Azrieli School of Architecture & Urbanism

Architecture Program Report 2016-2017
Volume 2
4. Supplemental Information

4.1. Introduction to the Institution and Program History
4.2. Current Course Description
4.3. Current Faculty Resumes
4.4. Visiting Team Report from the Previous Visit
4.5. Annual Reports
4.1 Introduction to the Institution and Program History
4 SUPPLEMENTAL INFORMATION

4.1 Introduction to the Institution and Program History

4.1.a History and Description of the Institution

Carleton University will be 75 years old in 2017 when Canada celebrates its 150th birthday. The University's origins lie in a wartime initiative to offer university-level instruction to veterans and a younger generation of civil servants. Carleton College, as it was first known, began offering classes in 1942. During this period, the College operated out of the high-school facilities and temporary buildings under very stringent financial conditions. Enrolment continued to expand and in 1952 Carleton's degree-granting privileges were confirmed by the Province with the Carleton College Act. The College was renamed Carleton University in 1957.

Carleton had been the first post-secondary institution to be established in Ontario since the nineteenth century and its move to the current campus in 1959 coincided with a substantial expansion of the Provincial university system. The University's development in the 1960s was characterized by rapid increases in enrolment and by almost continuous construction activity. As organized at present, the University consists of five faculties offering more than fifty disciplines of study. The faculties of Arts and Social Sciences (FASS), Public Affairs and Management (PAM), Engineering and Design (FED), and Science provide instruction to some 27,000 full-time and part-time graduate and undergraduate students supported by approximately 2,000 faculty and staff.

4.1.b Institutional Mission

Mission Statement

Carleton @ 75 builds on the current mission statement:

Carleton University is an independent, collegial university dedicated to the advancement of learning through disciplinary and interdisciplinary teaching, study and research, the creation and dissemination of knowledge, and the betterment of its community. It is centred in Ottawa and serves the people of Ontario, Canada, and the world.

Carleton’s contemporary mission above reflects both its past and its present. Carleton @ 75 builds upon this mission statement, the 2008-13 Strategic Plan, *Defining Dreams*, and Carleton’s Strategic Mandate Agreement to set the direction for Carleton University.

**Carleton’s Strategic Integrated Plan**

Sustainable Communities – Global Prosperity

Carleton University will celebrate its 75th anniversary in 2017. The Strategic Integrated Plan lays out the vision, goals and strategic actions for Carleton@75 over the next five years from 2013 to 2018. Our vision for Carleton@75: Carleton University will be known nationally and internationally as a leader in collaborative teaching and learning, research and governance. Our students, faculty and staff will be critically engaged, productive citizens and highly qualified contributors to the 21st century.

At Carleton, we encourage creative risk-taking enabling minds to connect, discover and generate transformative knowledge. Through education, research, service and innovation, and through the building of sustainable communities, we can foster new ideas and future leaders to create a more sustainably prosperous future for Canada and the world.

READ OUR STRATEGIC PLAN →


Carleton’s Strategic Integrated Plan builds on four central themes:

**Theme 1:** Programs and Enrolment. Carleton University will be known nationally and internationally for its research and teaching in programs which respond to the needs of society today and which anticipate
the needs of the future.

**Theme 2: Research.** Carleton University will be known as a university that promotes research excellence and connectedness. It will be recognized as a leader in research that focuses both on tangible outcomes and the development of knowledge with longer-term impacts.

**Theme 3: Students.** Carleton University will be nationally and internationally known for being student centred, linking its academic endeavours and student supports to empower students as productive and engaged citizens in an increasingly diverse world.

**Theme 4: Organizational Excellence.** Carleton University will be known as a university that nurtures leadership, encourages innovation, recognizes achievement and embraces sustainability.

**Consistency of the Architecture Programs with the General Objectives of the University's Strategic Plan:**

In 1997, the School of Architecture submitted a report entitled, “Criteria for Choice”, to the Senate Academic Planning Committee that outlined a program restructuring specifically dedicated to enhance the University’s two stated areas of focus: Public Policy and High Tech. (Ref: APR, 2004). In our conscious desire to align our program with the University’s mission and developmental plan we addressed this objective in the restructuring of the program and its curricular structure as well as in our research objectives. This restructuring led to the 4 + 2 (BAS + M.Arch) between 1998 and 2004. These degrees were reviewed and accredited by the CACB (Canadian Architectural Certification Board) in the same calendar year.

The December 2008 launch of “Defining Dreams”, the Draft for the University's Strategic Plan, reiterated the importance of Public Policy and High Tech with additional areas of endeavour meant to support the “Four Pillars of Identity” (Innovation, Location, Engagement with the Community, and Solutions to Real-world Problems). These central themes were reiterated and enhanced in the University’s 2016 Strategic Integrated Plan: **Sustainable Communities – Global Prosperity.** Architecture as a discipline and the architecture programs in particular, are well aligned with the declared areas of endeavour; Sustainability and the Environment, Health (workplace, environment), New Digital Media (Content Design, Visualization) and Global identities and Globalization. The BAS Majors (BAS – Design, BAS – Conservation & Sustainability, and BAS – Urbanism), and the Professional and Post-professional graduate programs (M.Arch, MAS and PhD) include specializations that touch on many of these central themes.

**Sustainable Communities – Global Prosperity**

In the most general terms, Architecture is a public practice inscribed in a public world -- the polity of the city, suburb, etc. In both theory courses and in architectural design studios, emphasis on the public dimension of architecture and an awareness of sustainable development continues to increase. These are discussed and investigated at local, national and international levels.

History/theory courses like Introduction to Architecture (ARCH 1000), History of Modern Architecture (ARCH 2300), History of Canadian Architecture (ARCH 4002), Physical Morphology of the City (ARCU 3100), History of Post War Architecture (ARCH 4301), Foundations of Modernism (ARCH 4008) and Post WWII Urbanism (ARCU 4600) aim to equip students with the necessary foundations for understanding and being able to meaningfully participate in current architectural production and discourse. In this sense, these courses are valuable in supporting the University mission statement.

Architectural Technology and workshop electives have evolved to include contemporary concerns of sustainability and architectural conservation. Material studies, supported by the school’s excellent facilities and research units, are also contributing to architectural production and discourse in the core curriculum including design studio. Sustainability in architectural design and production is addressed within a greater context of history and culture, globalization, local materials and craft, conservation and adaptive re-use, urban renewal, and alternative energy systems.

Along with the curricular changes, major initiatives have been taken in the area of Research, again with specific attention to complementing the general objectives of the University. The School of Architecture’s research agenda draws on the School’s established strengths in the pedagogy and **craft** of architecture. Our architectural research is informed by the interaction of experimental making, theoretical investigation,
and cultural insight and includes contributions to the areas of architectural history and theory, material and form studies, and the architectural and pedagogical applications of immersive and digital technologies.

4.1.c Program History

The School of Architecture held its first classes in the fall of 1968, with twelve students and four faculty members. The School offered a five-year undergraduate professional degree, accredited, from the outset, by the Ontario Association of Architects. The first degree was awarded in 1973. In the fall of 1972, the School moved into its present purpose-built facility, designed by Toronto architects Carmen Corneil and Jeff Stinson. The Architecture Building was planned for a total of 250 students (a number long since exceeded). The building is highly regarded by the architectural community. It continues to provide a supportive, appropriate environment and to constructively influence the School's programs.

During the first few years, faculty ranks increased annually as the student body grew. By 1976 the School comprised five Full Professors, eleven Associate Professors, five Assistant Professors, and fifteen Sessional Lecturers (Contract Instructors). The School expanded further in the 1970s, reaching 300 students and 24 faculty members by 1983-84. The academic staff was supplemented by a technical staff comprised of a Photographic Supervisor and a Library Technician. The Technical staff expanded to include two full-time Shop Technicians supervising the School's wood and metalworking facilities. The Library Technician position was lost in 1991. A half-time Computer Technician position was created in 1997 through administrative restructuring. A second, full time Computer Technician was added in 2004.

The founding Director, Douglas Shadbolt, completed two full terms of office and retired in 1978. He was replaced by Professor Michael Coote. Professor James Strutt served as Acting Director in 1983-84 following the tragic death of Professor Coote. Professor Alberto Perez-Gomez served as Director from 1983 to 1986, followed by Professor Robert Osler as Acting Director for one year. Professor Gilbert Sutton then held the office through 1991. Professor Stanley Loten served as Acting Director in 1991/92 while a search was conducted for a new Director. Benjamin Gianni was appointed in 1992 for a five-year term and re-appointed in 1997 for another 2.5 years. In 1999, Professor Gulzar Haider became Director until his retirement in 2004. In July of 2004, Professor Stephen Fai was appointed for a one-year term while an external search was conducted resulting in the appointment of Marco Frascari as Director of the School. During Prof. Frascari’s protracted illness and following his untimely death, Prof. Sheryl Boyle assumed an extended interim directorship while a new Director search was held. In 2015, Prof. Jill Stoner joined the school to become its most recent full-term Director.

From 1968-78, the curriculum for the 5-year B.Arch. was comprised of thirty credits. This curriculum was organized around five "divisions": Division A - history and theory, human sciences, environmental sciences; Division B - structures, environmental controls, materials and methods of construction, design economics; Division C - general planning, policy planning and community development, management and development, professional practice; Division D - computations, design methodology, design education, communications; and the Studio Division. The elective portion of course work was relatively high, nearly 50% (14.5 of 30 credits). In the Studio, the first two years were foundation years focusing on basic design, problem solving, construction, planning, environmental factors and context. Studios in years three and four were defined on a building type basis -- "Work Environments, Living Environments", etc. -- and were not structured sequentially; students could take these Studios in any order. Colloquia, which were required in each semester, operated in a mixture of lecture, seminar, and guest lecture modes. They carried the humanities portion of the program, and were defined thematically, like the Studios, e.g. Technology, "Man and
Community," etc. Workshops were considered from the beginning of the program as intermediary devices between course subject areas and the design theatre of the Studios -- intended to apply the Studio mode of teaching/learning to selected subsets of the problems confronted in Studio. While this initial program underwent more or less continuous revision, it remained essentially in place until the retirement of the first Director, Professor Shadbolt. Some elements survive in the current curriculum.

The first major program overhaul came in 1978, under Director Michael Coote. Colloquia became electives and were replaced by seven mandatory "Theories of Environmental Design" courses, dealing with the history and theory of architecture and linking architecture to culture. The Design Studios became sequential from years one through four, each a prerequisite for the next, so that a more finely tuned progression through the years could be developed. The sequence established was: Basic Design (Year 1); site, climate and technology (Year 2); "Built Form Influenced by Environment" (Year 3); "Built Form Influenced by Technology" (4A); and "Built Form Influenced by Values" (4B). The previous divisional organization remained in place for courses, workshops and administration. The Studio program was divided into "Project" and "Seminar" courses (instituted earlier) in an effort to ensure more controlled input of information (a strategy that proved ineffective and was soon dropped). A significant revision took place in 1980, when the first year of the Studio program was radically transformed to pursue basic design grounded conceptually in "thoughtful making". This has proven to be one of the most far-reaching developments the program has seen. The elective portion of this program became somewhat reduced by the introduction of "Theories Electives," which required that the majority of electives be taken from a list of courses emphasizing theory and history of architecture.

The next major change in the program came with the appointment of Professor Alberto Perez-Gomez in 1984. The commitment to ‘thoughtful making’ was given a more rigorous philosophical grounding and extended to all levels of studio instruction. The Studio work resulting from this thrust has given the School an international presence. The major structural reorganization at this time focused on fifth-year to provide a series of options (Design Studio 5A, Research Thesis, and Design Thesis), allowing students tremendous flexibility in choosing the final work best suited to their strengths and personal interests. Great emphasis was placed on the intellectual basis of design, the poetic power of form, and academic scholarship in Research and Design Theses. The impressive work produced in the fifth-year program has had an impact on nearly every aspect of the program.

The Senate of the University approved another set of program revisions in 1992, during Ben Gianni’s term as director. These changes increased the number of mandatory architectural history courses from two to four half courses, restructured the Building Construction and Environmental Controls sequence to emphasize the interconnections between these sub-disciplines, and added a course in systems integration. This revision eliminated ‘Theories Electives’ and concentrated elective courses in the fourth year. This assured that students would cover courses more directly concerned with the profession in the lower years. While the previous sequential structure of the Studio program remained intact, the content of design projects evolved toward a greater emphasis on building design, site development, context, and planning as the media through which the conceptual emphasis of first year found its expression in the upper years.

In 1993-94 a proposal for a post-professional M.Arch. degree program was approved by the University Senate and the Ontario Council of Graduate Studies. The program began accepting students in the Fall of 1995 and graduated its first graduates in 1997. The degree was designed to accommodate a variety of emphases under the heading of "Design Studies," to promote research in the School, to emphasize design as a form of research, and to accommodate a range of thesis work (drawing, writing, etc.). In 1997, the
program was bifurcated into two research foci—“Design and Culture” and “Design and Technology”. The first considered questions of history and theory and the second issues of information technology.

In 1997, the School developed a proposal to restructure its 5-year Bachelor of Architecture to a 4- year, pre-professional Bachelor of Architectural Studies (BAS) followed by a 2-year professional Masters of Architecture degree (M.Arch). The undergraduate component was approved by the University Senate in 1997 and began accepting students in the Fall of 1998. The graduate component was approved by the Ontario Council of Graduate Studies in 1998 as a variation on the previously approved post-professional M.Arch. The first class accepted into the professional M.Arch. entered in September of 2001. The first graduates from that class were conferred with the M.Arch degree in November, 2004.

The School instituted a formal co-op program in 1999 as an option within the BAS. Students must spend minimum of three terms (two of which are contiguous) to satisfy the requirements for the co-op designation. Work terms begin after students complete the second year of the BAS. This option is now well established in all majors of the BAS.

The 4+2 program at Carleton is now in its 17th year and has undergone only minor changes since its inception. Until 2008, the most significant of these changes was the development of the Directed Research Studio (DRS) as a thesis option in the final year of the M.Arch. The DRS is seen as an important research vehicle and a viable option for students less inclined toward independent research or who wish to focus their thesis within the research interest of the supervising faculty member. Other changes include a short duration (1-3 weeks) undergraduate DSA option in the third year of the BAS and a full term DSA in the first year of the M.Arch (Barcelona 2004-6, Bern 2006-08). The School offers a visiting critics studio as an option to graduate students who choose not to participate in the DSA.

The most recent and significant shifts began in 2009, one year ahead of the program’s last Accreditation visit, as the school instituted 4 new Majors at the undergraduate level and a 3-year M.Arch (Professional) degree. Beginning in 2009, students were able to access undergraduate BAS programs with Majors in Design, Conservation & Sustainability, and Urbanism. A fourth BAS program in Philosophy & Criticism struggled with enrolment and has since been dismantled. At the graduate level, students with 4-year honours degrees (but without previous architectural studies), were admitted to a new M.Arch curriculum. This newest program, reviewed and accredited by a Focused Evaluation in 2013, is increasingly popular and shows a great potential for increased enrolment.

With these measures, the student population continues to grow and diversify. At the time of the 2004 program review, when the school was shifting from the 5-year B.Arch to the 4+2 structure, there were a total of 285 BAS students, 51 B.Arch students, and 40 M.Arch (post professional) students making the total population of the School 376. The 2010 APR reported a total of 286 BAS students, 7 Q-year students, 67 M.Arch (professional) students, for a total population of 359. The 2016 data shows totals of 249 BAS students, 123 M.Arch (professional) students, 7 MAS (post-professional) students, and 7 PhD candidates for a total population of 464. Since 2010 the school has increased its 1st year undergraduate intake from 72 to 92 in response to the restructured BAS program with three majors. The M.Arch (professional) has also increase its 1st year intake from 28 in 2009 to 58 in 2016 with the introduction of the new 3-year professional M.Arch. Together these increases project at total school population of roughly 460 students in the 2016-17 academic cycle and with these enrolment numbers, the School continues to be the largest architecture program in Canada.
4.2 Student Progress Evaluation

4.2.1 Transfer of Credit and Advanced Standing

The following is an excerpt from the Undergraduate Calendar

4.2.1.a Transfer of Credit Prior to Admission (BAS)
When a student is considered for admission, credit may be granted for individual courses successfully completed at other recognized, post-secondary institutions, if:
1. the individual courses are relevant to a student's proposed program; and
2. the appropriate academic department recommends such action.
Each application is evaluated on its own merits.

4.2.1.b Transfer of Credit Subsequent to Admission (BAS)
Letter of Permission
Students who have been formally admitted to a degree, certificate or diploma program may apply to take courses at other recognized post-secondary institutions on Letters of Permission, and have the credits transferred to their Carleton programs.

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.

The following is an excerpt from the Graduate Calendar

4.2.1.c Transfer of Credit on Admission (M.Arch)
Graduate courses completed at another institution or at Carleton University that have not been used to fulfill the requirements of another degree program may be accepted in partial fulfillment of Carleton’s degree requirements. Credit for such work will be determined in each case by the Faculty of Graduate and Postdoctoral Affairs on the recommendation of the program concerned. Master's candidates will be permitted to transfer the equivalent of up to 40 per cent of their coursework credit requirements on admission. In addition, if a master's candidate is granted transfer of credit for 40 per cent of their coursework credit requirements, his/her remaining credits at Carleton must be at the 5000 level.

Graduate Calendar Regulations relating to Program Requirements and Transfer of Credits:
http://calendar.carleton.ca/grad/gradregulations/administrationoftheregulations/#5

Given that a number of applicants to our M.Arch program hold undergraduate degrees in architectural studies or related design disciplines, the School has devised an internal policy to evaluate applicants in their request for the transfer of credits. The results of these assessments are then communicated to the Faculty of Graduate and Postdoctoral Affairs.

The following is an excerpt from the School’s internal Policy on the transfer of credits at the Graduate level:

**POLICY FOR THE EVALUATION OF COURSE EQUIVALENCY**
Transfer of Credits in the M.Arch Program

**Internal Policy - School of Architecture**

**Internal Transfers: Core and Professional Curriculum - 0.5 credit courses**
For internal (Carleton Univ.) applicants from BAS C&S, BAS-Urb, BA - H/T of Arch, evaluation for Transfer of Credits in 0.5 credit Core and Professional Courses will be processed by the Associate Director of Professional Programs in consultation with the Faculty Member(s) assigned to the course for which the transfer applies.
Process:
The evaluation of Core and Professional courses is based on the review of syllabi, audits and year of completion.

External Transfers: Core and Professional Curriculum - 0.5 credit courses
Requests for Transfer of Credit for 0.5 credit Core and Professional Courses by external applicants coming from Accredited and non-accredited programs in Architecture or related disciplines will be processed by the Associate Director of Professional Programs in consultation with the Faculty Member(s) assigned to the course for which the transfer applies.

Process:
For this evaluation, the student must submit the following documents:
1. A letter of request
2. An Official U/G Transcript
3. The Syllabi and Assignment Outlines from comparable Coursework

Performance:
The minimum grade for consideration of Transfer of Credit in 0.5 credit Core & Professional courses is: B- (GPA: 7.0, Percentage: 70%).

The School of Architecture follows the University Regulations as outlined above and works closely with the Admissions Office and the Registrar’s Office when processing course equivalencies for prior post-secondary courses. The Admissions Office recognizes the unique course requirements of the BAS and M.Arch programs and their alignment with Accreditation Criteria. Hence, an internal evaluation of Advanced Standing and Transfer of Credit is prepared by the School’s Associate Directors and is issued to the Admissions Office and/or Registrar for processing. The Associate Director’s also consult with the Faculty Chair for each of the program’s disciplines (i.e. Faculty Chair for Architectural Technology reviews courses from CAAT programs, Chair of History/Theory Curriculum reviews courses in History/Theory of Architecture, Etc.). More complex cases, or transfer of credits from international colleges and universities are often reviewed by a committee with diverse representation; the Committee on Standings, Promotion and Awards.

The School of Architecture regularly receives request for admission with advanced standing from a number of sources that have become familiar to the School’s Faculty and the evaluation Committee. To facilitate the process at the time of admission, a number of “pre-approved” transfer of credits have been formulated and submitted to the Admissions Office and Registrar. The Admissions Officers for Architecture then verify the grades and GPAs to confirm that the request meets with the University Standards.

Undergraduate Review BAS
Pre-Approved CAAT institutions include:
Algonquin College: Architectural Technology
Cite Collegiale: Architectural Technology
George Brown College: Architectural Technology
Fanshawe College: Architectural Technology
Sheridan College: Architectural Technology
Humber College: Architectural Technology

Graduate Review M.Arch
Pre-Approved institutions include:
Algonquin College: BID Bachelor of Interior Design
BCIT British Columbia Institute of Technology: B.SC Arch (Bachelor of Technology – Arch. Science)
Univ. of Manitoba: BED Bachelor of Env. Design – Landscape & Urbanism
Univ. of Manitoba: BED Bachelor of Env. Design – Interior Design
UQAM: BED Bachelor of Env. Design
Univ. of Toronto: BA – Arch Studies Design

Architecture courses from other Canadian and U.S. Universities with professional and pre-professional programs in Architecture are reviewed in a similar way. The School aims at reciprocity with its North American
counterparts and looks for similarities in course content and delivery. It has been the School’s experience however, that dissimilarities in Architectural programs results in a relatively low transfer rate for courses dealing with Accreditation material, especially in Studio courses and courses in Architectural Technology. Often, more than one transfer course is required to meet the required content of the credit being sought.

4.2.2 Student Progress: Standing in the Program
Note – Additional information on Student status and progress described in the Undergraduate Calendar:
General Regulations:
http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/
Academic Performance:
http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv7/

Calendar Regulations: Bachelor of Architectural Studies - BAS

B.A.S. Conservation and Sustainability

B.A.S. Urbanism
These programs follow the academic performance evaluation regulations governing Honours programs as described within sections 7.1 - 7.4 of the Academic Regulations of the University.

B.A.S. Design
The B.A.S. Design follows the academic performance evaluation regulations for Engineering and Design programs as described in section 7.0 of the Academic Regulations of the University.

B.A.S. - all
The following additions and amendments apply to all B.A.S. programs:
3 Students are assessed at each Academic Performance Evaluation using the Core minimum as described below.
4 Good Standing requires a minimum grade of C- in each Design Core course.
5 The Design Core consists of the following courses:

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4. B.A.S. students continue either in Good Standing or on Academic Warning.
5. Students whose academic performance evaluation results in Suspension must leave the B.A.S. degree. Application for readmission to all B.A.S. programs may be made after one year.
Calendar Regulations: Graduate Studies - M.Arch

Master's Programs
A grade of B- or better must normally be obtained in each course credited towards the master's degree. A candidate may, with the support of the departmental graduate supervisor/associate chair (graduate affairs) and the approval of the Dean of the Faculty of Graduate and Postdoctoral Affairs, be allowed a grade of C+ in 1.0 credit. Some programs do not permit the C+ option and apply a B- minimum rule.

