Production
ARCN 4808 Independent Study: Colour Theory
ARCN 4808 Independent Study
ARCN 5301 Daedelic Exercises I
ARCN 5302 Daedelic Exercises II

A2. Research Skills.

Ability to employ basic methods of data collection and analysis to inform all aspects of the programming and design process.

ARCC 4500 Design Economics

ARCC 5100 Advanced Building Systems

ARCC 5200 Introduction to Professional Practice

ARCS 1105 Studio 1

ARCS 2105 Studio 2

ARCS 2106 Studio 3

ARCS 3105 Studio 4

ARCS 3106 Studio 5

ARCS 3106 Studio 5 (DSA)

ARCS 4105 Studio 6

ARCS 4106 Studio 7

ARCS 5102 M.Arch 1 Studio 1

ARCS 5103 M.Arch 1 Studio 2

ARCS 5104 M.Arch 1 Studio 3

ARCS 5105 Graduate Studio 1 - Gateway

ARCS 5106 Graduate Studio 2

ARCS 5909 Thesis

ARCN 5909 Thesis, Directed Research Studio

ARCH 3902 Theory of Architecture – Crossings

ARCU 3303 Urbanism in Practice 1

ARCU 3304 Urbanism in Practice 2

ARCU 3501 Fundamentals of Urbanism

ARCU 4303 Urbanism in Practice 3

ARCU 4304 Urbanism in Practice 4

ARCH 4206 Recycling Architecture in Canada

A3. Graphic Skills.

Ability to employ appropriate representational media to convey essential formal elements at each stage of the programming and design process.

ARCC 1202 History of Structures

ARCU 3100 Morphology of the City

ARCS 1005 Drawing

ARCN 2106 Introduction to Multimedia

ARCS 1105 Studio 1

ARCS 2105 Studio 2

ARCS 2106 Studio 3

ARCS 3105 Studio 4

ARCS 3106 Studio 5

ARCS 3106 Studio 5 (DSA)

ARCS 4105 Studio 6
ARCS 4106 Studio 7
ARCS 5102 M.Arch 1 Studio 1
ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio

ARCH 2101 Industrial Design Analysis
ARCH 4502 Research and Criticism
ARCH 5003 Design & Culture Workshop – Energy & Form
ARCH 5003 Design & Culture Workshop – Theatre Production

ARCU 3303 Urbanism in Practice I
ARCU 3304 Urbanism in Practice 2
ARCU 4303 Urbanism in Practice 3

ARCU 4400 City Organization and Planning
ARCU 5001 City Organization and Planning

ARCH 4206 Recycling Architecture in Canada

ARCC 3301 Conservation in Practice 1
ARCC 3302 Conservation in Practice 2
ARCC 4207 Advanced Building Assessment
ARCC 4301 Conservation in Practice 3
ENVE 4105 Green Building Design

ARCN 4100 Historic Site Recording & Assessment

ARCN 3003 Theatre Production
ARCN 4103 Digital Fabrication & Theory
ARCN 4808 Independent Study: Colour Theory
ARCN 5301 Daedelic Exercises I
ARCN 5302 Daedelic Exercises II

A4. Verbal and Writing Skills

Ability to identify and assume divergent roles that maximize individual talents, and to cooperate with others when working as members of a design team and in other settings.

ARTH 1100 Art & Society: Prehistory to Renaissance
ARTH 1101 Art & Society: Renaissance to Present
ARCH 1000 Introduction to Architecture
ARCH 2300 Introduction to Modern Architecture
ARCH 5010 History/Theory of Modern Architecture
ARCH 5200 Grad Seminar 1: Introduction to Critical Thought in Architecture
ARCH 5201 Grad Seminar 2: Contemporary Theoretical Perspectives in Architecture

ARCC 4500 Design Economics
ARCC 5200 Introduction to Professional Practice

ARCU 3100 Morphology of the City

ARCN 3999 Co-operative Work Term

ARCS 3105 Studio 4
ARCS 4106 Studio 7
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio

ARCH 2006 History/Theory of Industrial Design
ARCH 2101 Industrial Design Analysis
ARCH 3902 Theory of Architecture – Crossings
ARCH 4002 Canadian Architecture
ARCH 4009 Theory of the Avant Garde
ARCH 4105 Theories of Landscape Design
ARCH 4200 Conservation - Philosophy & Ethics
ARCH 4201 History of Modern Housing
ARCH 4206 Recycling of Architecture in Canada & Abroad
ARCH 4502 Research and Criticism
ARCH 4808 Independent Study: Hist./Theory of Architecture
ARCH 5003 Design & Culture Workshop – Theatre Production
ARCH 5301 Vitruvian Exercises I
ARCH 5302 Vitruvian Exercises II

ARCC 3305 Workshop: Materials Application

ARCU 3303 Urbanism in Practice I
ARCU 3304 Urbanism in Practice 2
ARCU 3501 Fundamentals of Urbanism
ARCU 4300 History of Theories of Urbanism
ARCU 4304 Urbanism in Practice 4
ARCU 4700 Urban Utopias
ARCU 4801 Selected Topics in Urbanism
ARCH 4201 History of Modern Housing

ARCU 4400 City Organization and Planning
ARCU 4600 Post WWII Urbanism
ARCU 4801 Selected Topics in Urbanism
ARCU 4808 Independent Study
ARCU 5001 City Organization and Planning