Academic Requirements
See the General Regulations section of the Graduate Calendar. Architecture permits the C+ option in the 13.0-credit M.Arch. 1 curriculum only. (see Section 11.2 of Regulations).

Graduate Calendar Regulations relating to:
Time of completion, Appeals and Graduation:

http://calendar.carleton.ca/grad/gradregulations/administrationoftheregulations/#11
4.2 Current Course Descriptions
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<td>ARCH 4206 Recycling Architecture in Canada &amp; Abroad</td>
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### Core Courses: BAS - Conservation & Sustainability

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**CAEB CRITERIA MET BY COURSE**

- [ ] Indicates Core Course in BAS-Urbanism (elective for BAS-Design)
- [ ] Indicates calendar courses not presently offered
- [ ] Indicates core course in BAS Conservation & Sustainability (elective for BAS-Design)
- [ ] CAEB criteria met by course
- [ ] CAEB criteria partially met: introduced in lecture/theory context
- [ ] CAEB criteria dependent on course option, project proposal or assignment

### (ARCH) Techniques

**Core Courses: BAS - Conservation & Sustainability**

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**Elective Courses: M-Arch**

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**Legend**

- [ ] Indicates courses in graduate programs
- [ ] Indicates calendar courses not presently offered
- [ ] Indicates core course in BAS Conservation & Sustainability (elective for BAS-Design)
- [ ] CAEB criteria met by course
- [ ] CAEB criteria partially met: introduced in lecture/theory context
- [ ] CAEB criteria dependent on course option, project proposal or assignment
4.2 Current Course Descriptions
The following syllabi represent all courses offered in the BAS Undergraduate and M.Arch Graduate Programs. They have been listed in the same order as the Program Matrix accompanying this section.

**ARCH History/Theory**
**Core Courses: BAS All Majors**
ARTH 1100 Art & Society: Prehistory to Renaissance
ARTH 1101 Art & Society: Renaissance to Present
ARCH 1000 Introduction to Architecture

**Core Courses: M.Arch1**
ARCH 2300 Introduction to Modern Architecture
ARCH 5010 History/Theory of Modern Architecture

**Core Courses: ALL M.Arch**
ARCH 5200 Grad Seminar 1: Introduction to Critical Thought in Architecture
ARCH 5201 Grad Seminar 2: Contemporary Theoretical Perspectives in Architecture

**ARCH, CDNS History/Theory**
**Core Courses: BAS Conservation & Sustainability**
ARCH 4200 Conservation Philosophy and Ethics
ARCH 4206 Recycling Architecture in Canada
CDNS 2400 Heritage Conservation in Canada

**ARCC Technical & Professional**
**Core Courses: BAS All Majors**
ARCC 1202 History of Structures
ARCC 2202 Architectural Technology 1
CIVE 2005 Architectural Technology 2
ARCC 2203 Architectural Technology 3
ARCC 3202 Architectural Technology 4
ARCC 4500 Design Economics

**Core Courses: M.Arch1**
ARCC 5096 Building Technology 1
ARCC 5097 Building Technology 2
ARCC 5098 Building Technology 3
ARCC 5099 Building Technology 4

**Core Courses: ALL M.Arch**
ARCC 5100 Advanced Building Systems
ARCC 5200 Introduction to Professional Practice

**ARCC, CIVE, ENVE Technical & Professional**
**Core Courses: BAS Conservation & Sustainability**
ARCC 3301 Conservation in Practice 1
ARCC 3302 Conservation in Practice 2
ARCC 3501 Fundamentals of Conservation & Sustainability
ARCC 4207 Advanced Building Assessment
ARCC 4301 Conservation in Practice 3
CIVE 2200 Mechanics of Solids 1
CIVE 2700 Civil Engineering Materials
CIVE 3204 Structural Design
ENVE 1001 Architecture and the Environment
ENVE 4105 Green Building Design
ARCU Urbanism
Core Courses: BAS – All Majors
ARCU 3100 Morphology of the City

ARCU Urbanism
Core Courses: BAS – Urbanism
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 4600 Post WWII Urbanism
ARCU 4700 Urban Utopias
ARCU 4801 Selected Topics in Urbanism
ARCH 4201 History of Modern Housing

ARCS/ARCN Graphics & Techniques
Core Courses: BAS – All Majors
ARCS 1005 Drawing
ARCN 2105 Computer Modeling and Form Analysis
ARCN 2106 Introduction to Multimedia

Core Courses: M.Arch1
ARCN 5005 Architectural Representation – Theory & Practice

ARCS Design Studios
Core Courses BAS – All Majors
ARCS 1105 Studio 1

Core Courses BAS – Design
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

Core Courses: M.Arch1
ARCS 5102 M.Arch 1 Studio 1
ARCS 5103 M.Arch 1 Studio 2
ARCS 5104 M.Arch 1 Studio 3

Core Courses: M.Arch ALL
ARCS 5105 Graduate Studio 1 - Gateway
ARCS 5106 Graduate Studio 2
ARCS 5909 Thesis
ARCN 5909 Thesis, Directed Research Studio
ARCH History/Theory
Elective Courses: BAS – All Majors
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

Core Courses MAS; Elective Courses for M.Arch
ARCH 5003 Design & Culture Workshop – Energy & Form
ARCH 5301 Vitruvian Exercises I
ARCH 5302 Vitruvian Exercises II

ARCC Technical & Professional
Elective Courses: BAS All Majors
ARCC 3004 Workshop: Energy & Form
ARCC 3902: Workshop: Arch Techniques - Chair

Elective Courses M.Arch
ARCC 5000 Directed Study: Architectural Technology

ARCU Urban Studies
Elective Courses: BAS All Majors
ARCU 3501 Fundamentals of Urbanism
ARCU 4400 City Organization and Planning
ARCU 4600 Post WWII Urbanism
ARCU 4700 Urban Utopias
ARCU 4801 Selected Topics in Urbanism
ARCU 4808 Independent Study

Elective Courses M.Arch
ARCU 5001 City Organization and Planning

ARCN Techniques
Elective Courses: BAS All Majors
ARCN 3003 Theatre Production
ARCN 4100 Historic Site Recording & Assessment
ARCN 4103 Digital Fabrication & Theory
ARCN 4200 Building Pathology & Rehabilitation
ARCN 4808 Independent Study: Colour Theory

Elective Courses M.Arch
ARCH 5003 Design & Culture Wshp – Theatre Production

Core Courses MAS; Elective Courses M.Arch
ARCH 5301 Daedelic Exercises I
ARCH 5302 Daedelic Exercises II
4.2.1 Course Descriptions – Boiler Plate

The Following Template outlines the boilerplate for all Syllabi/Course Outlines for all courses in the undergraduate (BAS) and graduate (M.Arch Professional) programs.

The course outlines which follow have been synthesized for clarity.
Course Number
Term and Year
Days and times of meetings

Instructors:

**COURSE TITLE**

**INTRODUCTION**

**COURSE THEME & FORMAT** (= number of projects and weight)

**COURSE OBJECTIVES, PEDAGOGY and ASSIGNMENTS** (kind of number of projects/assignments).

**STUDENT RESPONSIBILITIES in this course** (= a mini boiler plate specific to that class about things including required materials, or attendance requirements, etc.).

**CALENDAR** (week by week schedule, lecture titles and projects)

**GRADING AND REQUIREMENTS**
- Grading Criteria (= a section explaining grading philosophy or any other points about grading for that course)

<table>
<thead>
<tr>
<th>Percentage Breakdown List</th>
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<tr>
<td>TOTAL</td>
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</table>

**CU LEARN:** This course uses cuLearn, Carleton’s learning management system. To access your courses on cuLearn go to [carleton.ca/culearn](http://carleton.ca/culearn)

For help and support, go to [carleton.ca/culearnsupport/students](http://carleton.ca/culearnsupport/students) Any unresolved questions can be directed to Computing and Communication Services (CCS) by phone at 613-520-3700 or via email at [ccs_service_desk@carleton.ca](mailto:ccs_service_desk@carleton.ca)
Accreditation and Professional Experience

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 programs in architecture, recognizes two types of accredited degrees: the Master of Architecture (M.Arch) and the Bachelor of Architecture (B.Arch). 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. Masters 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.

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.

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

<table>
<thead>
<tr>
<th>Skills A</th>
<th>Skills B</th>
<th>Skills C,D</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Critical Thinking Skills.</td>
<td>B1 Design Skills</td>
<td>x C1 Detailed Design Development</td>
</tr>
<tr>
<td>A3 Graphic Skills.</td>
<td>B3 Site Design</td>
<td>x C3 Technical Documentation</td>
</tr>
<tr>
<td>A4 Verbal and Writing Skills</td>
<td>B4 Sustainable Design</td>
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</tr>
<tr>
<td>A5 Collaborative Skills</td>
<td>B5 Accessibility.</td>
<td>D1 Leadership and Advocacy</td>
</tr>
<tr>
<td>A6 Human Behavior</td>
<td>B6 Life Safety Sys, Bldg Codes &amp; Stds</td>
<td>D2 Ethics and Professional Judgment</td>
</tr>
<tr>
<td>A7 Cultural Diversity</td>
<td>B7 Structural Systems</td>
<td></td>
</tr>
<tr>
<td>A8 History and Theory</td>
<td>B8 Environmental Systems</td>
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<tr>
<td>A9 Precedents</td>
<td>B9 Building Envelopes.</td>
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<tr>
<td></td>
<td>B10 Building Service Systems.</td>
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<td>B11 Building Materials and Assemblies.</td>
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<td>B12 Building Economics and Cost Control</td>
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</tbody>
</table>

This course meets the following criteria: (Sample)

- **B5 Accessibility**: Ability to design both site and building to accommodate individuals with varying physical abilities
- **C1 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
- **C2 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
- **C3 Technical documentation**: Ability to make technically precise descriptions and documentation of a proposed design for purposes of review and construction
- **C4 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
ACADEMIC ACCOMMODATION
You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please review the above course outline carefully. Should you require special accommodation, please contact the course instructor during the first two weeks of classes. In cases where the need for accommodation develops during the term, please contact course instructor promptly.

Reviewing each request and arranging accommodations where necessary takes time: your cooperation is appreciated. Please make sure to respect the above notification timelines, particularly for in-class tests, mid-terms and final exams, as well as any change in due dates for assignments.

For more detailed information on the University’s academic accommodation policies students may visit the Equity Service website. http://carleton.ca/equity/accommodation

ACCESSIBILITY
Students with disabilities requiring academic accommodation in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that course instructor receives your Letter of Accommodation no later than two weeks before the date of first assignment hand-in or in-class test. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadlines published on the PMC website: http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/

STUDENT CONDUCT
Please refer to http://www.carleton.ca/calendars/ugrad/1011/regulations/acadregsvuniv.html for specific information regarding Student Conduct and Academic Integrity standards.

GRADING
For the grade in the “A” range, the instructor will have judged the student to have satisfied the stated objectives of the course in an outstanding to excellent manner; for the “B” range, in an above average manner; for the “C” range, in an average manner with C- being the lowest acceptable grade in the BAS-Design Core courses; for the “D” range, in the lowest acceptable manner in non-Core courses, and for “F”, not to have satisfied the stated objectives of the course. Grades will be assigned as A+ (90-100%), A (85-89%), A- (80-84%), B+ (77-79%), B (73-76%), B- (70-72%), C+ (67-69%), C (63-66%), C- (60-62%), D+ (57-59%), D (53-56%), D- (50-52%), F (0-49%) and ABS. A grade of C- or better in each course of the BAS-Design Core is required for a student to remain in Good Standing. (Please refer to the Undergraduate Calendar http://www.carleton.ca/calendars/ugrad/1011/regulations/acadregsvuniv2.html#2.3 for regulations concerning grades and other program requirement information and http://www.carleton.ca/calendars/ugrad/1011/programs/architecturalstudies.html for regulations concerning grades and other program requirement information specific to the Architecture program.

Each grade will be based upon a comparison (1) with other students in the course and/or (2) with students who have previously taken the course and/or (3) with the Instructor’s expectations relative to the stated objectives of the course, based on his/her experience and expertise.
**ATTENDANCE**

Attendance during arranged Studio hours is mandatory and an essential part of a student’s contract with the School and their instructor. It is a student’s responsibility to be informed of decisions and announcements made during these hours. Frequent unaccounted-for absences from studio meetings, seminars, reviews and desk crits, may result in a failing grade whether or not assignments have been completed.

**RETENTION OF WORK and PORTFOLIO**


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 document for any job application in the future. The School therefore requires that each student document their term’s work with high resolution scans of manual drawings, photographs of models, and saved files of work produced digitally. From First Year through to graduation, students are to create the following:

- A digital Folder containing jpg files of all term’s work
- A digital Portfolio saved as a PDF file

Please title the digital folder following this example: “ARCS 3105_Last name_2016_Instructor name.”

Please use the 11 x 17 landscape format and a simple and clear graphic language for the digital portfolio.

Submit Folder and Portfolio to your instructor digitally, and keep files carefully for your records. Note also that your instructor may require a printed copy of the Portfolio.

The School reserves the right to use the images for the following: retrospective exhibitions of work, accreditation, publications and 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.

**STEWARDSHIP**

Architecture, urbanism and conservation are about stewardship, awareness, and thoughtful habitation. Please exercise consideration for the physical and social environment around you while using the studios. It is neither reasonable nor fair to place the burden of guessing whether an item on the floor is a discard or a precious process-sketch upon members of the custodial staff. Respect custodial staff and their mandate to clean the building’s public spaces only (and not the studios).

**Reduce, recycle, and reuse:**

- Keep the creation of waste to a minimum through thoughtful decisions regarding model size, etc. As much as possible, recycle and reuse materials.
- Compress paper remnants and drawings into piles for reuse.
- Create a shared area for storing discarded but reusable model-making materials; note that this space should pose no hazard to others.

**Studio Maintenance**

- Furniture must not be moved or removed. “Students are required to clean-up after reviews and return things to the proper locations.
- Alcoves must remain clean and available for common uses such as pin ups.
- Studios are to be tidied regularly. Individual workspaces must be kept free of debris. Tables must be devoid of clutter, bags and coats, or food and drink. Use lockers for storage. No food/meals may be consumed in studio, especially during class hours.
- Remove obvious garbage daily from table surfaces and chairs. Sweep between aisles and under tables regularly.
- Do not throw dangerous or hazardous materials (e.g. broken glass) in the garbage cans. Recycling bins are provided only for disposing typical items (e.g. soda cans).
- Collectively organize a schedule to take the garbage bin to the Street for emptying once a day.
- Students must remove all materials by date posted in studios each term. All remaining items will be discarded after this date. Drawings, models, supplies, or personal effects may not be stored in the Architecture Building between terms.

SECURITY AND SAFETY
For your health and safety and in keeping with the School’s commitment to environmental stewardship, the School insists on responsible practices in the studio. Aerosol spray paints, aerosol fixatives and/or aerosol adhesives, pressurized containers, and the use of any other toxic material, glues, resins, or other chemicals, are strictly forbidden inside the School including stairwells and basement. Additionally, student projects containing aerosols or toxic materials will not be accepted or evaluated whether these were made in the building, outside the building, or off-campus. If you are unsure whether a material is toxic or not, use common sense. A material with a strong odor is likely highly toxic. Off-gassing fumes are distributed throughout the building through ducts, adversely affecting all occupants.

The following are also forbidden:
Open flames; soldering; power tools outside of a supervised workshop; extension cords (CSA approved power bars/surge suppressors may be used); smoking; vandalism (as defined by the municipality of Ottawa); obstructing aisles, walkways, corridors, doorways, stairwells and fire hose cabinets clear at any time; parking bicycles in the building; creating tripping hazards, fire hazards or excessive dust and noise.

First aid kits are found throughout the School. Alert the Instructor (during class hours) or call University Security (after hours) if an accident occurs or emergency arises.

Students are asked to take precaution when working after hours. Call the University Security (telephone extension 4444) if you see any suspicious activity and/or feel insecure in the studio or on campus. Identify the location of first aid kits, fire exits, fire alarms, and security telephones. Carleton Foot Patrol offers “safe-walk” services:
http://cusaonline.ca/footpatrol.

Exercise caution when working in studio. Set up a comfortable and well-lit workspace. Store your materials safely in lockers (which must be placed horizontally). Wear proper protective gear (e.g. gloves and safety goggles) for any tasks that require the snapping, cutting, or breaking of materials. Do not perform dangerous tasks at your desk; instead, use the model assembly room in the Architecture Building. **Power tools and hazardous materials are not permitted in studios and classrooms.** Students may not hang, install, or attach any materials (including models) to the walls, mechanical ducts, or other surfaces of Azrieli Pavilion. If you spot hazardous materials or potentially unsafe conditions in the Azrieli Pavilion or elsewhere, then notify the Studio Coordinator.

For additional information, refer to the Carleton Environmental Health and Safety website:
http://www.carleton.ca/ehs/.
<table>
<thead>
<tr>
<th>Week</th>
<th>Readings</th>
<th>Deadlines/Assignments</th>
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<td>1 Jan 4&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>2 Jan 11&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>3 Jan 18&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>6 Feb 8&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>7 Feb 15&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Study Break Week</td>
<td>Classes Suspended Feb 16&lt;sup&gt;th&lt;/sup&gt;-20&lt;sup&gt;th&lt;/sup&gt;</td>
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<td>8 Feb 22&lt;sup&gt;nd&lt;/sup&gt;</td>
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<td>9 Mar 1&lt;sup&gt;st&lt;/sup&gt;</td>
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<td>12 Mar 22&lt;sup&gt;nd&lt;/sup&gt;</td>
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<td>13 Mar 29&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>14 April 5</td>
<td>April 8&lt;sup&gt;th&lt;/sup&gt; is last day of class.</td>
<td>April examination period runs from April 11-23&lt;sup&gt;rd&lt;/sup&gt;.</td>
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ARCH
ARTH

History Theory of Architecture
Core Courses
This course offers a survey of Western and non-Western art – painting, sculpture, architecture – from prehistory to the Renaissance. Given this broad chronological span, the course will inevitably be selective in its choice of topics and images. It aims to provide students with the basic notions for recognizing and understanding artefacts and art production from the major periods encompassed within this course. Through lectures and readings, students will acquire the necessary knowledge and develop skills enabling them to perform formal and contextual analyses of various works of art, from the earliest manifestation of human creativity up to medieval times. Textbook TBD.

**Evaluation**

1. Short assignment (20%)

2. Midterm test (30%)

3. Final Exam (35%)

4. Tutorial participation (15%)
• This course surveys Western painting, sculpture and architecture from the beginning of the Italian Renaissance (c.1300) to the present. Through lectures, tutorials, readings and research, students will gain an understanding of the chronological and thematic development of visual art over the past 700 years. The course does this by examining key artworks that reflected the specific times and periods in which they were produced, and that were influential for later artists and societies.

• One two-hour lecture and one one-hour tutorial each week.

• Textbook: Stokstad & Cothren’s “Art History”
ARCH 1000 2016 Fall

arch-one-and-three-zeros an introductory course in architecture and urbanism

Class Time: Thursday 8.35-11.25 102 Azrieli Theatre
Hours Per Week: 3
Credit Value: 0.5
Instructor Roger Connah Contact Info: roger_connah@carleton.ca
Office Hours/ Thursday 14.30-17.30 Building 22 room 524

Course Overview
Architecture, Urbanism & the Critical Self - Thinking the world

What is architecture? What is urbanism? What is architectural knowledge? In spite of current media confusion and bubbles, this is not frightening. But for every new idea, concept and notion put forward in any introduction, we must try and understand the recognized sources and accepted critical histories. What is received wisdom in architecture? Or in urbanism? What is wrong with this picture? To balance this it would be wise to consider what is ‘architecture’ today in relation to our differing worlds; what cities make up an understanding of urbanism? Cities you have not been to? Why do engineers still not speak the same vocabulary as architects? How do you learn today? Can we switch codes? What do you need to help you as you pass through studio, seminar and semester? What sort of narrative will you build up over the years? What is Gonzo? What is the narrative I or others will present and what is the narrative you receive and adapt? And how do you use this to think architecture, think the city. How will all this help you design and think the world? Architect, Engineer, Art Historian? Do we really communicate between ourselves?

Course Underpinning
Arc1000 is a menu of options and used to structure the course and sessions according to timing, context, current events and student participation. To explore this – to introduce architecture and urbanism to architecture students, engineering student and art history students (and others) - we will concentrate on:

1 The Critical Self – what is it and how do you learn the things you will learn?
2 The Four Point Cognitive Model (fluency – infancy – truancy – redundancy) – how do you/we select/edit today?
3 Why is mapping and mental maps connected to the retention of ‘learning’ – what is ‘retention deficit disorder’, what is the Disinternet?
4 Architectural knowledge as both static and relational. What does this mean?
5 The relations and dynamics between learning and design?

To ask:
How do you learn to think and use ‘thinking’ in an age sometimes considered Post-Image, Post-Critical, Post-informational? Even Post-Truth?
How do we relate ourselves to history and what role does theory play?
What is a Situated Self?

Course Format 10x10 sessions
There will be 10 sessions + a final Rapid Fire Lecture summary of the course (selected, timed and run by students)
These are interactive, cross-disciplinary sessions on architecture and urbanism & the conception of architectural knowledge using readings, film, media and mapping.
Cultural theory and critical thinking and its relation to architecture & urbanism from the 20-century to our current moment will be mapped in some detail.
Significant architectural thinkers will be mapped synchronically and diachronically.
Each session will consist of – a presentation – a mapping – learning modules – a film or visual narrative (these are called Teddy Boy talks) – discussion & open debate…
There will be at least three live-design sessions (the right angle – the freeform – the hybrid)
Three in-class film viewing exercises.
One cognitive diagram presented in each session (see 16 mini-maps)
The course will introduce students to understand how ideas and thinking from many diverse areas find their way into architecture?
Plus:
Selected Pedagogies (from amongst) – short visiting sessions from other faculty introducing
the notions of
Architecture/Engineering
Architectural Studio Culture
Urbanism (program & pedagogy)
Conservation (action & relevance)
Art/Architectural History & Theory
Engineering & Technology
Sustainability & Material research),
Software development
Parametrics, scripting and algorithmic architecture
Industrial Design (design thinking and strategies).