ARCH 4200 Conservation Philosophy and Ethics
ARCH 4206 Recycling Architecture in Canada
CDNS 2400 Heritage Conservation in Canada

ARCC 3501 Fundamentals of Conservation & Sustainability
ENVE 1001 Architecture and the Environment
ENVE 4105 Green Building Design

ARCN 4200 Building Pathology & Rehabilitation

ARCN 3003 Theatre Production
ARCN 4808 Independent Study: Colour Theory
ARCN 4808 Independent Study
ARCN 5301 Daedelic Exercises I
ARCN 5302 Daedelic Exercises II

A5. Collaborative Skills

Ability to identify and assume divergent roles that maximize individual talents, and to cooperate with others when working as members of a design team and in other settings.

ARCH 5200 Grad Seminar 1: Introduction to Critical Thought in Architecture
ARCH 5201 Grad Seminar 2: Contemporary Theoretical Perspectives in Architecture

ARCC 4500 Design Economics
ARCC 5100 Advanced Building Systems

ARCU 3100 Morphology of the City

ARCS 1005 Drawing
ARCN 2105 Computer Modeling and Form Analysis

ARCN 3999 Co-operative Work Term

ARCS 1105 Studio 1
ARCS 2105 Studio 2
ARCS 2106 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5106 Graduate Studio 2 (DSA)

ARCH 3902 Theory of Architecture – Crossings

ARCH 5003 Design & Culture Workshop – Energy & Form
ARCH 5003 Design & Culture Workshop – Theatre Production

ARCC 3004 Workshop: Energy & Form
ARCC 3305 Workshop: Materials Application
ARCC 3902: Workshop: Arch Techniques - Chair

ARCU 3304 Urbanism in Practice 2
ARCU 4303 Urbanism in Practice 3

ARCU 4400 City Organization and Planning
ARCU 5001 City Organization and Planning

ARCC 3302 Conservation in Practice 2
ARCC 4301 Conservation in Practice 3

ARCN 4100 Historic Site Recording & Assessment
ARCN 4200 Building Pathology & Rehabilitation

ARCN 3003 Theatre Production
ARCN 4103 Digital Fabrication & Theory

A6. Human Behaviour

Understanding of the relationship between human behavior, the natural environment and the design of the built environment.

ARCH 1000 Introduction to Architecture

ARCC 5100 Advanced Building Systems

ARCU 3100 Morphology of the City

ARCS 1105 Studio 1

ARCS 3105 Studio 4

ARCS 5103 M.Arch 1 Studio 2

ARCS 5104 M.Arch 1 Studio 3

ARCH 2006 History/Theory of Industrial Design

ARCH 2101 Industrial Design Analysis

ARCH 4002 Canadian Architecture

ARCH 4105 Theories of Landscape Design

ARCH 4502 Research and Criticism

ARCU 3303 Urbanism in Practice 1

ARCU 3304 Urbanism in Practice 2

ARCU 3501 Fundamentals of Urbanism

ARCU 4300 History of Theories of Urbanism

ARCU 4304 Urbanism in Practice 4

ARCU 4700 Urban Utopias

ARCU 4801 Selected Topics in Urbanism

ARCU 4400 City Organization and Planning

ARCU 4600 Post WWII Urbanism

ARCU 4808 Independent Study

ARCU 5001 City Organization and Planning

ARCH 4200 Conservation Philosophy and Ethics

CDNS 2400 Heritage Conservation in Canada

ENVE 1001 Architecture and the Environment

ENVE 4105 Green Building Design

A7. Cultural Diversity

Understanding of the diverse needs, values, behavioral norms, and social/spatial patterns that characterize different cultures and individuals, as well as the implications of this diversity on the societal roles and responsibilities of architects.

ARCH 1000 Introduction to Architecture

ARCH 5200 Grad Seminar 1: Introduction to Critical Thought in Architecture

ARCH 5201 Grad Seminar 2: Contemporary Theoretical Perspectives in Architecture

ARCS 2105 Studio 2

ARCS 3105 Studio 4

ARCS 3106 Studio 5 (DSA)

ARCS 4105 Studio 6

ARCS 5106 Graduate Studio 2

ARCH 4002 Canadian Architecture

ARCH 4009 Theory of the Avant Garde

ARCH 4105 Theories of Landscape Design

ARCH 4200 Conservation - Philosophy & Ethics

ARCH 4201 History of Modern Housing

ARCH 4206 Recycling of Architecture in Canada & Abroad

ARCH 4502 Research and Criticism

ARCU 3303 Urbanism in Practice I

ARCU 3304 Urbanism in Practice 2

ARCU 3501 Fundamentals of Urbanism

ARCU 4303 Urbanism in Practice 3

ARCU 4700 Urban Utopias

ARCH 4201 History of Modern Housing

ARCU 4400 City Organization and Planning

ARCU 4801 Selected Topics in Urbanism

ARCU 5001 City Organization and Planning

ARCH 4200 Conservation Philosophy and Ethics

CDNS 2400 Heritage Conservation in Canada

ARCC 3501 Fundamentals of Conservation & Sustainability

A8. History and Theory

Understanding of diverse global and local traditions in architecture, landscape, and urban design, as well as the factors that have shaped them.