Course Objectives & live pedagogy (ted talks=teddy boy talks)
To ask what is architecture and urbanism and why they are linked
To introduce the conception of architectural knowledge
To introduce talking and writing and how is (architectural) ‘criticism’ useful?
To introduce design and research methodologies.
To understand how to map ideas and produce networks -informational / relational mapping
To approach cognitive modeling: the four-point model of ‘knowledge in flux’.
To think the world and begin to understand societal change

Course Menu/Options Content
10x10 - menu of lectures – presentations - mappings – films - seminars – exercises – options

1 Never miss a beat (animations & departures) Keywords: reference – narrative – departure – arrival – text -
2 Blink and it hasn’t gone Keywords: movements: idea – concepts – idiolect - intertext
3 20 Century Journey ( modernisms )
4 All this talk about space – What is an urban (spatial) awareness?
5 The Structure of Structures Ask an Engineer
6 Form & Function – an engineer imagines
7 The Post-Modernism Condition
8 The Critical Self
9 Narrative Busting - let’s get critical!
10 The Art and Architecture of Undoing (taking positions)

Course References/Sources (menu)
Primary
The Empty Space, Peter Brook
Architecture Andrew Ballantyne
What is Architecture Paul Shepherd
Don’t go so Fast you’ll Crash into Roland Barthes Connah
An Engineer Imagines Peter Rice
The Curious incident of the dog in the night-time Mark Haddon
I Swear I saw This Michael Taussig

Audio-Visual Sources (from among)
Series/Films:
Engineering Connections (Richard Hammond BBC, 2009) Wembley Stadium - Sydney Opera House - HMS
Illustrious - Guggenheim Bilbao - Millau Sky Bridge - Hong Kong Int’l Airport
The Secret Life of Buildings (Dickoff, BBC 2011) explores the impact the design of buildings can have on us, from
our identity and self-esteem to relationships, our chances at school, and even our weight and immune system.
1 Home - In our homes, light, room size, layout, proportion and materials all affect our lives. So why do we accept
the smallest windows and the smallest room sizes in Europe?
2 Work - Workplaces should inspire and motivate the people that use them. But are they doing the opposite? How
does the architecture of schools, factories and offices affect us.
3 Leisure - how are we affected by the design of buildings we visit in our leisure time - does narcissistic design
ignore the needs of the people who use these spaces.
Metagraffiti (Ducant, Stockhlm 2009) I <3 Graffiti.de
RSA animate Ken Robinson Changing Education Paradigms https://www.youtube.com/watch?v=zDZFcDGpL4U
https://www.youtube.com/watch?v=iG9CE55wbtY
My Playground (Parcours) https://www.youtube.com/watch?v=g0eZLJ2w54s
https://www.ted.com/talks/liz_diller_plays_with_architecture
arch 2300/arch 5010, fall 2016

Introduction to Modern Architecture

Instructor: Inderbir Singh Riar, Associate Professor
Teaching Assistants: Lara Chow, Samuel Dubois, Hillary Little, Cristina Ureche-Trifu
Course Hours: Mondays, 8:35-11:25am

ARCH 2300/5010 explores modernism, modernisation, modernity, and the Modern Movement in architecture in a three-part sequence. The course begins in France and the United Kingdom with investigations on eighteenth-century architecture, the early scientific period, and nascent social utopias; the aim is to unearth the roots of subsequent modernising projects for a new society conjured at the start of the Enlightenment. The second part examines thematic tensions – between handcraft and machine production, structure and ornament, historicism and invention, the rise of the metropolis and the flight from it – marking architecture and its discourses throughout the nineteenth century; a key concern is the relation between aesthetic ideals and the industrial revolution. A concluding series of lectures explores efforts to define new architectural languages – for example, rationalism or expressionism – supporting a “changed life” in the twentieth century; here, the effects of mechanisation and the aftermath of world war become paramount.

ARCH 2300/5010 relies on dialectical thinking to untangle the many strands of modern architectural thought and production. Typical oppositions of modernity – nature versus the city, the handmade versus the machined, the individual versus the collective – are examined not as isolated phenomena but mutually reinforcing (though at times conflicting) aesthetic, cultural, and technological conditions. A key sub-theme is the relationship, at times contradictory and at times fluid, between utopian thought and the formal language of modernism. As such, emphasis is placed on engaging both primary sources (e.g. manifestoes) and secondary sources (i.e. critical interpretations of architects’ statements, built works, and historical periods). The course aims, therefore, at a deep
engagement with the **history and theory of modernity** and **modern architecture**, the consequences of which, it may be argued, continue to inform our time.

ARCH 2300/5010 does not claim to be exhaustive. Rather, it focuses on the relationship between *forms* and *intentions* in modernism, thereby situating architects’ written and built statements within broader historical conditions and *vice versa*. Students are expected to demonstrate the acquisition of an education in the history of modern architecture by analysing coherently the *meaning* of built works and polemics. The development of critical reading, writing, and research skills is crucial.

**Evaluation**

<table>
<thead>
<tr>
<th>Paper</th>
<th>Word Count</th>
<th>Percentage</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Paper 1</td>
<td>750</td>
<td>20%</td>
<td>October 7</td>
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<tr>
<td>Paper 2</td>
<td>750</td>
<td>30%</td>
<td>November 14</td>
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<tr>
<td>Paper 3</td>
<td>1,250</td>
<td>50%</td>
<td>December 9</td>
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Papers are to be well-researched, historically accurate, and intellectually rich reflections on key architects, buildings, and writings. Each paper must exhibit a clearly defined thesis, strength and coherence of argument, and effective writing in Standard English. Arguments should be substantiated with specific architectural examples. Topics will be distributed separately. Teaching Assistants will hold writing workshops during the term; all students are encouraged to attend. Grades will not be posted on cuLearn but given on each paper. See Student Information below for additional information on grading.

**Reference – Histories of Modernity and Modern Architecture**

The following works, many placed on MacOdrum Library Reserves, supplement weekly required readings and may prove useful when writing papers.


Weekly Readings and Required Texts

Weekly readings are posted on cuLearn (under the Ares tab). Texts marked with an asterisk (*) are found on MacOdrum Library Reserves. Additionally, two required books are available at the Carleton University bookstore:


An extensive range of books (listed under the Ares tab in cuLearn), which will assist research on all three papers, is placed on MacOdrum Library Reserves. For further help, students may wish to acquire the following, which contextualise architectural and philosophical ideas encountered in the class: Raymond Williams, *Keywords* (1983, revised edition) and Adrian Forty, *Words and Buildings: A Vocabulary of Modern Architecture* (2000).

- Lecture 1 – Introduction: The “Crises” of Modernity and the “Histories” of Modern Architecture
- Lecture 2 – “Quarrel of the Ancients and the Moderns”: Claude Perrault and an Early Enlightenment Perspective on What it Means to be Modern
- Lecture 3 – Nature, Architecture, Type: From the Primitive Hut to Debates on “Origins” in the Mid-Eighteenth Century
- Lecture 4 – Thresholds of Change: Visionary Architecture and the Sublime, 1750
- Lecture 5 – Utopia, Reform, and the Centralised Plan: from Prisons to Ideal Cities
- October 3, 2016
- Paper Writing Workshop with Teaching Assistants
- Lecture 6 – Freedom and Beauty in the Handmade Thing: The “Nature” of “Craft” in Nineteenth-century Britain
- Lecture 7 – Liberation through the Machine: Mass Production and the Industrial Revolution
- Lecture 8 – “Truth” in Building: Structural Rationalism (and the Gothic Revival) in Nineteenth-century France
- Lecture 9 – Vienna 1900: Art Nouveau and the Debate on Ornament
- Lecture 10 – Americana 1: From City to Skyscraper, 1889
- Lecture 11 – Americana 2: Frank Lloyd Wright
- Lecture 12 – Form and Revolution 1: De Stijl and the Dutch Avant-Garde
- Lecture 14 – The Metropolis as Programme, 1: the “Hausmannisation” of Paris; Tony Garnier and the Cité Industrielle; Italian Futurism
- Lecture 15 – The Metropolis as Programme, 2: Le Corbusier
- Lecture 16 – The Garden City (versus the Metropolis): Ebenezer Howard, Raymond Unwin, and Frank Lloyd Wright, 1890-1932
- Lecture 17 – The Metropolis as Programme, 3: The Weimar Republic and the Housing Question, 1919-1932
- Lecture 18 – Form and Revolution 3: The Deutscher Werkbund Debates, or Standardisation versus Expressionism
- Lecture 19 – Form and Revolution 4: The Bauhaus
INTRODUCTION
There are theories of everything and also theories of nothing. If someone writes “Theory of Architecture” we might assume that there is theory, there is architecture and they are not occupying exactly the same space.
Architects have been dedicating quite a lot of time to define principles, choices, expectations and hopes. They did it with writings, designs and buildings. Studying different architectural theories can be relevant for contemporary architects. This will be the topic of our collective seminars. Yet the lectures are not meant to provide rational guiding lines for understanding what other theoreticians have done or are in the process of doing. The purpose of the course is not that of classifying or codifying but that of comprehending the complexity and embrace the indeterminacy of architectural knowledge.

There will be 13 lectures where I will try to explain my tools of research (curiosity), exposing themes, methods and projects I am working on, to create a collective ground for sharing ideas and interests. The students, who are required to participate actively to the lectures, have two assignments: the first is to make presentations to the class discussing different theories of architecture; and the second is to create a multimedia document. For this second assignment I will encourage each student to design the guiding lines for a possible theory of architecture, creating an Atlas for the geography of an architectural imagination.

COURSE STRUCTURE
Lectures and Seminars
Each meeting will be subdivided into a Lecture (approximately one hour and a half) and a Presentation. The Lectures will be held by the instructor (and a special invited guest) and the Presentations by the students.

Lecture’s Topics
3 Who is the Architect. With or Without Architects. The Female Body of Architecture and the Place of Conception. Miscarriage of Couvade. The Oppressed Feminine.


To Think, to Write, to Draw and to Make Architecture. Poetic, Practice and Knowing Without Knowing. Ethics and Politics. Concision and Frugality.


REQUIRED TEXTS:

A specific bibliography will be provided for each lecture.

COURSE ASSIGNMENTS

Assignments 1 and 2
Assignment 1 - Presentations. Every Student will present and discuss a theory or a body of theories. Each time the student will choose an author, a manifesto, a text, or a selection of passages from the reference readings indicated in the bibliography (or other texts), expose what she/he has chosen and discuss its contents. There will be 30 minutes of presentation and then a guided discussion where questions and answers will be conducted by the student alone or together with one or more students acting as respondents and discussants for that presentation. The presentations are meant to become an open stage and a laboratory for collective sharing and discussion of theories.

Assignment 2 – Atlas. Each Student will start to work from the very beginning on the design of the guiding lines of an architectural theory. These guiding lines should be seen as a conceptual reference for any design project and particularly for the STUDIO project you will be working on during the semester. These guiding lines will be collected in an atlas, with a title, a frontispiece and an open diary – taccuino – where each student begins to collect all the reflections, suggestions, images and hypothesis for the definition of a theory.

EVALUATION

Presentations 40%
Participation in the discussion 10%
Atlas 50%
ARCH 5201W
Winter 2016
W 6:05 – 8:55pm

Instructor: Paul Holmquist

GRADUATE SEMINAR 2: CONTEMPORARY THEORETICAL PERSPECTIVES IN ARCHITECTURE

Acting into the World: The Nexus of Architecture, Technology and Politics

At the center of politics lies concern for the world…

-- Hannah Arendt, The Promise of Politics

TOPIC OF THE SEMINAR

Architecture has always existed at the intersection of the technical and the political. The city has always been the site of human desire, aspiration, and realization. Yet the autonomy of technological objects and systems in late-modernity poses crucial questions for architecture’s potential to meaningfully respond to the possibilities of ‘the city’ as both an artifact and a political idea. Human action and agency, the very substance of politics according to Hannah Arendt, are increasingly actualized, displaced or subsumed within the capacity to act that is “built into” modern technology. The city, increasingly conceived and experienced as the aggregate apparatuses of control and consumption, captures human desire rather than engaging and liberating it. Architecture as a technical, ethical, and self-reflective practice has always proposed and brought into being the common world in which meaningful human action can take place. How does architecture as a discipline negotiate the technical and political in late modernity? What role does it play in bringing about the city as a place where, according to Jacques Derrida, “desire may live?”

ARCH 5201W explores architecture as a politics of making and of the made in relation to modern technology, in its capacity to constitute what Arendt has called the “common world.” The agency of architectural making will be examined broadly within the framework of Arendt’s critique of modern politics, and Martin Heidegger’s critique of modern technology. We will interrogate specific modes of architectural practice relative to theories of the technical image and spectacle, spatial justice and play, and sustainability and bio-politics. An engagement with texts drawn from architectural theory, cultural theory, political philosophy and the philosophy of technology, as well as case studies of contemporary practice, will open up new ways of thinking about the relationship of architecture and technology to the essential human condition of the city.
Course format:
Lectures delivered through visual presentations in conjunction with discussions of assigned reading, and weekly presentations of ongoing student research. Assigned readings and research paper will allow students to become familiar with various theoretical responses to the interrelationship of architecture, technology and politics.

Course objectives:
1. To become familiar with issues of contemporary theory concerning the interrelationship of architecture, technology and politics.
2. To establish a critical framework in which the students can develop their own research interests, particularly their graduate thesis.
3. To demonstrate the above through participation in class discussions, through development and presentation of research in oral and written forms.
4. To prepare students to work independently and to impart and improve research, writing and critical thinking skills.

Course Assignments:
Course assignments comprise weekly readings, writing, a research paper, and presentations of research.

Readings:
Two reading selections are required for each session: the designated primary reading, and one reference reading (see schedule of sessions below). Students should be prepared to discuss the readings in class; reading discussion will contribute to the overall evaluation for participation.

Weekly ‘blog’ writing:
Six (minimum) short blog entries to be posted on the class intranet site on cuLearn. A minimum of two entries are due by the fifth week. Entries should be 250 words each, and address a question or topic that I provide related to the readings for the coming session. The blog writing is intended to foster a dialogue between the course readings and students’ ongoing research, and to prepare the ground for the in-class discussion. In addition, students are encouraged to post thoughtful responses to other’s entries. Postings should be as early as possible to allow for others to read and respond, and no later than midnight (11:59 pm) on the Monday before the subsequent class meeting. First entries will be due January 11.

Research paper:
Students will research a topic, chosen in consultation with me, over the course of the semester. Research topics should relate to, and extend upon, the student’s ongoing thesis research. Research will focus on a particular building, site, artifact, event, practice, or theory, and situate it with respect to the issues of the course. The length of the paper should be approximately 2500-3500 words (10-12 pages, 12pt double spaced, not counting notes or bibliography). Use Chicago Style notes and include a focused, general bibliography including all works cited. The paper will be developed in phases per the following schedule:

<table>
<thead>
<tr>
<th>Topic consultation</th>
<th>weeks 1-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial topic paragraph and bibliography:</td>
<td>February 3 (week 5)</td>
</tr>
<tr>
<td>Outline summary (working), 3-5 pages:</td>
<td>March 9 (week 9)</td>
</tr>
<tr>
<td>Final paper summary presentation</td>
<td>March 30, April 6 (weeks 12, 13)</td>
</tr>
<tr>
<td>Final paper due:</td>
<td>April 23</td>
</tr>
</tbody>
</table>
Course Assignments (cont’d):

All progress work and the final paper will be submitted to the course cuLearn site as a pdf file. All work will be due by the beginning of class for the dates indicated above. Every attempt will be made to review and return feedback on interim progress work within one week.

Research presentation:
Students will present their research in progress once, in teams of three or four students, as a coordinated discussion for the class. Guidelines for these presentations will be provided separately. Presentation groups and dates will be set by the fifth week according to chosen topics.

Texts:
Course readings and references are drawn from a large number of individual texts (see schedule of readings below). All texts will be placed on reserve in the University library. The required and highly recommended texts below are available for purchase in the University bookstore. Additional reference texts and resources that may be useful throughout the course are included below.

Required:
• The Human Condition, Hannah Arendt, University of Chicago Press.
• Basic Writings, Martin Heidegger, Harper Perennial.

Highly recommended:
• Towards a Philosophy of Photography, Vilém Flusser, Reaktion.
• The Society of the Spectacle, Guy Debord, Black and Red.

References:
• Rethinking Architecture: A Reader in Cultural Theory, ed. Neil Leach, Routledge. (e-resource)
• Theorizing a New Agenda for Architecture, ed. Kate Nesbitt, Princeton Architectural Press.
• Carleton Student Academic Success Centre, Writing Resources, http://www1.carleton.ca/sasc/writing-tutorial-service/writing-resources/
• Purdue Online Writing Lab, http://owl.english.purdue.edu/owl/
GENERAL INFORMATION

GRADING

Blog writing: 20%
Research presentation: 20%
Research paper: 50%
Participation: 10%

TOTAL 100%

For the grade in the “A” range, the instructor will have judged the student to have satisfied the stated objectives of the course in an outstanding to excellent manner; for the “B” range, in an above average manner; for the “C” range, in an average manner with C- being the lowest acceptable grade in the BAS - Design Core courses; for the “D” range, in the lowest acceptable manner in non-Core courses, and for “F”, not to have satisfied the stated objectives of the course. Grades will be assigned as A+ (90-100%), A (85-89%), A- (80-84%), B+ (77-79%), B (73-76%), B- (70-72%), C+ (67-69%), C (63-66%), C- (60-62%), D+ (57-59%), D (53-56%), D- (50-52%), F (0-49%) and ABS. A grade of C- or better in each course of the BAS - Design Core is required for a student to remain in Good Standing. (Please refer to the Undergraduate Calendar http://www.carleton.ca/calendars/ugrad/1011/regulations/acadregsuniv2.html#2.3 for regulations concerning grades and other program requirement information and http://www.carleton.ca/calendars/ugrad/1011/programs/architecturalstudies.html for regulations concerning grades and other program requirement information specific to the Architecture program.

Blog writing and research papers will be evaluated on the (1) strength of intellectual engagement with course topics, questions and readings, (2) development and articulation of the student’s own research, and (3) the clarity, craft and completeness of the work submitted. Each grade will be based upon a comparison (1) with other students in the course and/or (2) with students who have previously taken the course and/or (3) with the instructor’s expectations relative to the stated objectives of the course, based on his/her experience and expertise.

A progress evaluation will be made in week of Session 7 (February 24) based on presentations, blog writing, research paper progress, and participation through the week of Session 6 (February 10).

Other than the research presentations and final paper, late work will be accepted with a one-letter grade penalty for every two days past the due date.

ATTENDANCE

Attendance constitutes your contract with the School and your instructor. Attendance is mandatory for all sessions unless excused in advance due to illness and other University approved reasons, including cases of emergency. You must contact me by email prior to the missed class meeting, or as soon as possible in cases of emergency. Two unexcused absences will result in a half-letter grade reduction in the final grade, and further absence will be grounds for being dropped from the course. Arriving late disrupts the entire class. Please ensure that you are on time and ready to begin by the class starting time. Egregious tardiness will count as unexcused absence.
ARCC

Technical & Professional
Core Courses
STRUCTURAL INTUITION AND IMAGINATION

**History of Structures** offers a general overview and introduction to architectural construction through an understanding of the **interrelationships** between architectural and structural principles, thus providing students with the possibility of acquiring the critical knowledge and perspective that is necessary towards an insightful production of intuitive and imaginative work. Through a survey of basic **structural principles**, that includes contemporary, modern & historical structural systems, construction techniques, materials and details, including the cultural elements involved in the synthesis of traditional structural designs, the course intends to provide insights into the **how** and the **why** of architectural production. This will be offered through an overview of the history, theory and science of structures and how this pertains to buildings and civic works through a detailed analysis of specific structural developments and construction details.

The course will focus on modern as well as historic works, structures, construction techniques and materials where **innovative structural imagination** has played a key role. These critical reflections will provide a historical perspective on the use of materials such as wood, stone, brick, concrete, steel, glass, etc., and their relationship to construction technologies and structures. The technical characteristics (physical and mechanical properties) of materials will be explored in conjunction with their use in construction and in their relationship to structural typologies.

Theoretical aspects of the design process will be addressed from both a philosophical and practical perspective in order to develop an understanding and appreciation for the potential of material properties and structural principles as vehicles for the construction and development of conceptual ideas. Materials are not just recipients of architectural ideas, i.e. vessels for meaning, but have a way of in-forming the making process through their inherent properties.

The general topics covered in the individual lectures will be addressed with an emphasis on our inherent **embodied awareness** (both consciously and unconsciously) of the structural principles being highlighted. This innate intuition and direct physical comprehension has evolved and plays a key role in our **imaginative** capabilities. Both architects and engineers have relied on this ability as a means of conceiving, visualizing and implementing innovative structural ideas. The acclaimed engineer and architect Pierre Luigi Nervi has made the following observation regarding the value of this intuition:

"**It is highly regrettable that some of the highest qualities of the human mind, such as intuition and direct apprehension, have been banned from our schools and have been overwhelmed by abstract and impersonal mathematical formulas. We cannot forget that in the distant past intuition allowed the execution of works which cannot be analyzed by mathematical theories, although they are extremely efficient from a technical, economical, and architectural viewpoint.**"
Often, structural concepts and principles are physically and intuitively apprehended (meaning seized or grasped by the human hand and, therefore, the mind) before they are imaginatively realized through drawings, the selection of appropriate materials and construction methods. This transformative learning process offers great potential through intimate embodied comprehension and awareness of the interrelationships between basic structural principles, the nature of materials and architecture. This is the imagination that will be highlighted through the course material.

“I am enough of an artist to draw freely upon my imagination. Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.”

Albert Einstein

****

**COURSE CONTENTS and SCHEDULE:**

**Lecture topics:** A full weekly breakdown of these topics will be provided.

**Introduction to the Overall Structure and Themes of the Course**

**Structuring Space:**
- Spatial and Mechanical aspects

**Statics:**
- Structural Actions and Re-actions, Weight vs. Lightness, Forces and Moments,
- Equilibrium, Pushing & Pulling (Compression and Tension)

**Loads:**
- Dead and Live Loads,

**Materials:**
- The Nature and Structure of Material: Wood, Concrete, Steel, Glass

**The Hanger and the Tie:**
- Ties and Guys, Tension Connections

**The Beam and the Slab:**
- Straight vs. Skewed Geometry, Visualizing Beam Actions, Deformation and Internal Stresses

**The Column and the Wall:**
- Compression Elements and their Shapes

**The Truss and the Space Frame:**
- Triangulation and Internal Stability, Truss Forces, Joint and 3-D Action, Tensegrity Structures

**The Frame and Lateral Stability:**
- Framing Light and Space, Stabilizing Subsystems, Frame Form and Behavior,
- Fixed and Rigid Connections

**The Cable and the Membrane:**
- Ropes and Cables, Cable Shapes and Forces, Cable Nets, Fabric Membranes, Pneumatic Membranes, The World Wide Weave (On Textile Structures)

**The Arch and the Vault:**
- The Stone Arch, Arch Behavior, Compression Forces and Bending Moments, Arch Foundations,
- The Vault and Light

**The Dome and the Shell:**
- Arch Action and Domes, Shell Domes, Folded Plates, Cylindrical Shells, Hypar Shells, Beyond Surface and Geometric Purity

**New Directions and Concepts**
Course Assignments Values:
The final grade will be determined as follows:

**Four Exams:** 40% (10% each)

**Term Project Report** 50% (15% Mid-term and 35% Final)

**Discretionary Evaluation:** 10%, for participation, initiative, and effort is part of the overall final course grading.