ARTH 1100 Art & Society: Prehistory to Renaissance

ARTH 1101 Art & Society: Renaissance to Present

ARCH 1000 Introduction to Architecture

ARCH 2300 Introduction to Modern Architecture
ARCH 5010 History/Theory of Modern Architecture
ARCH 5200 Grad Seminar 1: Introduction to Critical Thought in Architecture
ARCH 5201 Grad Seminar 2: Contemporary Theoretical Perspectives in Architecture

ARCC 1202 History of Structures

ARCU 3100 Morphology of the City

ARCS 2105 Studio 2

ARCS 3105 Studio 4

ARCS 5909 Thesis

ARCN 5909 Thesis, Directed Research Studio

ARCH 2006 History/Theory of Industrial Design
ARCH 3902 Theory of Architecture – Crossings
ARCH 4002 Canadian Architecture
ARCH 4009 Theory of the Avant Garde
ARCH 4105 Theories of Landscape Design
ARCH 4200 Conservation - Philosophy & Ethics
ARCH 4201 History of Modern Housing
ARCH 4206 Recycling of Architecture in Canada & Abroad
ARCH 4502 Research and Criticism
ARCH 4808 Independent Study: Hist./Theory of Architecture
ARCH 5301 Vitruvian Exercises I
ARCH 5302 Vitruvian Exercises II

ARCU 3303 Urbanism in Practice I

ARCU 3304 Urbanism in Practice 2

ARCU 3501 Fundamentals of Urbanism

ARCU 4300 History of Theories of Urbanism

ARCU 4304 Urbanism in Practice 4

ARCU 4700 Urban Utopias

ARCU 4801 Selected Topics in Urbanism

ARCH 4201 History of Modern Housing

ARCU 4400 City Organization and Planning

ARCU 4600 Post WWII Urbanism

ARCU 4808 Independent Study

ARCU 5001 City Organization and Planning

ARCH 4200 Conservation Philosophy and Ethics

ARCH 4206 Recycling Architecture in Canada

CDNS 2400 Heritage Conservation in Canada

ARCC 3501 Fundamentals of Conservation & Sustainability

ENVE 1001 Architecture and the Environment

ENVE 4105 Green Building Design

ARCN 4200 Building Pathology & Rehabilitation

ARCN 5301 Daedelic Exercises I
ARCN 5302 Daedelic Exercises II

A9. Precedents

Ability to make a comprehensive analysis and evaluation of a building, building complex, or urban space.

ARTH 1100 Art & Society: Prehistory to Renaissance
ARTH 1101 Art & Society: Renaissance to Present
ARCH 1000 Introduction to Architecture

ARCC 3202 Architectural Technology 4
ARCC 5099 Building Technology 4
ARCC 5100 Advanced Building Systems

ARCN 5005 Architectural Representation – Theory & Practice

ARCS 2105 Studio 2
ARCS 2106 Studio 3
ARCS 3105 Studio 4
ARCS 3106 Studio 5
ARCS 3106 Studio 5 (DSA)
ARCS 4105 Studio 6
ARCS 4106 Studio 7
ARCS 5102 M.Arch 1 Studio 1
ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio

ARCH 2006 History/Theory of Industrial Design
ARCH 2101 Industrial Design Analysis
ARCH 4002 Canadian Architecture
ARCH 4105 Theories of Landscape Design
ARCH 4201 History of Modern Housing
ARCH 4502 Research and Criticism
ARCH 4808 Independent Study: Hist./Theory of Architecture
ARCH 5003 Design & Culture Workshop – Energy & Form

ARCC 3004 Workshop: Energy & Form

ARCU 3303 Urbanism in Practice I
ARCU 3304 Urbanism in Practice 2
ARCU 3501 Fundamentals of Urbanism
ARCU 4300 History of Theories of Urbanism
ARCU 4303 Urbanism in Practice 3
ARCU 4304 Urbanism in Practice 4

ARCU 4700 Urban Utopias
ARCH 4201 History of Modern Housing

ARCU 4600 Post WWII Urbanism
ARCU 4808 Independent Study

ARCH 4200 Conservation Philosophy and Ethics
ARCH 4206 Recycling Architecture in Canada
CDNS 2400 Heritage Conservation in Canada

ARCC 3501 Fundamentals of Conservation & Sustainability
CIVE 3204 Structural Design
ENVE 1001 Architecture and the Environment
ENVE 4105 Green Building Design

ARCN 4100 Historic Site Recording & Assessment
ARCN 4200 Building Pathology & Rehabilitation

B1. Design Skills

Ability to apply organizational, spatial, structural, and constructional principles to the conception and development of spaces, building elements, and tectonic components.