The Interim Grades will be posted on-line through cuLearn.

**Attendance**
No more than 3 sessions can be missed and no more than 6 late arrivals to sessions (this will require an evaluation/discussion of your borderline (pass/fail) situation.)

*Every class session consists of two lectures and counts as two sessions.*

**Required Reading:**
Plus additional hand-outs.

**Suggested additional reading:**

**General Bibliography**
Course Description:

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

Course Texts:
Canadian Wood-Frame House Construction CMHC 2014. (available as free download from CMHC)

Course Objectives:
At the conclusion of the course, the student is expected to have a clear understanding of the important role that the design of building technologies plays in reinforcing a design concept, and a basic understanding of the construction materials and methods typically used in small building projects. Specifically he/she must
• be aware of site resource issues: sun, water, wind, soil, etc.
• be familiar with the basic building elements and their roles in the architectural project.
• be familiar with basic concepts of structure
• have a basic knowledge of wood, steel and concrete construction systems and the design implications and appropriate use of each.
• detailed knowledge of wood frame house construction.
• be able to design and document a specific component of a building.

Assessment
Revit/BIM Assignments: 10% (1% per assignment, max 10 assignments)
2 Tests @7.5%: 15%
Assignment 1: Project Proposal 10% (Groups of 2)
Assignment 2: Final Report & BIM 25% (Groups of 2)
Final Exam: 40%

Office Hours: Wednesday, 4-5pm at CB 5209

Or by appointment. Please allow two business days for any email responses. Use “ARCC2202:” in email title and state you question clearly. Make sure you question isn't already answered in the course outline/schedule!

ACADEMIC ACCOMMODATION
You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please review the course outline promptly and write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.
INSTRUCTOR
Jacobus (Jack) van den Berg  M.Eng., P.Eng.
Dept. of Civil & Environmental Engineering
Phone: 819-420-4920 (w)  613-592-3555 (h)
Email: jack.vandenberg@carleton.ca
Rm. 3054MC (Minto)

LECTURES
Room: To be determined
Tuesday  6:00 – 9:00 pm

Attendance to lectures is mandatory. Material discussed in the lectures is designed to promote further reading and study. Lectures introduce concepts and terminology related to structural analysis and design.

TUTORIALS

Section A1: Thursday 6:00 – 9:00 pm.  Room 209 – Architecture Building
Section A2: Friday 8:30 – 11:30 am.  Room 209 – Architecture Building

Teaching Assistants: To be Announced

One of the teaching assistants will be present during the tutorial to answer questions relative to the assignments and to provide students with feedback on their marked assignments and tests. Assignments will be given during the Tuesday lectures and are due the following Tuesday at the beginning of the class. No late submissions will be accepted. Assignments will be returned during the following lecture and solutions will be posted on cuLearn after the papers are returned.

EVALUATION

| Assigned Problems: 10 Assignments will be provided during the term. | 20 % |
| Tests: 4 tests will be given throughout the term during the tutorial sessions. | 30 % |
| Final Exam: Scheduled by the University. 3 hours. | 50 % |
| **Total** | **100 %** |

Note: The final exam will not be returned to the students

REQUIRED TEXT

SUGGESTED READINGS
Elementary Structures for Architects and Builders, 3 Ed, R.E. Shaeffer. Prentice Hall. 1998
LECTURE OUTLINE

The following outline is provided as a guideline and may change through the term.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Section</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>January 6</td>
<td>Introduction Basic Engineering Concepts: Forces, Equilibrium</td>
<td>Chapter 1/2</td>
</tr>
<tr>
<td>2</td>
<td>January 13</td>
<td>Introduction to Statics Loading Conditions Calculations of Reactions</td>
<td>Chapter 2/3</td>
</tr>
<tr>
<td>3</td>
<td>January 20</td>
<td>Centre of Gravity Tension and Compression Members Introduction to Trusses</td>
<td>Chapter 2/3/5</td>
</tr>
<tr>
<td>4</td>
<td>January 27</td>
<td>Trusses</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>5</td>
<td>February 3</td>
<td>Pinned Frames</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>6</td>
<td>February 10</td>
<td>Introduction to Shear and Bending Moment Diagrams</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>7</td>
<td>February 17</td>
<td>Winter Break – no lecture or tutorials</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>February 24</td>
<td>Shear and Bending Moment Diagrams</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>9</td>
<td>March 3</td>
<td>Strength of Materials Stress and Strain</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>10</td>
<td>March 10</td>
<td>Bending Stress and deflection in beams</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>11</td>
<td>March 17</td>
<td>Parallel Axis Theorem Bending Stresses in Beams</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>12</td>
<td>March 24</td>
<td>Shear Stresses in Beams</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>13</td>
<td>March 31</td>
<td>Review</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>April 7</td>
<td>Preparation for Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

DATES FOR TESTS

Tests will be 1 hour long and will take place during the tutorial period. Test will start at 7:00 pm on Thursdays and 10:00 am on Fridays. This will provide at least one hour in advance of the tests to ask questions to the TAs.

The dates for the tests are: (Section A1 / Section A2):

Test 1 – January 29/30
Test 2 – February 12/13 (Thursday/Friday before study break)
Test 3 – March 5/6
Test 4 – March 19/20

You must consult cuLearn regularly to check your grades. If there are any issues with the grades for the assignments or tests, the issue must be resolved with the TA within two weeks of the posting of the grades.
Course: ARCC 2203 + ARCC 5098– Architectural Technology 3  
Faculty: Jay S. Lim, OAA, AIA, LEED AP, B.Tech, M.Arch, MSAUD  
Contact: jay.lim@carleton.ca  
Skype: jay.s.lim [Ottawa] [Online meetings available by appointment]  
Office: RM. 416  [Office hours available by appointment]  
TA’s: Nicole Howell, Marie Eve Lagine, Lihzi Jiang  
Lecture: Wednesday 8:35-11:35 am  
Labs: TBD [as required]  
Location: Steacie Building, RM103

COURSE DESCRIPTION

This course investigates the relationships between how architecture is conceived and its eventual manifestation in built form. Using case studies, students will explore the work of architects and their projects and examine them in light of their intentions, their ideologies as well as their relationship to their times. Special attention will be placed on architects’ contributions to the changing technology of architecture in their uses of materials and construction methodologies. One component of this course, therefore, views architecture as an expression of ideas, i.e.: architecture as “language” which expresses ideas and ideologies in an attempt to creatively elucidate “meaning” in artefact form. A second intertwined component of this course proposes that in the making of an “expressive” architecture, every decision holds a certain weight and serves to give an explicit and/or implicit reading of the work. The exploration of contemporary and historical issues will be analyzed through structure, mechanical systems, materials, formal devices and production. The focus suggests that the study of the history/theory of architecture is not separate from the study of the technology of architecture. The etymological root of the word technology in ancient Greek can be traced to the words techne and logos [techne-logos - technology] which loosely translate to “thoughtful making” suggesting that “making” is not a neutral enterprise and requires a reflective and critical position.

In presenting case-studies and the works of historical and contemporary practises, fundamentals of building convention must be explored. An introduction to traditional and alternative building systems, materials and method is therefore necessary in order to explore the present and future possibilities of architectural explorations. Lectures will present key concepts of “building” interwoven by relevant works of architects that elucidate the principals in practice.

COURSE OBJECTIVES

1. To develop a more comprehensive understanding of the methods and materials of mid to large scale buildings.
2. To explore the nature and use of architectural language and apply them in a practical manner.
3. To examine the elements, relationships and ordering systems inherent in architecture including the way in which buildings are conceived, drawn, detailed and built.
4. To gain an understanding of ‘systems’ (structure, mechanical, electrical, fire) that shapes the form and function of architecture.
5. To critically analyse the necessary life safety and accessibility standards required of all buildings.
APPROACH AND ORGANIZATION
In general, classes will be organized into a single 3 hr. weekly lecture that will consist of formal presentation of a technological innovation that will be supported with case studies. Occasionally 2 hr labs will be announced [as required] to discuss assignments or to review the progress of work. Student participation is critical to the success of the class and the labs.

After each lecture session students will be given a short quiz about the presentation material that day.

COURSE EVALUATION CRITERIA
Assignments, will be judged on their technical response and demonstrated insight into the material, issues and problems in question. In addition, demonstrated effort, quality of production, degree of development and completion will play a significant role.

Quizzes 20%
Assignment 1a: Site Plan Application 30%
Assignment 1b: Permit Set 30%
Assignment 3: Construction Log 20%

*Note: Absence from more than 2 lectures, without notice or medical certificate, may result in a failing grade.

*Students will be required to actively participate in final reviews. Absence and/or lack of participation will result in a deduction of 5% from the overall final grade.

BIBLIOGRAPHY
Reference Texts:

Stein, Reynolds – “Mechanical and Electrical Equipment for Buildings”, available via Online Bookstores. While this course will focus mainly on Chapter 4, the text is required by Architectural Technology 3.

Recommended Texts:
Ching, Francis – “Building Construction Illustrated”.

The content of this course is supplemented by a website available on CU Learn.
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Agenda</th>
</tr>
</thead>
</table>
| 1    | Sept 7 | 1. Introduction  
2. Course Outline  
3. Drawing Techniques  
4. Phases of Design  
5. Zoning  
| 2    | Sept 14| 1. Site Preparation: Civil Works  
2. Bricks + Mortar: Concrete Examples  
3. Foundations  
**Confirm groups for Assignments 1**  
**Confirm buildings for Log Book** |
| 3    | Sept 21| 1. Steel  
2. Technological Shift: Craft vs. Mass Production  
3. Rationalization: Towards a New Architecture |
| 4    | Sept 28| 1. Building Envelopes: Rain Screen + Curtain Walls  
2. Roofs  
3. Vertical Circulation |
| 5    | Oct 5  | **ASSIGNMENT 1a: Due 8:31am**  
1. Masonry Cladding  
2. Specifications  
3. **Review Requirements for Assignment 1b** |
| 6    | Oct 12 | 1. Mechanical-HVAC  
2. Electrical |
| 7    | Oct 19 | 1. Plumbing & Wastes Systems  
2. Fire Protection |
| 8    | Oct 26 | **FALL BREAK NO CLASS** |
| 9    | Nov 2  | 1. Thermal Comfort [Insulation & Calculations]  
**Thermal Gradient Lab with TA’s** |
| 10   | Nov 9  | 1. Interior Finishes  
2. Acoustics  
**Assignment 2 Desk Review** |
| 11   | Nov 16 | **Assignment 1b – Technical Drawing: Due 8:31am**  
1. Digital Architecture  
2. Ephemeral Architecture & Pre-fabrication  
**ASSIGNMENT 3-LOG BOOK: Early submissions** |
| 12   | Nov 23 | 1. FAB-Architecture: Tensile Structures  
2. Environmental Hazards |
| 13   | Nov 30 | 1. Sustainability  
**ASSIGNMENT 3-LOG BOOK: Final Submissions** |
COURSE TITLE: ARCHITECTURAL TECHNOLOGY 4  
TERM: Fall  
CREDIT VALUE: 0.5  
HOURS PER WEEK: 3  
SCHEDULE: Thursday 2:30 pm to 5:30 pm  
ROOM NO.: AA204  
INSTRUCTOR: Larry Hately  
Office: AA416  
613-520-2600 ext.2883  
Larry.Hately@carleton.ca  
TEACHING ASSISTANT: Jeniffer Milburn  
JenifferMilburn@cmail.carleton.ca

1. COURSE DESCRIPTION:  
This course will provide the student with an introduction to advanced building technologies and advanced construction methods and materials and an introduction to “Building Science Principles”, “Building Envelope Design” and “Environmental Issues” related to the design, construction and operation of a variety of commercial and residential building types.

2. COURSE OBJECTIVES:  
At the conclusion of this course the student will be familiar with the following concepts and issues:  
1. The importance of Architectural Technology to the practice of Architecture, Engineering and Construction.  
2. The multi-disciplinary nature of the design and construction industry.  
3. The importance of the coordination and integration of Architectural, Mechanical, Electrical and Structural systems in buildings.  
4. The characteristics, properties and use of advanced construction methods and materials.  
5. “Building Science” principles and “Building Envelope Design” technologies and approaches.  
6. The impact of “Environmental Issues” on the design, construction and operation of sustainable, environmentally responsible, energy efficient buildings.  
7. The application of advanced building technology components and assemblies for a variety of commercial and residential building types.

3. METHODOLOGY:  
Lectures, demonstrations, visual presentations, supplementary readings, assignment and examinations.

4. EVALUATION:  
The final grade for this course will consist of the following evaluation components:  

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>VALUE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mid -Term Examination</td>
<td>35%</td>
<td>Wednesday, November 2nd, 2016 from 5:30pm to 8:30pm (3 Hours) in Room (TBA)</td>
</tr>
</tbody>
</table>
| 2. Architectural Detailing Assignment | 30%   | Introduction to assignment on Thursday, November 3rd, 2016 at 2:30pm in Room AA204  
|                                  |       | Final submission due Wednesday, November 30th, 2016 at 12:00pm in Office AA416 |
| 3. Final Examination             | 35%   | Monday, December 12th, 2016 from 2:30 pm to 5:30pm (3 Hours) in Room (TBA) |
| TOTAL                            | 100%  |                                                            |
5. COURSE CONTENT and SCHEDULE:

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>TOPIC</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thursday, September 8th</td>
<td>Course Introduction</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Thursday, September 15th</td>
<td>Introduction to 'Building Science Principles' and 'Building Envelope Design'</td>
<td>First Lecture</td>
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<tr>
<td>3</td>
<td>Thursday, September 22nd</td>
<td>Cladding Principles</td>
<td></td>
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<tr>
<td>4</td>
<td>Thursday, September 29th</td>
<td>Foundations</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Thursday, October 6th</td>
<td>Foundations and Floors</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Thursday, October 13th</td>
<td>Floors and Wall Systems</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Thursday, October 20th</td>
<td>Wall Systems</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Monday, October 24th to Friday, October 28th</td>
<td>Fall Break</td>
<td>No Classes</td>
</tr>
<tr>
<td>9</td>
<td>Wednesday, November 2nd</td>
<td>Mid-Term Examination</td>
<td>5:30 pm in Room (TBA)</td>
</tr>
<tr>
<td>10</td>
<td>Thursday, November 3rd</td>
<td>Wall Systems</td>
<td>Introduction to A.D. Assignment</td>
</tr>
<tr>
<td>11</td>
<td>Thursday, November 10th</td>
<td>Wall Systems and Roofing</td>
<td>Mid-Term Examination Review</td>
</tr>
<tr>
<td>12</td>
<td>Thursday, November 17th</td>
<td>Roofing</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Thursday, November 24th</td>
<td>Openings</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Wednesday, November 30th</td>
<td>Submit A.D. Assignment</td>
<td>12:00 pm in Office AA416</td>
</tr>
<tr>
<td>15</td>
<td>Thursday, December 1st</td>
<td>Openings and Environmental Issues</td>
<td>Final Lecture</td>
</tr>
<tr>
<td>16</td>
<td>Thursday, December 8th</td>
<td>Final Exam</td>
<td>2:30 pm in Room (TBA) and Return of A.D. Assignment</td>
</tr>
<tr>
<td>17</td>
<td>Thursday, December 15th and Friday, December 16th</td>
<td>Final 4th Year Studio Reviews</td>
<td></td>
</tr>
</tbody>
</table>

6. REQUIRED TEXT:

None

7. REFERENCE MATERIAL:

1. Canadian Wood Frame House Construction, Canada Mortgage and Housing Corporation
2. Durable Wood Frame Construction for All Climates, Canada Mortgage and Housing Corporation
4. Architectural Details for Insulated Buildings, Dr. Ronald Brand, Van Nostrand Reinhold
5. Builders Guide for Cold Climates, Dr. Joseph Lstiburek, Building Science Corporation
7. Walls, Windows and Roofs for the Canadian Climate, J.K.Latta, National Research Council of Canada
11. Exterior Wall Construction in High-Rise Buildings, Canada Mortgage and Housing Corporation
12. Building Science and the Building Envelope, Gustav Handegord
13. Canadian Building Digests, National Research Council of Canada
15. Best Practice Guides, Building Technology, Canada Mortgage and Housing Corporation
16. Advanced Houses Guide, CANMET Building Group, Natural Resources Canada
17. Leadership in Energy and Environmental Design (LEED) Program, Canada Green Building Council
18. EnergyDesignResources.com

8. WEB SITES:

1. irc.nrc-cnrc.gc.ca
2. cmhc-schl.gc.ca
3. nrcan.gc.ca
4. nbec.ne
5. obec.org
6. becor.org
7. obc.mah.gov.on.ca
8. nationalcodes.ca / nbc
9. csc-dcc.ca
10. chba.ca
11. buildingenvelopeforum.com
12. ecohome.net
13. buildingscience.com
14. cagbc.org
15. athenasmi.ca
16. arcat.com
17. aecinfo.com
18. energydesignresources.com
COURSE DESCRIPTION

The purpose of ARCC 4500 Design Economics course is to provide you as Architects and Engineers with a working knowledge of real estate development from project conception to completion. The course will teach basic economic principles to enable students to analyze, interpret, and implement design strategies that are in line with the financial objectives of the project without compromising the integrity and quality of design.

The success of any project hinges on achieving a balance between the embodied cost and the end product.

To better understand the factors – contextual, financial, political, etc. – that influence and drive a development project students will be required to wear two distinct hats throughout the course, that of the developer and that of the architect.

As the developer it is necessary for you to assess the viability of a given project from a financial perspective by first asking these questions:

Why Develop? (Need)
What to Develop? (Program)
Where to Develop? (Site Selection)
When to Develop? (Market Timing)
How to Develop? (Process)

As the architect your role as the prime consultant is to contribute your expertise on a range of topics including, but not limited to:

Program
Site Selection
Design Efficiency & Appropriateness
Project Construction & Delivery

As architects, the better our grasp is of the developer’s objectives and motivations the more likely we will be able to find design solutions that fulfill the developer’s criteria but also achieve excellence in design. This will be the challenge put to you throughout the course and later throughout your career.
ARCC 4500 is a lecture based course. Guest lecturers will be invited to present case studies to provide students with tangible examples as they relate to the course work and the term project. Note, all lecture topics and speakers are subject to change.

<table>
<thead>
<tr>
<th>Week 1: Sep. 13</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Course Introduction</td>
<td>M.Arch &amp; B.Arch Design stream to create pairings</td>
<td></td>
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<tr>
<td></td>
<td>A Development Primer</td>
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</table>

<table>
<thead>
<tr>
<th>Week 2: Sep. 20</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
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<tbody>
<tr>
<td></td>
<td>Key Economic Concepts</td>
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<td>Groups finalized</td>
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<tr>
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<td>Market Analysis</td>
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<table>
<thead>
<tr>
<th>Week 3: Sep. 27</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Site Selection and Feasibility</td>
<td></td>
<td>Site Study Project Assigned</td>
</tr>
<tr>
<td></td>
<td>Site Planning Basics</td>
<td></td>
<td>Group Development Proposal Assigned</td>
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</table>

<table>
<thead>
<tr>
<th>Week 4: Oct. 4</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Site Planning Processes</td>
<td></td>
<td>Quiz #1</td>
</tr>
<tr>
<td></td>
<td>Financing – Everything Costs Money, Even Money! (Guest Lecture: TBC)</td>
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<table>
<thead>
<tr>
<th>Week 5: Oct. 11</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Pro-forma</td>
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<td>Site study project due</td>
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<table>
<thead>
<tr>
<th>Week 6: Oct. 18</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
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<tbody>
<tr>
<td></td>
<td>Pro-forma 2.0 – What do the numbers Mean? (Guest Lecture: TBC)</td>
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<td></td>
<td>Land Acquisition</td>
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<table>
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<th>Week 7: Oct. 25</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
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<tr>
<td></td>
<td>Fall Break</td>
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<td>Fall Break</td>
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<table>
<thead>
<tr>
<th>Week 8: Nov. 1</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Design review with Prof/TA’s</td>
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<td>Midterm Project due</td>
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<table>
<thead>
<tr>
<th>Week 9: Nov. 8</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
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<tbody>
<tr>
<td></td>
<td>Marketing/Branding/Selling Strategies (Guest Lecture: TBC)</td>
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<td>Quiz #2</td>
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<tr>
<td></td>
<td>Programming for Economy / Design Efficiency</td>
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</table>

<table>
<thead>
<tr>
<th>Week 10: Nov. 15</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project Delivery/Project Management</td>
<td></td>
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<tr>
<td></td>
<td>Organizational Strategies &amp; Scheduling</td>
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<table>
<thead>
<tr>
<th>Week 11 Nov. 22</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
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<tbody>
<tr>
<td></td>
<td>Project Turnover</td>
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<td>Quiz #3</td>
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<tr>
<td></td>
<td>Responsibilities of the Developer</td>
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</table>

<table>
<thead>
<tr>
<th>Week 12: Nov. 29</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-presentation review with Prof/TA’s</td>
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<table>
<thead>
<tr>
<th>Week 13 Dec. 6</th>
<th>Lecture Content</th>
<th>Submission Deadlines &amp; After Class Assignments</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Final Projects due; Public Presentations</td>
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</tbody>
</table>
**GRADING**

Exercises:

- Site Analysis: 12.5%
- Quiz #1: 12.5%
- Quiz #2: 12.5%
- Development Proposal Midterm Submission: 15%
- Quiz #3: 12.5%
- Final Development Proposal Submission: 35%

**TOTAL** 100%

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**SUBMISSIONS**

Students will be required to submit material and assignments throughout the course. Each submission must have your full name and student number clearly visible.

Late submissions without the consent of the Instructor will be deducted marks based on schedule below:

<table>
<thead>
<tr>
<th>Deduction</th>
<th>Submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10%</td>
<td>Within 10 minutes of deadline</td>
</tr>
<tr>
<td>-25%</td>
<td>Within 6 hours of deadline</td>
</tr>
<tr>
<td>-50%</td>
<td>Within 24 hours of deadline</td>
</tr>
<tr>
<td>-75%</td>
<td>Within 36 hours of deadline</td>
</tr>
</tbody>
</table>

Submissions received 36 hours after the deadline or later will receive a grade of zero.

---

**RESOURCES**

*Finance for Real Estate Development, Charles Long*

*Professional Real Estate Development 3rd Edition, Richard B. Peiser and David Hamilton*

*The Canadian Handbook of Practice for Architects, RAIC*

*The Architect's Studio Companion: Rules of Thumb for Preliminary Design, by Edward Allen, Joseph Iano*

*Building Construction Illustrated, by Francis D. K. Ching*

*Hanscomb's Yardsticks For Costing - Canadian Construction Cost Data, by RSM Eng. Dept.*

---

**ACADEMIC ACCOMMODATION**

You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please review the course outline promptly and write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.
Advanced Building Systems [ARCC 5100-F] Course Syllabus
Semester: Fall 2016
Instructor: Prof. Giancarlo Mangone, PhD, M. Arch
(e) giancarlo.mangone@carleton.ca, (o) Architecture Building Rm 527,
Office Hours: Wednesdays 1pm-1:30pm + 5:30pm-6pm

Class time: Wednesdays 6:05 – 8:55pm  Location : Architecture Building, Rm 209

INTRODUCTION
The previous Building Technology courses have provided a fundamental understanding of building systems. The focus of Advanced Building Systems is to foster the ability of students to incorporate building systems into their design process, in ways that improve the performance of their building projects, as well as the aesthetic quality and experience of the building projects by the building occupants. This is achieved through the development of a deeper, more critical understanding of building systems, and the potential benefits of integrating building systems into the design process.

It is important to note that the goal of this course is not to develop higher efficiency technical building systems than are currently available, as this is the scope of engineers. In contrast, the goal of this course is to rigorously explore and expand the potential role of architects in the development and integration of building systems and performance based design.

This will be accomplished by exploring and evaluating how the integration of building systems with the design and experience of buildings and building spaces can improve the project’s economic, social, and ecological performance, as well as the design quality of buildings and building spaces. Specifically, students’ knowledge of building systems will be broadened and deepened, and students will acquire the necessary skills and experience that is necessary to rigorously investigate how the economic, social, and ecological performance and design quality of buildings and building spaces can be improved through the integration of building systems into the design process and design solutions.

COURSE OBJECTIVES, PEDAGOGY, & ASSIGNMENTS
- Broaden and deepen understanding of building systems
- Develop an understanding of current high performance building systems and strategies
- Develop an understanding of effective building system solutions within the local context
- Develop an understanding of how to develop high performance and high quality building systems and spaces
- Develop an understanding of how the design, development, and integration of building systems into the design process can improve building performance, as well as the quality of design solutions
- Develop the ability to effectively integrate building systems with each other, as well as with the design of buildings and building spaces
- Develop a critical understanding of sustainability, building performance, and their interrelationships with the design process
- Develop an understanding of how to evaluate the performance of buildings and building systems
- Develop the ability to incorporate performance analysis and design tools into the design process
- Provide experience working in interdisciplinary project teams

As graduate students, you will be more responsible for your learning than in undergraduate courses. The course will be structured partly as lecture, and partly as a collaborative, interdisciplinary workshop seminar that complements the development of students’ Gateway projects. The course will employ a design research-based pedagogical model, in which a substantial portion of the learning will be developed individually and peer-to-peer. Student evaluation will be based on three projects: a high performance building system design, a design charrette focused on maximizing project performance, and a final integrated building system and performance based space design project. Students
will learn energy modeling + environmental footprint analysis, among other performance metric analysis tools. This course will require the use of Autodesk Revit and Climate Consultant for conducting climate analysis. Furthermore, students will also use Autodesk software for energy and wind modeling, as well as Athena Life Cycle Analysis software, among other performance design + analysis tools.

**GRADING & REQUIREMENTS**

<table>
<thead>
<tr>
<th>Project</th>
<th>Percentage</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 2: Maximize System Performance Design Charrette</td>
<td>20%</td>
<td>Nov. 2, 2015</td>
</tr>
<tr>
<td>Project 3: Final System Design + Performance Analysis Project</td>
<td>40%</td>
<td>Dec. 19, 2015, noon</td>
</tr>
<tr>
<td>Discretionary Grade</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>

**REFERENCES**

**Required Reading**


**Suggested Reading (by research topic) – see expanded Syllabus**

**ACCREDITATION AND PROFESSIONAL EXPERIENCE**

For the purposes of accreditation, graduating students must demonstrate understanding or ability in the student performance criteria listed below, according to an established sequence. *Specifically, this course meets the following criteria: A1, A2, A3, A4, A5, A6, A9, B4, B8, B9, B10, B11, C1, C2, C3*
INTRODUCTION
This course is an introduction to the practice of architecture. It will provide you with an understanding of the broader social framework within which buildings are built. We will discuss the issues involved in becoming an architect and setting up a practice, including the responsibilities of the architect through the stages of design and construction. Whenever possible, practicing architects and related professionals will be invited to contribute to the lectures and discussion.

The lectures are grouped broadly around three themes.

- The structure of the profession, laws and conventions that govern business and construction.
- Factors that affect the development of design in an office, and different contractual approaches to construction.
- The requirements of registration, the challenges facing the profession, and some of the alternative forms which architectural careers might take.

COURSE FORMAT
The course will be delivered through a series of lectures on the following topics:

- Ethics and Professionalism
- Structure of the Profession
- Things to consider when starting a small practice
- Client Architect relationship
- Project Management
- Construction Management
- Building Code, building regulations and authorities
- Zoning issues
- Public Relations and marketing
- Alternative practices
- Getting licensed
- Design Economics

COURSE OBJECTIVES:

- Knowledge of the structure, responsibilities and ethics of the profession.
- Familiarity with the broad range of people involved in the profession; clients, authorities, consultants, contractors, users, neighbours, bankers, insurance companies ...together with an understanding and respect for their role in design and construction.
- Familiarity with the legal framework, including contracts, and regulations, which governs business relationships, construction processes and impacts on design.
- Familiarity with the economic context of the design and construction industries.
ASSIGNMENTS:

Assignment 1: Job Application
Description: Prepare a CV, a covering letter for a job application
Due: September 22nd, 2009 at the beginning of class.

Assignment 2: City Hearing/Meeting Report
Description: Students are to attend a City Hearing/Meeting (dates and times will be made available in class) and submit a report (500 words) on one of the items / discussions that they found of interest.
Due: The class following the date of the Hearing/Meeting

Assignment 3: Critical Paper
Description: The course is organized around a series of guest lectures. During the first class, you will select a topic from the list of assigned topics below. At the end of the course, you will write a critical paper on your topic, making particular reference to some of the guest speakers and the issues that they raised. In the paper, you must set forth an ethical question and present your own critical position with respect to that question. (1500 words)
Due dates: October 20th: Submit a paragraph describing the ethical question you will be exploring
November 10th: Submit a detailed outline/draft of your paper
December 20th: Submit final paper via email to lucie.fontein@carleton.ca

Assigned Topics:
- Getting jobs/marketing
- Client interactions
- Architectural services and fees
- Zoning and code issues
- Competitions
- Construction project delivery and tendering
- Organization of a practice
- Cost planning and control
- Post occupancy evaluation

STUDENT RESPONSIBILITIES
Attendance in class is compulsory. Unaccounted for absence from more than 2 classes will constitute grounds for a failing grade in the course.

SCHEDULE (see below)

GRADING AND REQUIREMENTS
Grading Criteria: Assignments will be graded based on the following criteria:
- 60% Content
- 30% Effectiveness of writing
- 10% Spelling and grammar

Percentage Breakdown List
1. Assignment 1: Preparation of a CV and letter of interest 15%
2. Assignment 2: Attendance at City Hearing/Meeting and Report 20%
3. Assignment 3: Critical Paper 45%
4. Mini Tests (2) 20%

TOTAL 100%
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.

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.

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.

D6 Professional Internship: Understanding of the role of internship in professional development, and the reciprocal rights and responsibilities of interns and employers.

**COURSE SCHEDULE:**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings</th>
<th>Assignments</th>
<th>Guest</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/09</td>
<td>Introduction and Course Organization Ethics and professionalism</td>
<td>1.1.1 The Role of the Architect 1.1.2 The Architect as a Professional 1.1.3 Professional Conduct and Ethics Quebec Code of Ethics Dana Cuff: Architecture, The Story of Practice Chapters 1&amp;2</td>
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<tr>
<td>15/09</td>
<td>Structure of the Profession Management of the Project</td>
<td>1.1.5 The Organization of the Profession in Canada 1.1.6 International Architectural Organizations 1.2.1 The Construction Industry 1.2.2 The Client 1.2.3 Consultants The Architects Act of Ontario 1990 Regulation 27 2.3.4 Pre-design 2.3.5 Schematic Design 2.3.6 Design Development 2.3.7 Construction Documents — Drawings 2.3.8 Construction Documents — Specifications</td>
<td>(Alex Rankin)</td>
<td></td>
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<tr>
<td>22/09</td>
<td>Client Architect Relationship</td>
<td>3.1.2 Canadian Standard Form of Contract Between Client and Architect: RAIC Document Six 3.1.3 Canadian Standard Form of Agreement Between Client and Architect — Abbreviated Version: RAIC Document Seven 2.1.3 Public Relations and Marketing</td>
<td>Assignment 1 due</td>
<td>Andrew Reeves</td>
</tr>
<tr>
<td>29/09</td>
<td>Codes</td>
<td>1.2.5 Standards Organizations, Certification and Testing Agencies, and Trade Associations The Ontario Building Code</td>
<td></td>
<td>Judy Jeske</td>
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<tr>
<td>06/10</td>
<td>Running a Practice</td>
<td>2.1.1 Organization of an Architectural Practice 2.1.3 Public Relations and Marketing</td>
<td>Test 1</td>
<td>Toon Dreessen</td>
</tr>
<tr>
<td>Date</td>
<td>Event Description</td>
<td>Presenter/Details</td>
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<tr>
<td>13/10</td>
<td>Bassai/Denegri Lecture @ OAA</td>
<td>Emerging Practice</td>
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<tr>
<td>20/10</td>
<td>Architect/Contractor Relationship Types of Construction Project Delivery</td>
<td>Assignment 3 Question/Issue due</td>
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<td>Derek Hardy, BBB Architects</td>
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<tr>
<td>27/10</td>
<td>STUDY BREAK</td>
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<tr>
<td>03/11</td>
<td>Contract Administration War Museum/Aga Khan</td>
<td>1.2.3 Consultants</td>
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<td>2.3.10 Contract Administration — Office Functions</td>
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<td>2.3.11 Contract Administration — Field Functions</td>
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<td>2.3.12 Take-over Procedures, Commissioning, and Post-occupancy Evaluations</td>
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<td>Emmanuelle van Rutten, Moriyama Teshima Architects</td>
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<tr>
<td>10/11</td>
<td>Building Permits and Municipal Planning Low budget/public projects</td>
<td>1.2.4 Building Regulations and Authorities Having Jurisdiction</td>
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<td>City of Ottawa Official Plan</td>
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<td>Assignment 3 outline/draft due</td>
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<td></td>
<td></td>
<td>Jim Collizza</td>
<td></td>
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<tr>
<td>17/11</td>
<td>Design Economics</td>
<td>Test 2</td>
<td></td>
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<tr>
<td>24/11</td>
<td>Design Economics</td>
<td>Jeff Salmon</td>
<td></td>
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<tr>
<td>01/12</td>
<td>Design Economics</td>
<td>Jeff Salmon</td>
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<tr>
<td>08/12</td>
<td>Where is the profession going? Post Occupancy Evaluation</td>
<td>Round table discussion.</td>
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<tr>
<td>20/12</td>
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<td>Assignment 3 due</td>
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ARCU

Urbanism & Urban Studies
Core Courses
ARCU 3100
Winter Term, 2016

T, Th, 1:00 – 2:30

COURSE DESCRIPTION

The Morphology of the City explores the spatial structure and character of metropolitan areas, cities, and towns. The course material and approach is broadly connected to the discipline of Urban Morphology, which is the study of the form of human settlements. We will examine how the multiple and intersecting influences of social mores, political ambitions, as well as the every day activities of citizens, inspire, and are equally inspired by, the formation and transformation of cities.

Lectures and assignments will involve analysis of physical structures of cities at different scales, such as civic infrastructure (roads and sewers), the patterns of spatial practice (movement through cities, for example), and land use in terms of ownership, access, control, and occupation. The study of urban transformation is necessarily inter-disciplinary. As such course content addresses a range of forces on cities – political, social, demographic, technological, economic, environmental and ideological. Course lectures, readings and assignments challenge students to explore these forces as catalysts of urban form and as agents of urban growth and transformation.

Course Objectives:
At the conclusion of the course students will:
1. Be able to analyze, characterize and urban form.
2. Be conversant with key conventions for documenting and representing urban form.
3. Understand the range of determinants of urban form as well as agents of transformation over time.
4. Have gained an appreciation for the persistence of forms and urban infrastructural patterns across time.
5. Possess a deeper knowledge, understanding and appreciation for cities.

Schedule of Classes and Lectures

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture topic</th>
<th>Readings to have completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction Week 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thu, Jan 7</td>
<td>Ways to Discuss Cities</td>
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<tr>
<td>Week 2</td>
<td></td>
<td></td>
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<tr>
<td>Tue, Jan 12</td>
<td>The Phenomenon of Urbanization: What, Why &amp; When Cities and Civilization</td>
<td>Kostof, 29 - 64</td>
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<tr>
<td>Thu, Jan 14</td>
<td></td>
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<tr>
<td>Week 3</td>
<td></td>
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<tr>
<td>Tue, Jan 19</td>
<td>Ancient Planned Cities</td>
<td>Kostof, 69-95</td>
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<tr>
<td>Thu, Jan 21</td>
<td>Imperial Rome: center and colonies</td>
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<tr>
<td>Theme 1: the Pre-Modern city</td>
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<tr>
<td>Week 4</td>
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<tr>
<td>Tue, Jan 26</td>
<td>Medieval Cities</td>
<td>Kostof, 95 - 123</td>
</tr>
<tr>
<td>Thu, Jan 28</td>
<td>The Renaissance: Local Interventions and Ideal Cities</td>
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<tr>
<td>Week 5</td>
<td></td>
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<tr>
<td>Tue, Feb 2</td>
<td>Baroque City Planning</td>
<td>Kostof, 124 - 158</td>
</tr>
<tr>
<td>Thu, Feb 4</td>
<td>The 18th-century City</td>
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</table>

Last updated: March 18, 2016
### Theme 2: the 19th-century city

<table>
<thead>
<tr>
<th>Week 6</th>
<th>Tue, Feb 9</th>
<th>Introduction: Rapid Urbanization</th>
<th>Kostof, 159 - 173</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu, Feb 11</td>
<td>Retrofitting the City 1: arcades, roads and transportation</td>
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</table>

| Week 7  | Winter Break, no classes |

<table>
<thead>
<tr>
<th>Week 8</th>
<th>Tue, Feb 23</th>
<th>Retrofitting the City 2: new plats</th>
<th>Kostof, 174 - 208</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu, Feb 25</td>
<td>The City as a Pathological Subject</td>
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</table>

<table>
<thead>
<tr>
<th>Week 9</th>
<th>Tue, Mar 1</th>
<th>Rail-based Suburbanization</th>
<th>Kostof, 209 - 229</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu, Mar 3</td>
<td>The City Beautiful Movement</td>
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</table>

### Theme 2: the 20th-century city

<table>
<thead>
<tr>
<th>Week 10</th>
<th>Tue, Mar 9</th>
<th>Garden City Movement</th>
<th>Kostof, 230 - 278</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu, Mar 11</td>
<td>Geddes, Mumford and the Regional City</td>
<td></td>
<td>Mumford, The 4th Migration</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Week 11</th>
<th>Tue, Mar 15</th>
<th>Meet with TAs to discuss mid-term submissions</th>
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<tbody>
<tr>
<td>Thu, Mar 17</td>
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</table>

<table>
<thead>
<tr>
<th>Week 12</th>
<th>Tue, Mar 22</th>
<th>Zoning and the “City Practical” Modernism</th>
<th>Kostof, 279 - 308</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu, Mar 24</td>
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<table>
<thead>
<tr>
<th>Week 13</th>
<th>Tue, Mar 29</th>
<th>Pre-WWII automobile suburbanization and the rise of the multi-nodal city</th>
<th>Kostof, 309 - 335</th>
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</thead>
<tbody>
<tr>
<td>Thu, Mar 31</td>
<td>Interwar housing estates</td>
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</table>

<table>
<thead>
<tr>
<th>Week 14</th>
<th>Tue, Apr 5</th>
<th>Capital Cities</th>
<th>Conclusion: Ways to discuss cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu, Apr 7</td>
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</table>

**Required Readings:**

Kostof, Spiro, *The City Shaped*

Knox, Paul, *Atlas of Cities*

Articles as assigned

Both books are available at the Carleton bookstore

**Grading:**

- In-class quizzes: 20%
- Urban mapping/analysis exercise:
  - Midterm: 30%
  - Final: 40%

Participation and engagement: 10%
ARCS
ARCN

Representational Techniques & Media
Core Courses
ARCS 1005. **DRAWING-OUT THE ARCHITECTURAL IMAGINATION - FALL 2016**

**Associate Professor Federica Goffi**
Federica_Goffi@Carleton.ca  office 402B

Teaching Assistants:
Simon Petepiece spetepiece@gmail.com
Frank Yao Wen frankyaowen@hotmail.com
Lynn Pfeffer lynnpfe@gmail.com
Andrej Iwanski andrejiwanski@gmail.com
Alberto Temprano AlbertoTemprano@cmail.carleton.ca

**Tuesday 11.35-2.25** –Architecture Building (room 204), followed by 2 hours of studio time
11.35 Lecture starts (room 204)
12.20 Pin-Ups (OPEN FORUM) & review of the work
1.35 Individual feedback (studio space 4th floor)

**Thursday 11.35-2.25** Architecture Building (4th floor studio space)
Credit value: **0.5 (BAS Core)**

**Course description & philosophy**
This course provides an introduction to the field of architectural representation offering the student a critical understanding of this fundamental instrument of the imagination. Drawings and models are the principal means of communication of architectural ideas. Architectural communication is often regarded as a predominantly visual phenomena, but it is also and eminently a tactile three-dimensional haptic phenomena. All of the body and the human senses are engaged in both the representation and mediated perception of objects through drawing. Drawing is a translation of materials into ideas and vice versa. This process of transmutation takes place through the use of purposefully chosen mediums and techniques.

Architects think through making. Drawing is the physical place where architectural design and thinking first take place through a mediated mimetic process. The act of drawing is an act of thoughtful construction and imagination. Drawings are in-formed by making & thinking. Architectural drawing is essentially a writing act. Representation has a key role in the process of design. The materiality of the architectural drawing is the primary place where transformation processes mimetic of actual construction processes are daydreamed about through an activity of margin drafting. It is through representation that the dialogue between imagination and the real is first ignited and then carefully articulated.

The course is structured to provide students with both theoretical and practical knowledge of different techniques and methods of representation. The topics of individual lectures are addressed with an emphasis on drawing within the field of architecture. The lectures cover both historical and current issues and practices in the representation of architecture. The historical and theoretical considerations discussed in class with the students aim at building a critical point of view through which the student’s gaze is directed towards the subjective and cultural dimension of the representation methods employed. By merging the practical and the theoretical aspects of representation, this course intends to stimulate architectural imagination and to allow students to develop the critical abilities required in selecting and designing methods and techniques of representation in relationship to the design process.

This course challenges a current predominant understanding of drawing as image production, portraying mirror-like pictures of future buildings. This notion has reduced drawing to a final short act of performance, leading to the production of seemingly finished images of architecture. Through crafted drawing exercises,
students are brought to experience the imaginative nature of architectural drawing as process rather than instant production. The notion of drawing as process inscribes within the concept that design drawings are to be conceived as a means of discovering ideas. Architectural drawings are hybrid constructs, which comprise both high and low technologies, a merging of different mediums, techniques and ideas. Drawings can be precise and imprecise, regulated and unruly at the same time.

We explore the **traction of drawing**¹ as an essential and central aspect of architectural imagination. Drawing-traction is an ability to draw-out the imagination. This ability can be transferred from drawings to buildings as a completed act. This happens when the drawing remains open and ambiguous, which is not to say vague or imprecise. A calculated ambiguity, which entails an ability to read a text or an image in more than one way, allows for on-site interpretations and future reimagining of a building. Only when unfinished a drawing retains its ability to draw-out the imagination, facilitating multiple readings, and keeping the design and construction process open ended.

**Course Objectives**

1. proficiency in assigned drawing media and techniques.
2. facility and ingenuity in drawing as a means of design speculation.
3. facility and ingenuity in drawing as recording.
4. introduction to the history and theory of architectural drawing.

**Course Requirements**

The course is composed of **11 exercises** in **drawing-thinking**, which build in the assimilation of basic drawing board skills, such as “**how to**” set up orthographic projections, isometric, axonometric, single point / two-point perspective, etc. while elucidating the theoretical underpinnings of hand drawing to comprehend the “**why to**” of the drawing by hand in a digital age. The practice of drawing will be introduced through a theoretical underpinning of critical aspects of representation methods and techniques. The lectures, require students’ participation, in class discussion and are intended to inform a way of learning by **drawing-thinking**. Critical questions regarding the nature of architectural drawings will be introduced, challenging the student’s cognitive understanding and interpretation of representation.

In order to explore these notions through both theory and practice, some of the drawing exercises will be linked between the drawing and the multimedia course which is taught by Adriana Ross. One of the multimedia exercises (multi-perspective photomontage), once completed will be carried on and continued through multiple exercises conducted in the drawing course adding an additional layer of making and thinking to an initial photographic exploration, allowing students to learn about the notion of drawing as process and its hybrid nature, though multimedia explorations. Similarly, one of the models made in the drawing course will be taken into the Multimedia course and explored through the making of a blueprint.

Attendance to the lectures, pin ups and desk crits is mandatory. We will take attendance during each class and make this part of the final evaluation. **Unjustified absence from more than 2 class meetings may cause failure in the course.**

**Semester & Weekly Assignments**

The students will perform one imaginative drawing exercise each week for eleven weeks, building towards a portfolio comprising 11 drawings. Weekly assignments will be given out each week on **Tuesday** following the lecture period. Completed assignments will be pinned up for review and grading the following week on Tuesday at 12.20 pm in the **OPEN FORUM**.