ARCS 1105 Studio 1
ARCS 2105 Studio 2
ARCS 2106 Studio 3
ARCS 3105 Studio 4
ARCS 3106 Studio 5
ARCS 3106 Studio 5 (DSA)
ARCS 4105 Studio 6
ARCS 4106 Studio 7
ARCS 5102 M.Arch 1 Studio 1
ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio

ARCH 4105 Theories of Landscape Design

ARCH 5003 Design & Culture Workshop – Energy & Form
ARCH 5003 Design & Culture Workshop – Theatre Production

ARCC 3004 Workshop: Energy & Form
ARCC 3305 Workshop: Materials Application
ARCC 3902: Workshop: Arch Techniques - Chair

ARCU 3303 Urbanism in Practice I
ARCU 3304 Urbanism in Practice 2

ARCU 4303 Urbanism in Practice 3
ARCU 4304 Urbanism in Practice 4

ARCC 3301 Conservation in Practice 1
ARCC 3302 Conservation in Practice 2
ARCC 4301 Conservation in Practice 3
ENVE 4105 Green Building Design

ARCN 3003 Theatre Production
ARCN 4103 Digital Fabrication & Theory
ARCN 5301 Daedelic Exercises I
ARCN 5302 Daedelic Exercises II

B2. Program Preparation

Ability to prepare a comprehensive program for an architectural project that accounts for client and user needs, appropriate precedents, space and equipment requirements, the relevant laws and standards, and site selection and design assessment criteria.

ARCC 4500 Design Economics

ARCS 2106 Studio 3
ARCS 3105 Studio 4
ARCS 3106 Studio 5
ARCS 4105 Studio 6
ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio

ARCH 4105 Theories of Landscape Design

ARCU 3303 Urbanism in Practice 1
ARCU 3304 Urbanism in Practice 2
ARCU 4303 Urbanism in Practice 3
ARCU 4304 Urbanism in Practice 4
ENVE 4105 Green Building Design

B3. Site Design

Ability to analyze and respond to context and site conditions in the development of a program and in the design of a project.

ARCS 1105 Studio 1
ARCS 2105 Studio 2
ARCS 2106 Studio 3
ARCS 3105 Studio 4
ARCS 3106 Studio 5

ARCS 3106 Studio 5 (DSA)
ARCS 4106 Studio 7
ARCS 5102 M.Arch 1 Studio 1
ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio

ARCH 4105 Theories of Landscape Design

ARCH 5003 Design & Culture Workshop – Energy & Form
ARCC 3004 Workshop: Energy & Form

ARCU 3303 Urbanism in Practice 1
ARCU 3304 Urbanism in Practice 2
ARCU 4300 History of Theories of Urbanism
ARCU 4304 Urbanism in Practice 4
ARCU 4700 Urban Utopias
ARCU 4801 Selected Topics in Urbanism

ARCU 4600 Post WWII Urbanism

ARCC 3301 Conservation in Practice 1
ARCC 3302 Conservation in Practice 2
ARCC 4301 Conservation in Practice 3
ENVE 4105 Green Building Design

B4. Sustainable Design

Ability to apply the principles of sustainable design to produce projects that conserve natural and built resources, provide healthy environments for occupants/users, and reduce the impacts of building construction and operations on future generations.

ARCC 2203 Architectural Technology 3
ARCC 3202 Architectural Technology 4
ARCC 5098 Building Technology 3
ARCC 5099 Building Technology 4
ARCC 5100 Advanced Building Systems

ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway

ARCH 4105 Theories of Landscape Design
ARCH 5003 Design & Culture Workshop – Energy & Form

ARCC 3004 Workshop: Energy & Form
ARCC 3305 Workshop: Materials Application

ARCU 3303 Urbanism in Practice 1
ARCU 3304 Urbanism in Practice 2
ARCU 4304 Urbanism in Practice 4

ARCC 3302 Conservation in Practice 2
ARCC 3501 Fundamentals of Cons. & sust.
ARCC 4301 Conservation in Practice 3
CIVE 3204 Structural Design
ENVE 1001 Architecture and the Environment
ENVE 4105 Green Building Design

ARCN 4200 Building Pathology & Rehabilitation

B5. Accessibility.

Ability to design both site and building to accommodate individuals with varying physical and cognitive abilities.

ARCS 2105 Studio 2
ARCS 2106 Studio 3
ARCS 3105 Studio 4
ARCS 4105 Studio 6
ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway

ARCU 3304 Urbanism in Practice 2
ARCU 4303 Urbanism in Practice 3
ARCU 4304 Urbanism in Practice 4

ARCC 3301 Conservation in Practice 1
ARCC 3302 Conservation in Practice 2
ARCC 4301 Conservation in Practice 3

ARCN 4200 Building Pathology & Rehabilitation

B6. Life Safety Systems, Building Codes and Standards

Understanding the principles that inform the design and selection of life-safety systems in buildings and their subsystems; the codes, regulations, and standards applicable to a given site and building design project, including occupancy classifications, allowable building heights and areas, allowable construction types, separation requirements, occupancy requirements, means of egress, fire protection, and structure

ARCC 2202 Architectural Technology 1
ARCC 2203 Architectural Technology 3
ARCC 3202 Architectural Technology 4
ARCC 5096 Building Technology 1
ARCC 5098 Building Technology 3
ARCC 5099 Building Technology 4
ARCC 5100 Advanced Building Systems

ARCC 5200 Introduction to Professional Practice

ARCS 4105 Studio 6

ARCU 4303 Urbanism in Practice 3

ARCC 3302 Conservation in Practice 2

ARCC 4301 Conservation in Practice 3

ARCN 4200 Building Pathology & Rehabilitation

B7. Structural Systems

Understanding of the principles of structural behavior in withstanding gravity and lateral forces, and the evolution, range and appropriate applications of structural systems