A group of 11 drawings will be selected each week for discussion. Drawings must be collected at the end of the pin up. Faculty, TAs and students go back to the studio space and offer feedback on the work produced individually. Each exercise must be collected into a portfolio, which ought to be either kept in studio or made available during each class for evaluation purposes.

Course Outline
ARCN 2105 / 5000 Computer Modeling and Form-making
Winter 2016
Instructor: Johan Voordouw

The course consists of a lecture and lab component.

ATTENDANCE TO ALL LECTURES AND LABS IS MANDATORY.

The lectures has three pedagogical aims:
1) To improve your written communication and critical thinking skills
2) To make you aware of differing theoretical positions concerning technology and the cultural implications of technology / fabrication in architecture
3) To introduce digital modes of representation (new techniques for drawing and digital / physical modeling in architecture)

The labs teaches three critical skills:
1) Improve your computer skills
2) Continued creative skills in drawing (digital) and modeling (physical & digital)
3) Introduction to fabrication technology (laser cutter, CNC & 3D printing)

COMPUTER SOFTWARE:
You will learn a number of programs in the labs and be introduced to additional programs in the lectures
Labs: AutoCAD, Rhino, V-ray & Revit
Lectures: Adobe Illustrator, Indesign & Photoshop, 3DS Max

FABRICATION TECHNOLOGY:
You will use the CNC machine, laser cutter and 3D printer.
You can 3D print either here on campus (Arch. Bldg or Library) or using the mail service Shapeways. Please note that Shapeways may take 1-2 weeks to send the finished 3D printed model. Please note that those 3D-printing for project 3 will have to complete the work early to
account for printing & shipping time so that the work arrives before the Digital Reef installation date.

STUDENT BACKGROUND:
The ARCN 2105/5000 course includes students from the undergraduate Conservation and Sustainability, Design and Urbanism program and M.Arch(1) program. It is a very diverse group of students. The lectures have been organized to discuss a range of issues that are pertinent to all three streams (C&S, Design and Urbanism). The skills based labs have projects that divide across a series of scales and ideas. There will be a number of different methods to approach each project.

Please approach each project in a mode that is relevant to your curriculum of study.

DIGITAL REEF PROJECT
Because of the size of the class, we will divide the class into two groups based on surname:

- All students will complete Project 1 by the same due date so that we have sufficient time to CNC mill the project
- A-K (inclusive) will complete the laser cut for Project 2 and the 3D print for Project 3
- L-Z will complete the 3D print for Project 2 and the laser cut for Project 3

Please refer to the project brief for more information

TERM SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>January 4ᵗʰ</td>
<td>University opens</td>
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<tr>
<td>January 6ᵗʰ</td>
<td>Winter Term begins</td>
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<tr>
<td>Friday February 5ᵗʰ</td>
<td>Project 1 – submit to TA for CNC milling</td>
</tr>
<tr>
<td>February 15ᵗʰ - 19ᵗʰ</td>
<td>READING WEEK – No class</td>
</tr>
<tr>
<td>Tuesday March 1ᵗʰ</td>
<td>Project 2 – add work to base</td>
</tr>
<tr>
<td>March 25ᵗʰ</td>
<td>Statutory Holiday</td>
</tr>
<tr>
<td>Tuesday March 22ᵗʰ</td>
<td>Project 3 – add work to base</td>
</tr>
<tr>
<td>Tuesday March 29ᵗʰ</td>
<td>Digital Reef Installation – Project Due</td>
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<tr>
<td>April 8ᵗʰ</td>
<td>Winter Term ends</td>
</tr>
<tr>
<td>April 11ᵗʰ – 23ʳᵈ</td>
<td>Exam Period</td>
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PROJECTS / MARKING BREAKDOWN:

Lab Work (10 in-class drawings) 30% In Weekly Labs
Lecture Comments (5 in-class comments) 20% In Lectures
Project 1 & 2 20%
Project 3 & Total Composition 20%
Discretionary Grade (incl. Copy Work – Image Submission) 10%

GRADING

Please read the grade criteria in the Boiler Plate at the end of this document for additional information.

LATENESS

3% of the project grade will be deducted for every day of lateness. The first -3% is initiated directed after the deadline.

ATTENDANCE:

Note: Missing either three classes (a combination of labs or lectures) means you risk failing the course regardless of your performance in the course projects. We reserve the right to deem a student’s performance unacceptable due to poor attendance and fail them as a result of non-attendance.

The skills learned in this course are critical for both practice and your continued studies here at the Azrieli School of Architecture and Urbanism. As you continue with your architectural education, knowledge of computer software and fabrication technology is increasingly an integral part of Studio and other core courses.

MISSED CLASS

If you do miss a lecture or a lab (for non-medical or bereavement reasons), please get the notes from your fellow students. The instructor and TA’s are not responsible for supplying missed lecture and/or lab notes.

TIME MANAGEMENT

It is your responsibility to plan your time accordingly. Do not plan shift work, appointments or other non-academic activities during lecture or lab times.

Please note that due to the diverse student body in ARCN 2105/5000 it is very difficult to ensure the course is coordinated with every other studio or elective course. While we endeavor to organize the term, overlap with other courses may occur.
ARCN 2106 Introduction to Multimedia

Instructor
Adriana Ross
adriana_ross@carleton.ca

Teaching Assistants
Emelie Desrocher-Turgon
demailerocks@gmail.com
Dorothy Lee
DorothyLee3@cmail.carleton.ca
Matt Hagen
matt.hagen@live.ca
Kim Coussa
kimcoussa@msn.com
Stephanie Murray
stephaniedawnmurray@gmail.com

Credit value
5 (BAS Core)

Lectures
Wednesday 8:35 – 11:35 – lecture, pin ups, discussions and exercises

Location
Room 204, Architecture Building

Course Description
This course offers an introduction to the theoretical, conceptual and technical aspects of working with different media such as digital photography, photograms, cyanotype, photomontage, crumple, scanning, collage-de-collage-hybrid, Photoshop, sound and movies. The course is structured around two main themes, Traces in Time and Presence and Absence. The assignments are designed to incorporate the work from the ARCS 1005 Drawing course which is used as a basis to introduce and put into practice a variety of techniques that lead to creative transformations.

Course Learning Objectives
Students will learn how to change original artifacts from one medium to another using a variety of processes. Through these processes they will exercise their imagination to go beyond the given material and realize the dreams and potentialities that each student finds in the original medium. The six assignments are conceived to stimulate students’ thoughts and dreams and to represent things metaphorically. The students are asked to read The Metamorphosis by Franz Kafka, and to challenge and question the limitations of the digital and analogue realms. Students will be expected to produce a creative fusion that involves personal engagement, curiosity and a vision of latent possibilities. This transformational process throughout the semester aims to equip the students as future architects with creative insight.

Assignments and Grading
There are 6 (six) assignments each worth 15% of the final grade.

The assignment is assessed on the following: concept (strength of intent), execution (how well the assignment is executed), presentation (how well the work is presented), reflection (how well the written work discusses the project and links to the themes of the assignment).

Tutorials
Monday 8:35-10:00 (group 1) room 434
Monday 10:00-11:30 (group 2) room 434
Tuesday 14:35-16:00 (group 3) room 434
Tuesday 16:00 - 17:30 (group 4) room 434
Tuesday 19:05-20:30 (group 5) room 434
**Attendance**
The lectures and the tutorials are mandatory and attendance will be taken each time. You are permitted two absences with an official document (i.e. doctor's certificate). Your third absence will result in an automatic half grade deduction. Notes from your doctor and personal circumstances such as a family emergency will be taken into consideration on a case to case basis. Please contact your assigned TA if you are not able to attend a lecture or tutorial. Two late arrivals to class result in one absence. You are in a program that is preparing you to be a professional. Please be on time.

**Due Dates**
Assignments are due on the stated deadline. A 2% grade deduction will be factored for each day past the deadline.

**Course Readings**
The primary text for this course is *The Metamorphosis* by Franz Kafka, which is available on the internet for free. Any additional readings for this course will be posted during the lectures.

**Supplies**
The main materials needed for this course can be found at De Serres art supply store located at 1200 St. Laurent Blvd, (613-238-3303). A few other special materials can be purchased from your TA. You may use the DSLR digital cameras from our Loan Pool or your own recording device.

**Loan Pool**
Cameras and tripods will have a three day sign out period (not including weekend days) with $10/day late fee.
Course Outline
ARCN 2105 / 5000 Computer Modeling and Form-making
Winter 2016
Instructor: Johan Voordouw

The course consists of a lecture and lab component.
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The lectures has three pedagogical aims:
1) To improve your written communication and critical thinking skills
2) To make you aware of differing theoretical positions concerning technology and the cultural implications of technology / fabrication in architecture
3) To introduce digital modes of representation (new techniques for drawing and digital / physical modeling in architecture)

The labs teaches three critical skills:
1) Improve your computer skills
2) Continued creative skills in drawing (digital) and modeling (physical & digital)
3) Introduction to fabrication technology (laser cutter, CNC & 3D printing)

COMPUTER SOFTWARE:
You will learn a number of programs in the labs and be introduced to additional programs in the lectures Labs: AutoCAD, Rhino, V-ray & Revit Lectures: Adobe Illustrator, Indesign & Photoshop, 3DS Max

FABRICATION TECHNOLOGY:
You will use the CNC machine, laser cutter and 3D printer. You can 3D print either here on campus (Arch. Bldg or Library) or using the mail service Shapeways. Please note that Shapeways may take 1-2 weeks to send the finished 3D printed model. Please note that those 3D-printing for project 3 will have to complete the work early to account for printing & shipping time so that the work arrives before the Digital Reef installation date.

STUDENT BACKGROUNDS:
The ARCN 2105/5000 course includes students from the undergraduate Conservation and Sustainability, Design and Urbanism program and M.Arch(1) program. It is a very diverse group of students. The lectures have been organized to discuss a range of issues that are pertinent to all three streams (C&S, Design and Urbanism). The skills based labs have projects that divide across a series of scales and ideas. There will be a number of different methods to approach each project. Please approach each project in a mode that is relevant to your curriculum of study.

DIGITAL REEF PROJECT
Because of the size of the class, we will divide the class into two groups based on surname:
- All students will complete Project 1 by the same due date so that we have sufficient time to CNC mill the project
- A-K (inclusive) will complete the laser cut for Project 2 and the 3D print for Project 3
- L-Z will complete the 3D print for Project 2 and the laser cut for Project 3

Please refer to the project brief for more information
TERM SCHEDULE

January 4
University opens
January 6
Winter Term begins
Friday February 5
Project 1 – submit to TA for CNC milling
February 15– 19
READING WEEK – No class
Tuesday March 1
Project 2 – add work to base
March 25
Statutory Holiday
Tuesday March 22
Project 3 – add work to base
Tuesday March 29
Digital Reef Installation – Project Due
April 8
Winter Term ends
April 11– 23
Exam Period

PROJECTS / MARKING BREAKDOWN:
Lab Work (10 in-class drawings) 30%
Lecture Comments (5 in-class comments) 20%
Project 1 & 2 20%
Project 3 & Total Composition 20%
Discretionary Grade (incl. Copy Work – Image Submission) 10%

GRADING
In Weekly Labs In Lectures
Please read the grade criteria in the Boiler Plate at the end of this document for additional information.

LATENESS
3% of the project grade will be deducted for every day of lateness. The first -3% is initiated directed after the deadline.

ATTENDANCE: Note: Missing either three classes (a combination of labs or lectures) means you risk failing the course regardless of your performance in the course projects. We reserve the right to deem a student’s performance unacceptable due to poor attendance and fail them as a result of non-attendance.
The skills learned in this course are critical for both practice and your continued studies here at the Azrieli School of Architecture and Urbanism. As you continue with your architectural education, knowledge of computer software and fabrication technology is increasingly an integral part of Studio and other core courses.

MISSED CLASS
If you do miss a lecture or a lab (for non-medical or bereavement reasons), please get the notes from your fellow students. The instructor and TA’s are not responsible for supplying missed lecture and/or lab notes.

TIME MANAGEMENT
It is your responsibility to plan your time accordingly. Do not plan shift work, appointments or other non-academic activities during lecture or lab times. Please note that due to the diverse student body in ARCN 2105/5000 it is very difficult to ensure the course is coordinated with every other studio or elective course. While we endeavor to organize the term, overlap with other courses may occur.
ARCN 5005:
Theory and Practice of Architectural Representation

Fall 2016
Class Time and Location: Thursdays 11:30-2:30 - 434 Computer Lab, Architecture Building
Hours per Week: 3
Credit Value: 0.5
Instructor: Sean Fright, M.Arch.
Contact Information: seanfright@cmail.carleton.ca / 613-863-3213
Course Description and Objectives

Theory and Practice of Architectural Representation  (Theory/History Elective)

This course will complement the objectives of ARCS 5102 - Graduate Studio

ARCN5005 is a workshop-style class made up of brief tutorials and weekly exercises focusing on the translation/transition from freehand drawing/sketching and observation to 3D modelling techniques using Rhinoceros3D, Adobe Photoshop, Adobe Illustrator and CAD software.

The primary objective of ARCN5005 is to build a portfolio of material that can be used not only to complement the core-studio, but also to further-explore and experiment with the representation techniques taught in the tutorials.

The goal of the objective is to provide students with the technical competency required to efficiently use some of the representation techniques typical of the architecture studio. Further, students will learn to recognize and develop a sense of craftsmanship as it relates to architectural media using digital tools.

Through these exercises, students will begin to develop a highly specific graphic language that will be practiced and refined in studio with continued feedback from their instructors.

* Workshops/Labs

Each lab session will contain an approx. 1 hour long tutorial, and the rest of the time will be dedicated to work on assignments with assistance from the instructor. Each assignment will be due by 12:00pm on the following day and must be uploaded to the lab folder on Shareme. Please save your files using the following naming structure:
- Surname_Firstname_Workshop#_YYMMDD.jpg
  (e.g. Fright_Sean_Workshop01_160915)

Please save a copy for yourself incase the file is misplaced / wrongly saved.

* Evaluation

Students will be evaluated by their attendance/attentiveness, engagement during workshops, file organization, comprehensiveness/cohesiveness, quality of production, overall effort, and the ability to work imaginatively and with rigor as evidenced by the work produced. Students will receive written feedback at mid-term.

Grade-weight distribution:

Workshop 1-4  20% of final grade (5% each)
Workshop 5-8  30% of final grade (7.5% each)
Workshop 9-12 50% of final grade (12.5% each)
## Schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>THEME</th>
<th>TASKS &amp; DEADLINES</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1:</td>
<td></td>
<td><strong>Workshop 01</strong></td>
<td>- Directors Project in progress</td>
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<tr>
<td>Sept 8</td>
<td></td>
<td>- Hand Sketch</td>
<td>- Review outline and weekly project descriptions</td>
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<td>- Photograph</td>
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<td>- File Management</td>
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<td><strong>Workshop 02</strong></td>
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<td>- Navigation</td>
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<td>- Simple shapes: move, scale, rotate.</td>
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<td>- Line drawing Export from Rhino</td>
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<td>- Intro to Illustrator</td>
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<td>Week 2:</td>
<td>Rhino / Illustrator</td>
<td><strong>Workshop #3</strong></td>
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<td>Sept 15</td>
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<td>- Multi-media layered scale drawing</td>
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<td>- Graphite, Rhino, CAD</td>
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<td>Week 3:</td>
<td>Rhino / CAD /</td>
<td><strong>Workshop #4</strong></td>
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<td>Sept 22</td>
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<td>- Site Sketch</td>
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<td>- Site section &amp; elevation</td>
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<td>- Site Photo &amp; Video</td>
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<td>Week 4:</td>
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<td><strong>Workshop #5</strong></td>
<td>- 3D Scanning</td>
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<td>Sept 29</td>
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<td>- Rhino Site Modelling</td>
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<td>- 3D/2D Section</td>
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<td>- Workflow with AI</td>
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<td>Week 5:</td>
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<td><strong>Workshop #6</strong></td>
<td>Interim reviews next week. (19th and 21st)</td>
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<td>Oct 6</td>
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<td>- Spatial composition &amp; translation</td>
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<td>- Rhino make 2D + Lineweight</td>
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<td>- Rendering with VRAY</td>
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<td>Week 6:</td>
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<td><strong>Workshop #7</strong></td>
<td>Interim reviews on Friday 21st</td>
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<td>Oct 13</td>
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<td>- Project 1 portfolio</td>
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<td>- Photoshop/Indesign/Illustrator workflow</td>
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<td>Week 7:</td>
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<td><strong>Workshop #8</strong></td>
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<td>Oct 20</td>
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<td>- Rhino Trim, mirror, boolean operators, split, join, rotate, contour.</td>
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<td><strong>Workshop #9</strong></td>
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<td>Oct 27</td>
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<td>- Rhino to Illustrator plan, elevation, section</td>
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<td>- Rhino make 2D + Lineweight</td>
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<td>Week 9:</td>
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<td><strong>Workshop #10</strong></td>
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<td>Nov 3</td>
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<td>- File preparation for CNC &amp; Laser-cutter 01</td>
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<td>Week 10:</td>
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<td><strong>Workshop #11</strong></td>
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<tr>
<td>Nov 10</td>
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<td>- File preparation for CNC &amp; Laser-cutter 02</td>
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ARCS

Design Studios
Core Courses
THE SENSE OF WONDER  and INSIGHTFUL IMAGINATION

“Wonder is in us—you might say—a record of the way we were made. It is a well, which is completely full of all the things you will ever learn; because nature, in making things, records every step of its making. It is, one may call it, a seed. But it’s understood much more if you realize that in wonder lays the source of all that we’ll ever learn or feel. Knowledge, which is derived from wonder, is unhappy unless it relates itself to other knowledge. And this relation of knowledge to knowledge is what you might call, a sense of order; a sense of the position of this knowledge in relation to other things around. When we get a sense of order—not just knowledge or information—then we are very happy. We wink at wonder and say, “How am I doing, wonder?” Because wonder is activated by this knowledge and better still, by this sense of order. And wonder becomes more reachable, more full of that of which we were made.”

Louis Kahn, Architect

“Logic will get you from A to Z; imagination will take you everywhere.”

Albert Einstein
Design Studio ARCS 1105 is your first architecture studio in the Bachelor of Architecture Studies Program. As such, it seeks to introduce you to fundamental principals governing the natural and man-made environment. A fundamental question (or probe) of this objective relates to the interrelationship, or reciprocal relationship, between the world of phenomena and its equivalent embodiment within us and the things we choose to make. This theme will be explored by focusing on what Louis Kahn refers to as “the sense of wonder” as we investigate, ponder and respond to the work of several assigned artists. The inherent principals lurking within phenomena and material/matter, along with their informative and trans-formative potential, will be encountered through a series of hands-on investigative projects. This intimate, embodied, and mindful process is a threshold through which we enter the magical realm of creative thinking, learning and making. The reflective nature of this process should remind us of the interrelationship between the environment that surrounds us and our embodied instincts, capabilities, actions, and impulses. We need to remind ourselves of the fact that such words as material, matter and matrix all originate from the same root word “Mater”, meaning mother (as in “matr,” womb). The projects will develop through an investigative process of discovery as each individual student researches and explores their assigned artist and the conceptual ideas that emerge from the work. Eventually you will realize how these artists are addressing architecturally related themes and concepts. Louis Kahn’s and Albert Einstein’s quote above (along with other required readings) will serve as inspirational guides through this investigative process. As we go through this journey, we should remember, as nature’s imagination demonstrates and reminds us, that the creative process inherently involves paradoxical interactions of constrained freedom: order and fantasy, invention and necessity, law and exception.

Architecture is a transcendent and creative discipline distinct from mere efficient and/or adequate building. By investigating and intimately knowing the fundamental principals lurking within the materials, methods, techniques, and tools available to us for conceptual constructions, interpretive documentation and drawings, we can fully grasp and appreciate the trans-formative nature of architecture. Through this intense experience, you will gradually acquire an ability to develop the language and expressive skills necessary to present and openly discuss your creative interpretations, constructions, and ideas regarding the subtleties of architectural thought and imagination.

The Studio will be organized into seven tutored groups with common projects and overall investigative themes for all groups. The individual group tutors will further define their interpretation of the projects and themes in addition to their project requirements and schedule, while adhering to the common Studio themes and course objectives.

Remember:

"Ignorance is a treasure of infinite price that most men squander, when they should cherish its least fragments; some ruin it by educating themselves, others, unable so much as to conceive of making use of it, let it waste away. Quite on the contrary, we should search for it assiduously in what we think we know best. Leaf through a dictionary or try to make one, and you will find that every word covers and masks a well so bottomless that the questions you toss into it arouse no more than an echo."

"What we know of ourselves, our acts, our impulses, of what satisfies our instincts and fits in with our structure, in other words the "forces," the "time," the "space" that suits us, these are the instruments by which we reduce all things to our measure."

Paul Valéry
SCHEDULE:

JANUARY

Jan. 6  Winter-term classes begin
Jan. 8  First studio class, Project I begins
       Reading and essay assignment: from *The Thinking Hand: Existential and Embodied Wisdom in Architecture*, by Juhani Pallasmaa:
       Introduction: *Embodied Existence and Sensory Thought*, p. 10-23
Jan. 15  Project I due date, Project II begins: Artist/Analysis
Jan. 19  Last day for registration for Winter Term courses.
          Last day to change courses (including auditing) or sections for winter term courses.
Jan. 31st  Last day for withdrawal from winter term and winter portion of fall/winter courses with full fee adjustment.

FEBRUARY

Feb. 8  Mid-Term Reviews  9:00 – 1:00
Feb. 9  Mid-Term Reviews  9:00 – 5:30
Feb. 23  Project III begins

MARCH

March 8  Project III due, Project IV Final Project begins
March 25th  Statutory Holiday. University closed

APRIL

April 8  Winter term ends. Last Studio Session.
         Last day of fall/winter and winter-term classes.
         Last day for academic withdrawal from fall/winter and winter-term courses.
April 13  Final Reviews  9:00 – 5:30
April 14  Final Reviews  9:00 – 5:30

Project I  5%  Body Measurement Assignment
Project II  25%  Artist Analysis
Reading week  10%  Reading and essay assignment: *The Thinking Hand: Existential and Embodied Wisdom in Architecture*, by Juhani Pallasmaa.
Project III  15%  Explorations from the analysis
Final Project IV  35%  Project derived from previous work (A Pavilion)
Overall Evaluation:  10%  Discretionary evaluation for participation, initiative, and effort.
Total:  100%

At key strategic intervals during the projects you will receive a grade for your work: **H** (high), **M** (medium), and **L** (low), each within a range from **plus (+)** to **minus (-)**.
Foreword

Detail = Definition: the material resolution of construction questions, in particular joining things together, be it column to beam, roof to wall, or building to earth.