ARCC 1202 History of Structures

ARCC 2202 Architectural Technology 1

CIVE 2005 Architectural Technology 2

ARCC 5096 Building Technology 1

ARCC 5097 Building Technology 2

ARCS 2105 Studio 2

ARCS 2106 Studio 3

ARCS 3105 Studio 4

ARCS 3106 Studio 5

ARCS 4105 Studio 6

ARCS 5105 Graduate Studio 1 - Gateway

ARCS 5106 Graduate Studio 2

ARCH 3902 Theory of Architecture – Crossings

ARCC 3902: Workshop: Arch Techniques – Chair

CIVE 2200 Mechanics of Solids 1

CIVE 2700 Civil Engineering Materials

CIVE 3204 Structural Design

ARCN 4100 Historic Site Recording & Assessment

ARCN 4200 Building Pathology & Rehabilitation

B8. Environmental Systems

Understanding of the basic principles that inform the design of environmental systems, including acoustics, illumination and climate modification systems, building envelopes, and energy use with awareness of the appropriate performance assessment tools.

ARCC 2202 Architectural Technology 1
ARCC 2203 Architectural Technology 3
ARCC 3202 Architectural Technology 4
ARCC 5096 Building Technology 1
ARCC 5098 Building Technology 3
ARCC 5099 Building Technology 4
ARCC 5100 Advanced Building Systems
ENVE 1001 Architecture & the Environment
ENVE 4105 Green Building Design
ARCS 2105 Studio 2
ARCS 3105 Studio 4
ARCS 3106 Studio 5
ARCS 4105 Studio 6
ARCS 5105 Graduate Studio 1 Gateway
ENVE 1001 Architecture and the Environment
ENVE 4105 Green Building Design
ARCN 4100 Historic Site Recording

B9. Building Envelopes.

Understanding of the basic principles involved in the appropriate application of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

ARCC 2202 Architectural Technology 1
ARCC 2203 Architectural Technology 3
ARCC 3202 Architectural Technology 4
ARCC 5096 Building Technology 1
ARCC 5098 Building Technology 3
ARCC 5099 Building Technology 4
ARCC 5100 Advanced Building Systems

ARCS 3106 Studio 5
ARCS 4105 Studio 6
ARCS 5105 Graduate Studio 1 - Gateway

ARCU 4303 Urbanism in Practice 3

ARCC 3302 Conservation in Practice 2
ARCC 4301 Conservation in Practice 3

ENVE 4105 Green Building Design

ARCN 4100 Historic Site Recording & Assessment

B10. Building Service Systems.

Understanding of the basic principles that inform the design of building service systems, including plumbing, electrical, vertical transportation, communication, security, and fire protection systems.

ARCC 2202 Architectural Technology 1
ARCC 2203 Architectural Technology 3
ARCC 5096 Building Technology 1
ARCC 5098 Building Technology 3
ARCC 5100 Advanced Building Systems

ARCS 4105 Studio 6

ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio

ARCU 4303 Urbanism in Practice 3

ENVE 4105 Green Building Design

ARCN 4100 Historic Site Recording & Assessment
ARCN 4200 Building Pathology & Rehabilitation

B11. Building Materials and Assemblies.

Understanding of the basic principles utilized in the appropriate selection of construction materials, products, components, and assemblies, based on their inherent characteristics and performance.

ARCC 2202 Architectural Technology 1
ARCC 2203 Architectural Technology 3
ARCC 3202 Architectural Technology 4
ARCC 5096 Building Technology 1
ARCC 5098 Building Technology 3
ARCC 5099 Building Technology 4
ARCC 5100 Advanced Building Systems

ARCS 3105 Studio 4
ARCS 3106 Studio 5
ARCS 4105 Studio 6

ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2

ARCH 5003 Design & Culture Workshop – Theatre Production

ARCC 3305 Workshop: Materials Application
ARCC 3902: Workshop: Arch Techniques – Chair

ARCU 4303 Urbanism in Practice 3

ARCH 4200 Conservation Philosophy and Ethics
ARCH 4206 Recycling Architecture in Canada

ARCC 3302 Conservation in Practice 2
ARCC 4301 Conservation in Practice 3
CIVE 2200 Mechanics of Solids 1
CIVE 2700 Civil Engineering Materials
CIVE 3204 Structural Design
ENVE 4105 Green Building Design

ARCN 4100 Historic Site Recording & Assessment
ARCN 4200 Building Pathology & Rehabilitation

ARCN 3003 Theatre Production

B12. Building Economics and Cost Control

Understanding of the fundamentals of development financing, building economics, construction cost control, and life-cycle cost accounting.

ARCC 4500 Design Economics
ARCC 5200 Professional Practice
ARCS 4105 Studio 6
ARCC 3305 Workshop: Materials Application
ARCU 4303 Urbanism in Practice 3
ARCH 4206 Recycling Architecture in Canada & Abroad

C1. Detailed Design Development

Ability to assess and detail as an integral part of the design, appropriate combinations of building materials, components, and assemblies.