"God lies in the details" Mies van der Rohe

"Details are much more than subordinate elements but rather they can be regarded as the minimal units of architecture... The joint, that is the detail, is the place of the meeting of the mental construing and the actual construction."

Marco Frascari, The Tell The Tale Detail (1996)

Course Description

ARCS 2105 marks an important moment in the BAS -Design curriculum as you enter fully into the study of Design and tackle the resolution of small to medium scale architectural programs. This studio focuses on methodology. First isolating architecture’s fundamental conditions – from a building’s relationship to the ground (how a construction bears on the earth) to its vertical deployment (how a construction meets the sky), the studio culminates with simple design problems that ask important architectural questions that future studios will build on.

Throughout ARCS 2105, you will be asked to respond to a series of architectural problems in quick succession. Your task will be to learn to analyze a problem, to develop a response at the scale of the site, and to delineate a material strategy at the scale of the detail. The goal is to learn to design delightful and well-conceived spaces while also “thinking them through” as material constructions.

Projects are cumulative, with knowledge from the Project 1 transferred to and expanded in Project 2, and so on. Circumscribed in this way, ARCS 2105’s projects emphasize architecture’s material essence, and its coming together as an assemblage of frames, planes, and skins. As such, details will be given much attention here. We will prefer substantive and necessary details to ones that are needlessly finicky.

Architecture opens up words of habitation through acts of making. Coming back to our title, “ARCHITECTURE IN (THE) DETAIL”, this studio invites you to dwell on construction thinking
as architectural beginning. We'll learn to compose inspiring and spatially engaging works of architecture that are well attuned to use and purpose, considerate of light and environment, materially thoughtful, economical and intelligently restrained.

**Teaching Goals**

- Understanding of fundamental tectonic questions of building, including: structure, envelope/skin, systems.
- Understanding fundamental spatial ideas, including: journey, threshold, interstitial space, interior and exterior space – ability to organize these;
- Learning the craft of architectural model making;
- Developing competence - and refinement of competency - in the use of the conventions of architectural drawing;
- Understanding the organization and hierarchies of uses, both practical and symbolic;
- Understanding of manipulation of natural light and artificial lighting;
- Understanding of acoustical considerations/sound;
- Understanding of principles of ventilation, the sensations of heat and cold, and related phenomena;
- Developing a sense of architecture’s social considerations.

**CACB Criteria**

**ACCREDITATION AND PROFESSIONAL EXPERIENCE**

THIS COURSE MEETS or PARTIALLY MEETS THE FOLLOWING Student Performance Criteria

<table>
<thead>
<tr>
<th>A1</th>
<th>Critical Thinking Skills.</th>
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<tr>
<td>A2</td>
<td>Research Skills.</td>
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<td>A3</td>
<td>Graphic Skills.</td>
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<td>A4</td>
<td>Verbal and Writing Skills</td>
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<td>A5</td>
<td>Collaborative Skills</td>
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<td>Cultural Diversity</td>
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<td>Precedents.</td>
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<td>B1</td>
<td>Design Skills</td>
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<td>Site Design</td>
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<td>Sustainable Design</td>
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<td>Accessibility</td>
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<td>B6</td>
<td>Life Safety Sys, Bldg. Codes &amp; Stds</td>
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<td>B7</td>
<td>Structural Systems</td>
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<td>Building Materials and Assemblies</td>
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<td>Building Economics and Cost Control</td>
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<td>C2</td>
<td>Building Systems Integration</td>
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<td>Technical Documentation</td>
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<td>C4</td>
<td>Comprehensive Design</td>
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**Organization of Term**

Students will complete three inter-connected projects of varying lengths, some with sub-parts. Schedule attached. Studio policies (including deadlines, etiquette, and grading) are listed below. Specific Azrieli School Student Information appears at the end of the syllabus. Additional handouts will supplement the syllabus. The requirements of these documents are binding – **review them carefully.**

**Preparing for Your Desk Crit**

Three weekly studio desk crits and regular reviews are the main means of instruction in ARCS 2105. To be eligible for a “desk crit,” you must present manifestations of your architectural thoughts to your instructor, not simply verbal descriptions of your ideas. Prepare new or developments of earlier
explorations *through models and drawings* - including *idea sketches and conceptual models* - for each class. Students are required to prepare all materials – drawings, models, etc. – and accompanying explanations prior to each desk crit. *Drawings – especially plans and sections – must be printed in order to facilitate discussion with Instructors; except for renderings, drawings will *not* be reviewed on computer screens.*

Desk crits will proceed by a daily sign-up sheet. Students are to be on time, present, and engaged during course hours and throughout the term. Depending on class size, desk crits may periodically require additional time. Lectures, site visits and group reviews also will take place. At the Instructor’s discretion, students will complete readings or investigate architectural precedents, among other tasks. Studio sessions will periodically be supplemented by required lectures central to the course content.

**Grading**

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*Discretionary Grade*

The Discretionary Grade is based on: effort and attitude; commitment to and positive participation in the studio and its culture; preparedness for class with tangible evidence of thoughtful new work at each desk crit; degree of self-initiative; collaborative skills (where necessary); overall improvement; and self-evaluation and intellectual growth. Attendance. (See above).

*End of Term Portfolio*

To simplify your work at the end of the term, update your portfolio after each project. Include clearly labelled drawings, diagrams, model photographs, process images, and renderings accompanied by brief but well-written descriptions for each studio project through all phases. The portfolio need not be "slick"; rather, strive for clear, unfussy graphic design. Instructors will provide helpful examples. See also "Retention of Work and Portfolio" below, for additional details.

Upload to CuLearn one week after your final review, on Wednesday Dec. 14th by midnight.
COURSE SYLLABUS

Instructors:
Yvan Cazabon (520.2600 X2863; Yvan.Cazabon@carleton.ca) – COORDINATOR
Eric Archambault (Eric_Archambault@carleton.ca)
Giancarlo Mangone (giancarlo.mangone@carleton.ca)
Peter Mansfield (peter.Mansfield@Carleton.ca)

COURSE DESCRIPTION AND OBJECTIVES
Crafting Architecture’s Thresholds

ARCS 2106 builds upon earlier acquisitions within the curriculum while expanding upon them. ARCS 2106 pursues design thinking within a wider strategy of urban engagement and introduces analytical thinking regarding the interrelationships of programming, context, and architectural planning.

The studio title, “Crafting Architecture’s Thresholds,” underscores architecture’s role as a maker and organizer of relationships, at both the scale of the building proper and that of its larger context and setting. The projects assigned in ARCS 2106 will explore how architecture and the built environment simultaneously organize spatial relationships internally and urban relationships externally. They additionally invite students to consider the “thresholds” between a work of architecture’s fundamental realms, including the interface of a building with the street and the many significant seams within a building such as those between public and private spaces, and celebratory and ordinary spaces, among others. Relatedly, the architectural aperture (door, window, etc.) will be an important topic of study throughout the term.

Finally, ARCS 2106 considers architecture’s thresholds at the scale of construction, and specifically, how a building joins together structure, envelope, and materials, in order to realize a broader design intention. In learning how to create thoughtful experiences of spaces and apertures, students will study how to “craft architecture’s thresholds.” To this end, each project will pay special attention to structure.
Following a sequence of three projects, students will be presented with increasingly complex programs and architectural conditions. The term’s efforts will culminate with an architectural project in an urban setting. While the project sequence and schedule will be shared by all studio groups, investigation exercises within each studio group (which may include presentations, mini-workshops, lectures, field trips, and additional exercises relating to the subject matter) may vary slightly.

**Term Structure**

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<tr>
<th>Project</th>
<th>Description</th>
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<tr>
<td>Project 1</td>
<td>Urban Plaza - Winter Wonderland</td>
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<tr>
<td>Project 1b</td>
<td>Facade</td>
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<td>Project 1c</td>
<td>Site Documentation</td>
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<tr>
<td>Project 2</td>
<td>Building Block Phase I</td>
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<td>Project 3</td>
<td>Building Block Phase II</td>
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Note: A discretionary evaluation (10%) for participation, initiative, and effort is part of the course grading.

*Studio 3* studies the theory and practice of relationships and thresholds in architecture: the relationship between building and context, idea and construction, the parts of the building to each other, and the parts to the whole. The contextual focus is the building within the city, with projects destined for particular city neighbourhoods. As well as requiring skills in handling new complexities in programming and planning, *Studio 3* demands an increased understanding of technical requirements and environmental conditions in design, construction techniques and the principles of building codes and regulations as they apply to residential and public buildings. Underscoring these requirements is the expectation that students will push their creative and theoretical inquiries to the limit, while developing primary means of representation within the public context. Research, sensibility and responsibility are critical to the articulation of project goals. Understanding of basic code requirements, construction techniques, parking accommodations, building systems, accessibility and environment issues will also be part of the final project evaluation.

**METHODOLOGY**

Although the Studio will incorporate different scripted modes of exploration, the primary methods will focus on the representational conventions of drawing and modelling AS PROCESS. Your ability to ‘inhabit’ and to communicate *inhabitation* through representation is a crucial element in your development as an architect. *Craft* is central to the communicative and expressive aspects of studio projects. The incorporation of computer technology will be discussed in individual tutorial groups and in the context of general studio expectations of crafted process and presentation development. Final presentation work is to be complete, comprehensive, professional, eloquent and communicative with or without verbal accompaniment. Work in progress is a vital part of the cumulative nature of the design process and inevitably forms part of the evaluation process. All final work is expected to be complete as described in the individual project outlines.

**GOALS**

- Develop students’ abilities to work within limits of program, context, construction methods and materials.
- Develop students’ abilities to extract and question ideas and organisation taken from a specific architectural, public, and human context.
- Develop students’ abilities to use different media to explore and reinforce conceptual and tectonic architectural intentions. Models & drawings must critically engage design and not simply “illustrate” it.

**STUDIO ORGANISATION AND POLICIES**

The second-year class is divided into five groups; each assigned to a specific instructor held for the duration of the term. All groups share the same general topics, though precise theoretical emphasis may vary from group to group. Each tutor is responsible for supervising the shared project outlines. The Studio will therefore operate at two levels: the class as a whole and the tutoring groups. At the class level, the faculty will arrange for general project briefings and introductory lectures as well as final design reviews. At the tutoring group level, desk crits, interim reviews and occasional workshops will be conducted. The primary learning experience will be gained through the assigned tutor although students are welcome to discuss projects with other tutors, as time permits.
ARCS 3105 Studio 4, fall 2016
Instructors: Eric Archambault, John Cook, Giancarlo Mangone, Inderbir Singh Riar (studio coordinator)
Course Hours: Monday, Wednesday, Friday, 1:30-5:30pm

Architecture’s Measures

Le Corbusier, Mill Owners’ Building, Ahmedabad, India, 1954 (left); Unité d’habitation, Nantes, 1955 (right). Photographs by Lucien Hervé

*We think and of course we hope that our work at least tries to appeal to life, and to liveliness, it appeals to the five senses…. The material world is what we deal with – we try to understand what matter is. What it is and how we can use order to enhance its qualities.*

Jacques Herzog describing the work of Herzog & de Meuron, 1997

Course Description
ARCS 3105 is a “comprehensive studio” inviting students to tackle complex building programs by emphasizing the spatial and tectonic qualities of architecture. The course explores the following: the sensory components of architecture; “structure and skin”, or how buildings stand up and engage the environment; materials and materiality; the qualities of heat, cold, and related phenomena; the social considerations of architecture (including use and symbolic potential); and the conventions of architectural representation. Above all, the studio stresses the thoughtful making of meaningful space.

Architecture: Opening, Gathering, Journeying, Enclosing
At its most poignant, architecture orients us in and mediates our experiences of the world. That is why built form must adjust itself to the scale of the individual body while also organizing the greater social whole. The building inserts itself into its site, playing into larger social, cultural, and environmental forces. At the same time, the work of architecture responds to the much more modest dimensions of embodied human experience. It is this delicate adjustment of multiple scales that will guide our studio.

Students will complete two projects: first, a Carleton University Pavilion exploring points of contact between the “ivory tower” of academic life and the needs of communities beyond; second, a suburban Kindergarten located in a park-like setting and emphasizing the social world of children as the cornerstone of a better society. Both programs are to be rooted in prevailing site conditions. The resulting works are meant to safeguard architecture’s mission of elevating the most ordinary of human experiences.

Students will also participate in the Azrieli School Director’s Project and the 2016 Canadian Centre for Architecture Inter-university Charrette (an annual competition).
Comprehensive Studio and Student Performance Criteria  
As a comprehensive studio, ARCS 3105 will emphasize “structure and skin”. Students shall explore how structural systems, material assemblies, and building envelopes shape aesthetic, environmental, and social qualities of built space. This will be undertaken through drawings, models, and detailed 1:20 sections required on the final reviews.

ARCS 3105 aims at meeting key Student Performance Criteria (SPC) set by the Canadian Architectural Certification Board. (For a complete list of SPC, see Student Information below.) The following SPC indicate how students will demonstrate ability in or understanding of these skills:

A1 Critical Thinking Skills Developed during desk crits and on reviews  
A2 Research Skills Addressed in “Structure + Skin” assignments  
A3 Graphic Skills Shown in required drawings and on final review presentations  
A4 Verbal and Writing Skills Practised during desk crits and on reviews  
A5 Collaborative Skills Site documentation exercises and completing the 2016 Canadian Centre for Architecture Charrette  
A8 History and Theory Historic precedents discussed in lecture  
A9 Precedents Developed in Structure + Skin assignments  
A7 Cultural Diversity Practised during class discussions and on reviews  
B1 Design Skills Demonstrated in project drawings and models  
B2 Program Preparation Demonstrated in project drawings and models  
B3 Site Design Discussed in lecture  
B5 Accessibility Discussed in lecture and expressed in drawings  
B6 Life Safety Systems, Building Codes Discussed in lecture  
B7 Structural Systems Discussed in lecture and expressed through design  
B9 Building Envelopes Discussed in lecture and expressed through design  
B11 Building Materials & Assemblies Discussed in lecture and expressed through design  
C1 Detailed Design Development Demonstrated in project drawings and models  
C4 Comprehensive Design Discussed in lecture and expressed in drawings  

Pedagogy  
Design studios are privileged sites of teaching and learning in all architecture programs. ARCS 3105 aims at a vibrant environment for developing notions on culture and society through the making of architecture. Studio is a place for exploring new ideas, but it always takes time to learn new skills (e.g. digital design) or to refine existing techniques (e.g. model making); these practices require continuous practice throughout the term. You are invited to participate in the studio with dedication and commitment. Make sure to read the syllabus – and all handouts given throughout the term – in order to ensure the best experience possible for everyone.

ARCS 3105 follows multiple stages and involves different kinds of work. These include advancing innovative techniques of space-making and architectural representation (e.g. drawing and model-making) along with site visits, cultural research, shop-based fabrication, digital production, and graphic design. Thrice-weekly desk crits and periodic reviews are the main means of instruction. Establishing “critical path” work schedules is crucial to manage expectations and to meet deadlines. At the Instructor’s discretion, students will complete readings or investigate architectural precedents, among other tasks. Studio sessions will be supplemented by required lectures central to the course content.

Emphasis will be placed on drawing and model-making as means of studying, refining, and making architectural form.

Grading  
5% Director’s Project  
30% Project 1  
45% Project 2  
5% 2016 Canadian Centre for Architecture Inter-university Charrette. (In case the Charrette is cancelled or cannot be accommodated, the mark will be added to Project 2.)  
15% Discretionary Grade
General Studio Outline

ARCS 3106: BUILDING IN THE CITY

Instructors:

Honorata Pienkowska, AA Rm. 416, honorata_pienkowska@carleton.ca
Benjamin Gianni, AA Rm. 423, ext. 2870, benjamin_gianni@carleton.ca (co-ordinator)
Thomas Leung, Thomas.Leung@carleton.ca
Jay Lim, AA Rm. 416, Jay_Lim@carleton.ca

Winter Term, 2016
Schedule: Monday, Wednesday, Friday: 1:30-5:30 PM
Studio Lectures (as announced): 1:00 PM, Wednesdays, Rm. 204

Course Description:

This studio in the Bachelor of Architectural Studies Program focuses on architecture as participant in a larger urban network. The “building in the city” here takes precedence over the iconic, stand-alone work of architecture. ARCS 3106 examines urban ideas and theories through the design of buildings, as well as through workshops and class lectures. The design problems assigned consider buildings as inscriptions into existing urban fabrics as well as their relationship – be it oppositional or continuous – with these fabrics.

By exploring how cities inform works of architecture, ARCS 3106 emphasizes what could be referred to as buildings’ “back-stories” – i.e. the narratives, forces (environmental, physical, social, political, economic, or “tactical” (M. de Certeau)), and voices (forceful or repressed) that underlay each and every city plan, and influence the shape and practice of buildings in urban contexts.

This studio is also punctuated by Directed Studies Abroad (DSA) travel. Many students in ARCS 3106 will take part in a one to two week study trip that will take them to places and cities outside of Ottawa. This year, these trips include Japan and Europe (Berlin, Amsterdam and Rotterdam). Naturally, the term as a whole is deeply marked by these adventures; participation of students not traveling is indirect but nonetheless important and travel experiences will be shared upon return to Ottawa. ARCS 3106 seeks to capitalize on the rich urban and architectural visits that DSA affords, explore the role of history in design, develop urban thinking, and underscore the experience of cultural alterity (or otherness) in architecture made so poignant when traveling.

The term is therefore organized in three stages – pre-DSA, DSA proper, post-DSA – which together describe an arc of anticipation, direct experience, and, finally, recollection, reflection and remembrance. The structure of the term seeks to make sense of this rhythm. Each stage will include design exercises and or lectures and organized visits. Participation to all events scheduled during studio hours is mandatory.

While furthering the basic design skills learned in earlier studios, this term’s studio emphasizes a greater sense of public responsibility and theoretical positioning within a wider strategy of urban intervention. Design projects are expected to reflect an understanding of urban questions and a maturation of knowledge regarding meanings of urbanity, city form, and city life. Projects should also reach a high degree of tectonic, environmental and regulatory resolution using sophisticated modes of representation.

Organization:

The Third Year class will be divided into four tutorial groups. All groups share the same general topics, although project outlines and precise theoretical emphasis may vary from group to group. Each tutor is responsible for his/her own project outlines, phasing and grading.

Pedagogical objectives:

- To develop an understanding of architecture as urban event.
- To further an understanding of basic planning and internal hierarchies (such as served and service space), and to learn how these relate to urban planning and hierarchies.
- To demonstrate an understanding fabric and figure – and the role of that public urban buildings may play within the urban context.
• To demonstrate an ability to organize a number of disparate but complementary institutional programs into a cohesive building or complex of buildings.
• To demonstrate the ability to competently address complex planning and programming issues.
• To demonstrate a 'reasonable' understanding of structure and materials applications, with an emphasis on building systems integration.
• Building on your previous term’s work, this studio challenges you to explore digital modeling as a tool to evaluate the way buildings sit in larger, urban environments and to understand the impact/presence of buildings from key points of view.

Assignments:

The term’s work will be divided into two assignments. Individual groups may divide the second assignment (“Project 2”) into sub assignments.

Evaluation and Grading:

Project 1: 15%
Project 2 (multiple components): 75%
Participation and improvement over the course of the term: 10%

Schedule:

WINTER TERM SCHEDULE – important dates

Wednesday, January 6, 2016
• Winter term begins. 1:30 Meeting in studio regarding desk relocations and Health and Safety rules communication, deadlines and grading issues, studio recycling program.

Monday, January 18
• Review, Project 1: PIT
• Last day for registration for winter term courses.

Wednesday, January 20
• Project 2 assigned.

Wednesday, February 10:
• First interim review, Project 2

Friday, February 12:
• DSA trips depart (Japan and Berlin/ Rotterdam /Amsterdam)

Week of Feb. 15-19
• Winter Break

Week of Feb. 23-27
• DSA Europe trip continue; all others back.

Wednesday, March 16
• 2nd interim review, Project 2

Friday, April 8
• Last day of class
• Last day to withdraw from classes

Thursday and Friday, April 14 & 15
• Final Reviews
COURSE DESCRIPTION

Following the larger theme of Urbanity, Community and Dwelling, ARCS 4105 explores the development of a multi-unit residential complex on an urban infill site in Ottawa.

Statistics indicate that all population growth projected for Ottawa in the next 20 years can be accommodated within the green belt. With the exception of a few large vacant sites, much of Ottawa’s new housing will be accommodated in existing neighborhoods, along “traditional main streets” and close to transit stations. Increasing the residential density of existing neighborhoods is known as “intensification.”

Because the form and density of new urban housing frequently differs from that of the existing fabric, many residents – even those vehemently opposed to sprawl – resist intensification. Recent multi-unit residential development in Ottawa has taken the form of high-rise apartment blocks. Residents contend that these buildings are unsympathetic to the urban fabric – exacerbating, rather than addressing, existing irregularities and discontinuities in the grain of the neighborhood. Moreover, high-rise housing appeals to a limited cross section of the city’s population. Recently built projects are comprised primarily of small condos for first-time homebuyers (young professionals) and luxury condos for empty nesters. Despite its obvious advantages, many residents believe intensification threatens the integrity of the form and demographic balance of their neighborhoods.

This studio’s project challenges you not only to consider what constitutes great housing, but the form and character of great streets, neighborhoods and cities. When trading large houses and spacious lawns for apartments and townhouses, the quality of the public realm (streets, neighborhoods, parks, etc.) means everything. The quality of public space compensates for the quantity of private space.

Your challenge, then, is not only to design humane and flexible living spaces for a community of strangers, but to augment the quality of character the urban environment in the process.

COURSE OBJECTIVES

Upon completion of this studio students will:

1. Will be familiar with key 20th century precedents for multi-unit housing.
2. Be familiar and literate with a range of housing typologies.
3. Be conversant with challenges of balancing community with privacy in multi-unit residential developments.
4. Understand the advantages and challenges associated with urban intensification and the mixing of demographics, uses and income levels.
5. Be able to demonstrate a solid understanding of egress, accessibility and visitability as it applies to multi-unit residential construction.
6. Have a basic familiarity with zoning bylaws, how and why they function, and how and when to go about requesting changes.
7. Have explored the concept of sustainable design from the “triple bottom line,” namely economic and social viability in tandem with energy performance and environmental impact.
8. Have investigated various constructional systems in relation to building heights, cost and building envelope alternatives.
9. Have taken a project from basic programming and site design through detailed construction documentation.
10. Have demonstrated a basic understanding of mechanical and electric systems in multi-unit residential buildings.
11. Have honed their presentation skills, especially in the area of graphic communication.