ARCC 2203 Architectural Technology 3
ARCC 3202 Architectural Technology 4
ARCC 5098 Building Technology 3
ARCC 5099 Building Technology 4
ARCC 5100 Advanced Building Systems

ARCS 3105 Studio 4
ARCS 4105 Studio 6
ARCS 5104 M.Arch 1 Studio 3
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio

ARCC 3305 Workshop: Materials Application
ARCC 3902: Workshop: Arch Techniques - Chair

ARCU 3304 Urbanism in Practice 2
ARCU 4303 Urbanism in Practice 3
ARCU 4304 Urbanism in Practice 4

ARCC 4301 Conservation in Practice 3
ENVE 4105 Green Building Design

C2. Building Systems Integration

Ability to assess, select, and integrate structural systems, environmental systems, life safety systems, building envelopes, and building service systems into building design

ARCC 5100 Advanced Building Systems

ARCS 4105 Studio 6
ARCS 5105 Graduate Studio 1 – Gateway

ARCU 4303 Urbanism in Practice 3
ARCU 4304 Urbanism in Practice 4

ARCC 4301 Conservation in Practice 3
ENVE 4105 Green Building Design

C3. Technical Documentation

Ability to make technically precise descriptions and documentation of a proposed design for purposes of review and construction

ARCC 2202 Architectural Technology 1
ARCC 3202 Architectural Technology 4
ARCC 5096 Building Technology 1
ARCC 5099 Building Technology 4
ARCC 5100 Advanced Building Systems

ARCN 2105 Computer Modeling and Form Analysis
ARCN 5000 Digital Modeling and Form Finding

ARCS 4105 Studio 6
ARCS 5105 Graduate Studio 1 – Gateway

ARCC 3902: Workshop: Arch Techniques – Chair

ARCU 3501 Fundamentals of Urbanism
ARCU 4303 Urbanism in Practice 3

ARCC 4207 Advanced Building Assessment

ARCN 4100 Historic Site Recording & Assessment

C4. Comprehensive Design.

Ability to project a comprehensive design based on an architectural idea, a building program and a site. The design or designs should integrate structural and environmental systems, building envelopes, building assemblies, life-safety provisions, and environmental stewardship.

ARCC 2202 *Architectural Technology 1 (with ARCS 2105)*
ARCC 2203 *Architectural Technology 3 (with ARCS 3105)*
ARCC 3202 *Architectural Technology 4 (with ARCS 4105)*
ARCC 4500 *Design Economics*
ARCC 5098 *Building Technology 3 (with ARCS 5104)*
ARCC 5099 *Building Technology 4 (with ARCS 5105)*
ARCC 5100 *Advanced Building Systems (with ARCS 5105)*

ARCU 4303 *Urbanism in Practice 3 (with ARCC 3202)*

ARCS 2105 *Studio 2 (with ARCC 2202)*
ARCS 3105 *Studio 4 (with ARCC 2203)*
ARCS 4105 *Studio 6 (with ARCC 3202)*

ARCS 5105 *Graduate Studio 1 – Gateway (with ARCC 5100)*

D1. Leadership and Advocacy

Understanding of the techniques and skills for architects to work collaboratively with allied disciplines, clients, consultants, builders, and the public in the building design and construction process, and to advocate on environmental, social, and aesthetic issues in their communities.

ARCC 4500 *Design Economics*
ARCC 5200 *Professional Practice*

ARCN 3999 *Co-operative Work Term*

ARCH 4200 *Conservation, Philosophy & Ethics*
ARCH 4206 *Recycling Architecture in Canada & Abroad*
ENVE 4105 *Green Building Design*

D2. Ethics and Professional Judgment

Understanding of the ethical issues involved in the formation of professional judgment regarding social, political and cultural issues in architectural design and practice.

ARCC 5200 *Professional Practice*

ARCS 5106 *Graduate Studio 2*

ARCH 4105 *Theories of Landscape Design*
ARCH 4502 *Research & Criticism*

ARCH 4200 *Conservation, Philosophy & Ethics*
ARCH 4206 *Recycling Architecture in Canada & Abroad*

D3. Legal Responsibilities

Understanding of the architect's responsibility to the client and the public under the laws, codes, regulations and contracts common to the practice of architecture in a given jurisdiction.

ARCC 5200 Professional Practice

D4. Project Delivery

Understanding of the different methods of project delivery, the corresponding forms of service contracts, and the types of documentation required to render competent and responsible professional service.

ARCC 5200 Professional Practice

D5. Practice Organization

Understanding of the basic principles of practice organization, including financial management, business planning, marketing, negotiation, project management, risk mitigation and as well as an understanding of trends that affect practice.

ARCC 4500 Design Economics

ARCC 5200 Professional Practice

ARCN 3999 Co-operative Work Term

D6. Professional Internship.

Understanding of the role of internship in professional development, and the reciprocal rights and responsibilities of interns and employers.

ARCC 5200 Professional Practice

ARCN 3999 Co-operative Work Term

3.12.c Criteria Mapped to Courses

COURSES OFFERED 206-2017

All Courses of the BAS/MArch Professional Programs

ARCH History/Theory

Core Courses: BAS All Majors

ARTH 1100 Art & Society: Prehistory to Renaissance: A1, A4, A8, A9

ARTH 1101 Art & Society: Renaissance to Present: A1, A4, A8, A9

ARCH 1000 Introduction to Architecture: A1, A4, A6, A7, A8, A9

ARCH 2300 Introduction to Modern Architecture: A1, A4, A8

Core Courses: MArch1

ARCH 5010 History/Theory of Modern Architecture: A1, A4, A8

Core Courses: ALL MArch

ARCH 5200 Grad Seminar 1: Introduction to Critical Thought in Architecture: A1, A4, A5, A7, A8

ARCH 5201 Grad Seminar 2: Contemporary Theoretical Perspectives in Architecture: A1, A4, A5, A7, A8, A9

ARCC Technical & Professional

Core Courses: BAS All Majors

ARCC 1202 History of Structures: A3, A8, B7

ARCC 2202 Architectural Technology 1: B6, B7, B8, B9, B10, B11, C3

CIVE 2005 Architectural Technology 2: B7

ARCC 2203 Architectural Technology 3: B4, B6, B8, B9, B10, B11, C1

ARCC 3202 Architectural Technology 4: A9, B4, B6, B8, B9, B11, C1, C3

ARCC 4500 Design Economics: A1, A2, A4, A5, B2, B12, D1, D5

Core Courses: M.Arch1

ARCC 5096 Building Technology 1 B6, B7, B8, B9, B10, B11, C3

ARCC 5097 Building Technology 2: B7

ARCC 5098 Building Technology 3: B4, B6, B8, B9, B10, B11, C1

ARCC 5099 Building Technology 4: A9, B4, B6, B8, B9, B11, C1, C3

Core Courses: ALL M.Arch

ARCC 5100 Advanced Building Systems: A1, A5, A6, A9, B4, B6, B8, B9, B10, B11, C1, C2, C3

ARCC 5200 Professional Practice: A2, A4, B6, B12, D1, D2, D3, D4, D5, D6

ARCU Urbanism

Core Courses: BAS – All Majors

ARCU 3100 Morphology of the City: A1, A3, A4, A5, A8

ARCS/ARCN Graphics & Techniques

Core Courses: BAS – All Majors

ARCS 1005 Drawing: A1, A3, A5
ARCN 2105 Computer Modeling of Form: A1, A5, C3
ARCN 2106 Introduction to Multimedia: A3

Core Courses: M.Arch1

ARCN 5000 Digital Modeling and Form Finding: A1, A5, C3
ARCN 5005 Architectural Representation – Theory & Practice: A1, A3, A9

ARCN Co-op

Elective Courses: BAS – All Majors

ARCN 3999 Co-operative Work Term: A3, A4, A5, D1, D5, D6

ARCS Design Studios

Core Courses BAS – All Majors

ARCS 1105 Studio 1: A1, A2, A3, A5, A6, B1, B3

Core Courses BAS – Design

ARCS 2105 Studio 2: A1, A2, A3, A5, A7, A8, A9, B1, B3, B5, B7
ARCS 2106 Studio 3: A1, A2, A3, A5, A7, A9, B1, B3, B5, B7
ARCS 3105 Studio 4: A1, A2, A3, A5, A7, A8, A9, B1, B2, B3, B5, B7, B9, B11, C1, C4
ARCS 3106 Studio 5: A2, A3, A9, B1, B2, B3, B7, B8, B11
ARCS 3106 Studio 5 (DSA): A2, A3, A7, A9, B1, B3, B7, B8, B11
ARCS 4105 Studio 6: A1, A2, A3, A5, A7, A9, B1, B2, B5, B6, B7, B8, B9, B10, B11, B12, C1, C2, C3, C4
ARCS 4106 Studio 7: A1, A2, A3, A4, A5, A9, B1, B3

Core Courses: M.Arch1

ARCS 5102 M.Arch 1 Studio 1: A1, A2, A3, A5, A9, B1, B3
ARCS 5103 M.Arch 1 Studio 2: A1, A2, A3, A6, A9, B1, B2, B3, B4, B5, B11
ARCS 5104 M.Arch 1 Studio 3: A1, A2, A3, A6, A9, B1, B2, B3, B4, B5, B9, B11, C1

Core Courses: M.Arch ALL

ARCS 5105 Graduate Studio 1 – Gateway: A1, A2, A3, A4, A5, A6, A9, B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, C1, C2, C3, C4
ARCS 5106 Graduate Studio 2: A1, A2, A3, A4, A5, A6, A7, A9, B1, B2, B3, B7, B11, C1, D2
ARCS 5909 Thesis : A1, A2, A3, A4, A8, A9, B1, B2, B3, C1
ARCN 5909 Thesis, Directed Research Studio: A1, A2, A3, A4, A8, A9, B1, B2, B3, C1

ARCH History/Theory

Elective Courses: BAS – All Majors

ARCH 2006 History/Theory of Industrial Design: A1, A4, A6, A8, A9
ARCH 2101 Industrial Design Analysis: A1, A3, A6, A9
ARCH 3902 Theory of Architecture – Crossings: A1, A2, A4, A5, A8, B7

ARCH 4002 Canadian Architecture: A1, A4, A6, A7, A8, A9
ARCH 4009 Theory of the Avant-Garde: A1, A4, A7, A8
ARCH 4105 Theories of Landscape Design: A1, A4, A6, A7, A8, A9, B1, B2, B3, B4, D2
ARCH 4201 History of Modern Housing: A1, A4, A7, A8, A9
ARCH 4206 Recycling of Architecture in Canada & Abroad: A1, A3, A4, A6, A7, A8, A9, B4, B11, B12, D1, D2
ARCH 4502 Research and Criticism: A1, A3, A4, A6, A7, A8, A9, D2
ARCH 4808 Independent Study: Hist./Theory of Architecture: A1, A4, A8, A9

Core Courses MAS; Elective Courses for M.Arch

ARCH 5003 Design & Culture Workshop – Energy & Form: A1, A3, A5, A9, B1, B3, B4
ARCH 5003 Design & Culture Workshop – Theatre Production: A1, A3, A4, A5, B1, B11
ARCH 5301 Vitruvian Exercises I: A1, A4, A8
ARCH 5302 Vitruvian Exercises II: A1, A4, A8

ARCC Technical & Professional

Elective Courses: BAS All Majors

ARCC 3004 Workshop: Energy & Form: A1, A3, A5, A9, B1, B3, B4
ARCC 3305 Workshop: Materials Application: A1, A3, A4, A5, B1, B4, B11, B12, C1
ARCC 3902: Workshop: Arch Techniques – Chair: A3, A5, B1, B7, B11, C1, C3
ARCC 4808 Independent Study: Architectural Technology: A1, A4

ARCU Urbanism

Core Courses: BAS – Urbanism

ARCU 3303 Urbanism in Practice I: A1, A2, A3, A4, A6, A7, A8, A9, B1, B2, B3, B4
ARCU 3304 Urbanism in Practice 2: A1, A2, A3, A4, A5, A6, A7, A8, A9, B1, B2, B3, B4, B5, C1, C3
ARCU 3501 Fundamentals of Urbanism: A1, A2, A4, A6, A7, A8, A9
ARCU 4300 History of Theories of Urbanism: A1, A4, A6, A8, A9, B3
ARCU 4303 Urbanism in Practice 3: A1, A2, A3, A5, A7, A9, B1, B2, B5, B6, B7, B8, B9, B10, B11, B12, C1, C2, C3, C4
ARCU 4304 Urbanism in Practice 4: A2, A4, A6, A8, A9, B1, B2, B3, B4, B5, C1
ARCU 4700 Urban Utopias: A1, A4, A6, A7, A8, A9, B3
ARCU 4801 Selected Topics in Urbanism: A1, A4, A6, A8, B3
ARCH 4201 History of Modern Housing: A1, A4, A7, A8, A9

ARCU Urban Studies

Elective Courses: BAS All Majors

ARCU 4400 City Organization and Planning: A1, A3, A4, A5, A6, A7, A8
ARCU 4600 Post WWII Urbanism: A1, A4, A6, A8, A9, B3
ARCU 4808 Independent Study: A1, A4, A6, A7, A8, A9

Elective Courses M.Arch

ARCU 5001 City Organization and Planning(x-list to ARCU 4400): A1, A3, A4, A5, A6, A7, A8

ARCH, CDNS History/Theory

Core Courses: BAS Conservation & Sustainability

ARCH 4200 Conservation Philosophy and Ethics: A1, A4, A6, A7, A8, A9, B7, B9, B11, D2

ARCH 4206 Recycling Architecture in Canada: A1, A2, A3, A4, A6, A7, A8, A9, B4, B11, B12, D1, D2

CDNS 2400 Heritage Conservation in Canada: A1, A4, A6, A7, A8, A9

ARCC, CIVE, ENVE Technical & Professional

Core Courses: BAS Conservation & Sustainability

ARCC 3301 Conservation in Practice 1: A1, A2, A3, B1, B3, B5

ARCC 3302 Conservation in Practice 2: A1, A2, A3, A5, B1, B3, B4, B5, B6, B9, B11

ARCC 3501 Fundamentals of Conservation & Sustainability: A1, A4, A7, A8, A9, B1, B4

ARCC 4207 Advanced Building Assessment: A3, B7, C3

ARCC 4301 Conservation in Practice 3: A1, A2, A3, A5, B1, B3, B4, B5, B6, B9, B11

CIVE 2200 Mechanics of Solids 1: B7, B11

CIVE 2700 Civil Engineering Materials: B7, B11

CIVE 3204 Structural Design: A2, A9, B4, B7, B11

ENVE 1001 Architecture and the Environment: A1, A4, A5, A6, A8, A9, B4, B8

ENVE 4105 Green Building Design: A1, A3, A4, A5, A6, A8, A9, B1, B2, B3, B4, B8, B9, B10, B11, C1, C2, D1

ARCN Techniques

Elective Courses: BAS All Majors

ARCN 3003 Theatre Production: A1, A3, A4, A5, B1, B11

ARCN 4100 Historic Site Recording & Assessment: A1, A3, A5, A9, B7, B8, B9, B10, B11, C3

ARCN 4103 Digital Fabrication & Theory: A3, A5, B1

ARCN 4200 Building Pathology & Rehabilitation: A1, A4, A8, A9, B2, B4, B5, B6, B7, B10, B11

ARCN 4808 Independent Study: Colour Theory: A1, A3, A4

ARCN 4808 Independent Study: A1, A3, A4

Core Courses MAS; Elective Courses M.Arch

ARCN 5301 Daedelic Exercises I: A1, A3, A4, A8

ARCN 5302 Daedelic Exercises II: A1, A3, A4, A8