STUDIO AND LECTURE SCHEDULE

ARCS 4105 includes a lecture component. Topics will include presentations from local architects, City staff and developers, and code experts.

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<thead>
<tr>
<th>Monday (lecture); begins at 1:00 PM</th>
<th>Tue</th>
<th>Wednesday</th>
<th>Thu</th>
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<tbody>
<tr>
<td><strong>Week 1: Sep. 5-9</strong></td>
<td></td>
<td>Director’s Project/Murray &amp; Murray Competition assigned</td>
<td>Lec. 1: B. Gianni. Overview of Housing Typologies (1:30 PM, Rm. 204)</td>
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<td><strong>First Class</strong> Precedent Analysis assigned, all groups.</td>
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<td><strong>Week 2: Sep. 12-16</strong></td>
<td>Lec. 2: B. Gianni Intensification and Growth Management in Ottawa. Goals, processes.</td>
<td>Directors Project/ Murray &amp; Murray Competition Due. 12:00 PM, all groups.</td>
<td>Precedent Analysis Due, all groups</td>
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<td>Unit Design Exercise assigned, C, G &amp; K Groups</td>
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<td><strong>Week 3: Sep. 19-23</strong></td>
<td>Lec. 3: Roger Gervais: Accessibility and VisitAbility</td>
<td>Unit Design Exercise Due: C, G &amp; K Groups</td>
<td>Phase 1 assigned; potential site visits, C, G &amp; K Groups.</td>
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<td>Zoning Envelope Exercise assigned, C, G &amp; K Groups</td>
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<td>Site Analysis Exercise assigned</td>
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<td><strong>Week 5: Oct. 3-7</strong></td>
<td>Lec 5: Rod Lahey (TBC). Architect’s role in determining what should get built and, applying for zoning variances.</td>
<td>DE: Quiz 1</td>
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<td><strong>Week 6: Oct. 10-14</strong></td>
<td>Thanksgiving (no class)</td>
<td><strong>DE: Site study project due</strong></td>
<td>Phase 1 (Urban Design) Reviews: Campos, Gianni and Kramer Groups</td>
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<td>Phase 2 (Building Design) assigned, C, G &amp; K Groups</td>
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<td><strong>Week 7: Oct. 17-21</strong></td>
<td>Lec 6: Gord Lorrimer. Integrating a mix of housing into a single project: Innovative approaches to energy.</td>
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<td>Building System Exercise Due</td>
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<td>Week 8: Oct. 24-28</td>
<td>Fall Break</td>
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<td>Week 9: Oct. 31 - Nov. 4</td>
<td>Lec. 7: Building Systems for multi-unit residential. Recap of key approaches based on assignment.</td>
<td>DE: Midterm Project due</td>
<td>Tech 4 Mid-Term (5:30 PM)</td>
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<td>Week 10: Nov. 7-11</td>
<td>Lec. 8: Judy Jeske. Building Codes for multi-unit residential buildings.</td>
<td>DE: Quiz 2</td>
<td>Phase 2 Reviews Andonian Group</td>
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<td>Week 12: Nov. 21-25</td>
<td>Lec. 10: Anthony Bruni, Multiples and modular housing. Examples from his practice.</td>
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<td>Tech 4 Construction Detailing Assignment Due (12:00 PM)</td>
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<td>Week 13: Nov. 28-Dec. 2</td>
<td>Lec. 11: Larry Hately and B. Gianni. Key issues and details in multi-unit housing.</td>
<td>DE: Final Projects due; Public Presentations</td>
<td>Last official day of classes.</td>
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<td>Week 14: Dec. 5-9</td>
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<td>Week 15: Dec. 12-16</td>
<td>Tech 4 Final Exam</td>
<td>Grad open house (4:00 PM)</td>
<td>Phase 3/Final Reviews (TBC) Phase 3/Final Reviews (TBC)</td>
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**GRADING**

Exercises:
- Precedent Analysis: 5%
- Director’s Project/Murray & Murray: 2.5%
- Unit Design Exercise: 5%
- Zoning Envelope Exercise: 2.5%
- Site Analysis: 2.5%
- Building System Exercise: 2.5%

Major Reviews:
- Phase 1: 20%
- Phase 2: 20%
- Phase 3: 30%

Participation and improvement over the course of the term: 10%

TOTAL 100%
As the final studio in the Bachelor of Architectural Studies program, ARCS 4106 is intended as a comprehensive urban studio that engages the issues of strategic urbanism, leading to an urban framework with urban designs in a detailed and inclusive manner. The combined projects are expected to reach a high degree of strategic thinking using sophisticated modes of mapping, data analysis, urban morphology and representation. Students are expected to carefully study the strategic systems and urban shaping designs of the proposals. The studio will also consider the social, economic and environmental implications of the urban choices made. Known as the Archipelago Studio this is a collaborative atelier studio continuing from the fall housing studio (4105_Dirty Realism). To begin research and strategic planning, Vanier 2030 is essentially broken into four interlacing concepts a) Vanier Ecologies b) Embedded Neighbourhood Housing (Sigma Cooperative) c) Mainstreets Urbanism and d) the High-Rise Vanier City Smart Hub (Gossiping Towers).

TOPIC of the studio
The overall topic of Studio 7 (ARCS 4106) is Urbanity, Action and Agency – an urban agenda consisting of understanding mapping, proposing and demonstrating strategies and framework. There are many urban design models available but the studio will also explore urban action and agency. How does Vanier do this – at a more local level, at the municipal level, at the federal level? Is it agreed and proposed by the City of Ottawa Planning (Secondary Plan that Vanier will soon be densified in a serious way. What are the issues, predictions, hopes? How could Vanier be treated separately, engagingly and not only remain part of Ottawa but become Ottawa's new representative city. Could this be the city that the city of Ottawa lacks, not mimicry of other settlements within Ottawa? What is the City in the City? this studio addresses selected urban thinking and planning through detailed integration of urban mapping, data analysis, community concepts urban parcel and site analysis, urban form, including suggesting components, systems, structure, materiality, and the logic of densification and intensification. The studio frames an emerging urban interest and tests the connections for the student from their architectural design and commitment to the practice of architecture to issues concerning societal change.
FRAMING the Studio

Are the current codes and guidelines steered by Ottawa City Planning able to produce a new morphology for the city? What is this morphology? What is the future shape of Vanier that is not just the shape of Ottawa? We are optimistic that Ottawa is at the precise stage in the re-shaping of the city to take on something of extreme contemporary existence. Most of the models being built today are competent but to many they demonstrate a mimicry of housing developments somewhere else; Toronto or Vancouver. Ottawa? Not a world city? Ottawa can be more than what it is today. Ottawa is sometimes described as beautiful, sometimes tranquil, sometimes sleepy, often safe, sometimes dull. It is all of these. Consider if Ottawa needs to develop diverse urban forms into to distinguish it from when the French planner Jacques Grébert started planning for the automobile in the 1950s. As the City of Ottawa and the NCC have since continued trying to knit the city back together, what do we make of the pioneering city camp with its driveways and Federal monuments. Ottawa has spread itself, beyond the Greenbelt. Some go as far as describing it a Paradoxical city-in-a-rural-idyll. Is this a resistance to, or denial of, a city. Whatever improvements are suggested, whatever new developments accepted, pushed through, accepted or rejected, everything Ottawa offers appear reluctant to embrace the contemporary. The groups have merged naturally from discussion and work achieved in the preceding Housing Studio.

1 Vanier Ecologies (I still haven’t found what I’m looking for)

Exploration of Vanier Ecologies – Socio-Political - Economic – Environmental – health
What is the future of Community in Vanier? Ecology is seen as the study of interaction among organisms and their environment. The term encompasses a wide variety of topics, including:
- life processes, interactions and adaptions
- movement of materials + energy through living communities
- successional development of ecosystems
- abundance and distribution of organisms and biodiversity in the context of the environment including nutritional education
- agriculture - community garden - parks & green Space - food Deserts

Building on this definition, there will be three distinct ecologies, inter-related narratives that will offer a new way to map Vanier and agency, and propose a new relational urbanism for Vanier.

2 The Sigma Housing Urban Group (Where the streets have no name!)

Revitalizing Vanier Neighbourhoods
New post-developer infill housing models
Integrating with the designation of Vanier characterized as Low Social Economic
BBRN –Building Better Revitalised Neighbourhoods

How to: integrate into different communities - navigate association meetings - deal with developers - work with community planning

3 Mainstreet Urbanism (The Sweetest Thing)

Montreal Road and MacArthur Road contrasting with Beachwood Avenue re-development, mapping and new (urban interventions) - proposals for these two major arteries in Vanier included mapping, transit & shuttle solutions, retail and housing proposals.. and valid urban ‘gateway’ projects at St Laurent -

4 Smart Vanier - the Gossiping Towers (With or Without You)

digital cluster business/retain/high-rise/tower building development area near Vanier parkway hub for future Vanier development – digital Vanier models of interconnected towers, housing and city- a new metropolis – the city in the city.

Course format

Sessions, consultations, tutorials and lectures delivered through in-studio exercises, detailed mapping and data analysis and other visual presentations in conjunction with the weekly studio based program.

Assignments – individual and group - will allow students to explore the creative possibilities of urbanism and understand and position themselves in the new turn to urban thinking and societal change

Various visual communication techniques will be introduced through a variety of media for the preparation of a) publication b) urban model c) exhibition.
Course objectives
1. To become familiar with an emerging urbanism, and fluent with urban mapping and strategic thinking.
2. To situate and expand an architectural commitment within city planning and societal change.
3. To use a variety of multimedia processes and devices both analog and digital in communicating urban issues, to extend beyond conventional image making.
4. To establish a critical framework for understanding an urban agenda with respect to implications in (urban) theory and practice.
5. To demonstrate the above through a studio atelier methodology – where individual and group participation in class discussions decides the frame and pace of the studio itself.
6. To prepare students to contest and measure research, writing on urbanism and other critical thinking skills.
7. Through urban revitalization learn how to integrate the positive tensions require from a city.
8. To learn how to take a position on how Vanier become more than an experiment in urban settlement, housing and community?
9. To consider future studies and relate to (theoretical) utopias and explore the relationship between urban speculations and focused city thinking and development.

Course Assignments
The students will work the urban program in association with the instructor – they will frame the issues and monitor progress and potential outcomes.
The Studio will be group and self-assessed with clear outcomes – this demands individual timing and pacing and a shared ethical approach to the combined work of the studio.
Any competition between projects or groups is removed; students are encouraged to work across groups, and help peer-to-peer learning.
Shared work with individual emphasis becomes the heart o the urban studio.
The completed assignments – publication – model – exhibition – are structured, timed and agreed on by the studio structure.
All work and assignments – self-framed and group-framed – will be collected into The three outcomes.

This Sketch for an Urban Biennale in Vanier is nothing less than a sketch for a new city, a city within a city, a city of 200-250K by the year 2030. This is the sort of innovative urban utopia we are suggesting for Vanier – it is not politically impossible.

Shocked? We don't think so. Vanier 2030 will offer Ottawa not only a city within a city. It will not complete with Downtown, Elgin St, Glebe, Le Breton Flats, Hintonburg, Lower Town or ByWard Market. It will be the most unique city of Canada, fitting for a Capital of the 21st century...

An Urban Biennale in the form of an Expo has to be about cultural and political agency. If we are all to become agents of change, we must know more about planning, design and implementation, about ecologies, mainstreets, integration and sustainability, about inclusion and adaptability.

Above all an Expo has to be about the most humane innovative sites of the new city of Vanier. With its gossipg towers, its air trams, caterpillar housing developments, torso towers and embedded housing situations. The most exciting development since Jacques Gréber ripped through this city. That is our plan.

References
Burla M Cityscape Die Getzaltan Verlag (2008)
Detroit Future City/Detroit Strategic Framework Plan, Inland Press 2013
Bullivant L Masterplanning Futures, Routledge (2012)

roger.connah@carleton.ca winter 2016
INTRODUCTION
This is an introductory architectural studio, in which students will learn to work in multiple media, and to understand and develop their projects under the mentorship of their instructors. Students will learn the languages and techniques that will allow them to work towards professional competence within a collaborative profession. At the same time, each student will be required to develop their independent voice as a designer. While each student will have particular strengths, each student will develop their ability to actively interrogate images and objects, and to develop new products, questions, and ideas based on their own interpretations.

COURSE THEME & FORMAT
Because this studio provides an introduction for students with varied educational and professional backgrounds, assignments may be undertaken through various techniques, and will broach a range of complexities. Students more familiar with design techniques are welcomed to expand their projects, pushing their skills further. We also request that you assist your fellow students through positive mentorship. For those new to architectural studies, we recommend that you focus on the quality and craft of your work, and exercise patience. Each step will build on the next, and instructors and teaching assistants are available to help. Use this studio for vital skills acquisition, design development and as a first step towards the three studios and thesis to follow. Each student will have the opportunity to undertake collaborative research and critical analysis, while developing their communication skills.

This studio will undertake three projects that allow students to build the fundamentals of architectural design. The first design investigation takes on issues of material, construction and space. The second project will allow students to construct and to analyze site. The third project will allow students to synthesize the two prior projects into a small building project, to develop preliminary skills of program preparation and design.

COURSE OBJECTIVES, PEDAGOGY and ASSIGNMENTS
Students will develop their design abilities in this course through regular design projects, desk critiques, group critiques, informal pin-ups, formal reviews, project and program proposals, and other assignments.

Course Objectives:
1. To demonstrate basic mastery of architectural conventions, including the techniques of plan, section, elevation, axonometric drawing, and 3D physical and digital model construction.
2. To consistently produce drawings, models, writings, and other design studies which are carefully crafted, thoughtfully constructed, and complete.
3. To explore procedures of layering and transformation, in order to creatively develop design ideas and questions.
4. To develop a foundation for architectural literacy: visual, verbal, and written.
5. To begin to generate architectural projects situated in ideas, and iteratively modified to engage particular and informed readings of site and environment.

STUDENT RESPONSIBILITIES in this course

STUDIO CULTURE
- Carleton has a long established studio culture. This culture has evolved with new modes of working, particularly the computer. We are aware of the transition of students away from studio and into the computer lab. We request that students actively counter this migration. Please work in studio either on laptops, desktops or via analog means. Working in studio is fundamentally important for establishing a collegiality which will lead to lasting friendships and the development of an important support network that will aid in the development of each student’s work through peer learning and collective engagement.
CONTACT INFORMATION:
Catherine Bonier, Arch Bldg. 407
E-mail: catherine.bonier@carleton.ca
Office Hours: Wednesday 11:00 – 12:30 pm

Johan Voordouw, Arch Bldg. 314
E-mail: johan.voordouw@carleton.ca
Office Hours: Wednesday 11:00 am – 12:30 pm

- E-mail is a permanent record of communication and should be used professionally. Prior to contacting your instructor please reference the Course Outline, Project Brief, and CULearn.
- E-mail should be used to make an appointment prior to any meeting
- We will respond to non-emergency student e-mails twice per week
- Please do not contact via phone. If you need to make an appointment, please do so during studio or set up a preferred date and time via e-mail
- If you are not receiving e-mails through your Carleton Account it is the student’s responsibility to contact CCS to resolve the issue.

CALENDAR (See Schedule PDF on CULearn)

ACCEPTABLE ABSENCES & EXTENSIONS
- Illness, with proper medical documentation, and family grievance are examples of acceptable absences.
- Employment responsibilities, whether on or off campus is not an acceptable reason for lateness, lack of attendance or an extension.
- It is the student’s responsibility to periodically back-up their work. While we empathize with data loss due to corruption, deletion or theft it is not grounds for an extension.

GRADING AND REQUIREMENTS
“Studio projects will be evaluated on the (1) strength of design concept/concepts, (2) development and articulation of the concept according to the objectives set forth in the project assignment, and (3) the clarity, craft and completeness of the work submitted at the hand-in deadline.”

<table>
<thead>
<tr>
<th>Percentage Breakdown List</th>
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<tbody>
<tr>
<td>Director’s Charrette</td>
<td>5%</td>
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<tr>
<td>Project 1 (Catalogue of Carved, Cast &amp; Constructed Spaces)</td>
<td>25%</td>
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<tr>
<td>Project 2 (Site)</td>
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<tr>
<td>Project 3 (Building)</td>
<td>25%</td>
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<tr>
<td>Final Portfolio</td>
<td>10%</td>
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<tr>
<td>Discretionary</td>
<td>10%</td>
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- Every day a submission is late is a 3% reduction in the project grade.
- The first 3% reduction occurs directly after the deadline time.
- To ensure parity, final grading will be completed collectively and final grades will be in agreement of both studio instructors. Therefore, your final grade is 1) a reflection of our collective expectations for the studio, 2) the quality of your work in relation to your studio group and 3) in relation to the year as a whole.
Transforming Program into Architectural Space: A Help Center for Urban Immigrants

The aim of this studio is to advance the fundamental architectural skill of translating a given program into an effective, functional, spatially provocative set of hierarchically-related architectural spaces. Similarly, just as the building itself must be as pragmatic as it is spatially beautiful, an urban solution must be achieved simultaneously whereby the building is as pragmatic in its context as it is a vital, artful addition to its urban context.

The project at hand is a center for newly-arrived immigrants, to be built in Chinatown (bear in mind that despite the name, "Chinatown," this area is perpetually in flux as is any urban area). The project site is located on Somerset Street. The program of this center geared to individuals and families is to provide a range of free services that most any “Canadian” would find so trivial as to hardly require any consideration, but for a newcomer, are associated with seemingly insurmountable difficulties. For example, staff here would assist registering children for school and that requires outlining procedures for immunization; the writing of a CV that accords with “our” standards; the explanation of local public transportation; the opening of a bank account; assistance to locate permanent lodging; legal advice that ensures new immigrants are not being exploited; etc. The center would also offer English and French language classes in its large gathering space and in the evenings this space would serve as a gathering space for newly arrived groups; consider that urban immigrants are often forced to live in very small, crowded quarters that don’t allow for larger social gatherings so this becomes a type of community hall. So, while a large space such as this can at times become a vessel for structuring joyous moments, the majority of the time visitors to this center will be arriving alone or in small groups, and as such, the prevailing emotions here would range from anxiety to panic and other sentiments associated with an absence of personal control. The design of your proposal’s presence on the street, its sequences from outside to inside, its interior volumes and lighting and materials MUST be absolutely clear so as to work without signage and MUST aim to communicate a sense of peacefulness and trust.

Site facts: The address for the project is 816 Somerset Street; Somerset is the primary East-West commercial street in this section of Ottawa’s downtown. The site is currently an empty lot that is 50’ wide by 90’ deep and requires a 30’ rear setback, hence, the footprint of the new building is limited to 3,000 sf. There is no side yard setback requirement but this can be proposed. The maximum height permitted at this site is 45 feet; there is no limit on depth below grade.

**Required public building areas:**
- Arrival and information: 500 sf
- Waiting: 1,000 sf
- Individual general staff offices: 100 sf each (10 total)
- Legal offices and an assistant’s space: 100 sf each (2 total with a separate secretarial area)
- Public meeting/presentation/gallery/celebration area for approx. 200 people: 2,000 sf
- Bathrooms: 1,000 sf Note: this would include bathrooms for men, women, and also family bathrooms
- Public Garden/landscape: 2,500 sf

*Note: This “garden” may be located on the ground level, at a roof level, or anywhere in-between, as a sculptural component of the larger massing, or any combination thereof.*

**Required private building areas:**
- Director’s Office and assistant space: 200 sf
- Staff kitchenette: 50 sf
Conference room: 500 sf

**Circulation:** Expect that *at least* 20% of the total area will be required for primary stairs/ramps, hallways, and an elevator; it should go without saying that all of the above spaces are accessible for all abilities. The above program includes spaces of many different sizes, but moreover of different degrees of privacy and publicness. The association and separation of all these parts is always a matter of cultural propriety but there is no single “appropriate” solution: it just depends on the manner in which space is deployed, which requires both daring ingenuity and subtle nuances. “Everything is possible” is not the same as “anything goes.” Note that at times a programmatic requirement is identified as a “room,” which implies actual partitioning, whereas an “area” or “space” can be more spatially ambiguous. Note that the total required program is just under 8,000 sf, which requires less than three storeys above grade, whereas within the allowed height limit you could achieve four storeys above grade, thus accommodating 12,000 sf of program. This is to say that the programmatic requirements are very modest for this urban site; it is your responsibility to put unprogrammed space to extraordinary spatial use...

**Schedule:**
- Wednesday, January 6: Project 1 assigned (duration approx. 4 weeks)
- Monday, January 11: Group site model due. This to be built at 1:200
- Friday, January 15, two complete schematic iterations with all plans, one section, and massing models; 1:200
- Monday, February 8: Project 1 Final Review
- Wednesday, February 10: Departure for Barcelona
- Friday, February 12: Project 2 assigned (duration approx. 8 weeks)
- Saturday, February 20: Return from Barcelona
- Additional deadlines for group reviews and a midterm TBD
- Tuesday, April 19: Project 2 Final Review (Date to be confirmed)

**Total Grade Distribution:**
- Project 1 is worth a total of 25% of your final grade
  Of this 25%, 60% of that total reflects the degree of spatial development achieved; 30% reflects the quality of your representations of the ideas and spaces; 10% reflects the articulated delivery of the project’s intentions.

- Project 2 is worth a total of 60% of your final grade
  Of this 60%, 50% of that total reflects the degree of spatial development achieved; 20% reflects tectonic/structural resolution in conformity with the spatial intentions; 20% reflects the quality of representations of the ideas and spaces; 10% reflects the articulated delivery of the project’s intentions.

- The discretionary segment of your grade is worth 10% and the final portfolio is worth 5%

**Final Deliverables:**
- Site model at 1:200
- Plans at 1:200
- Significant section through the building and immediate site 1:200
- Perspectival drawings: 1 from the street, and a second view showing your primary interior special experience
- Verbal Presentation: Prepare a succinct presentation of your project, *lasting no more than one minute.*

**Site Visit:**
On our group visit to the site bring the following:
- measuring tapes and personal embodied measuring devices (such as your gait or arm span measured in advance)
- sketchbooks, drawing pencils and pens; cameras.

**WHAT TO VISIT – HOW TO “SEE”**
- Notice scale in relation to the human body (nothing is grandeur than it needs to be);
- Notice materials; study how doors and windows are produced within, and result from, a clear logic of material assembly;
- Observe roof slopes and eave troughs; see their “intelligence” and take notes;
- Understand joints and connections be they material or spatial;
- Contemplate ratios of wall surface to aperture size, and the art of proportion
I make a project and I panic. Which is good; it can be a method. First panic, second, conquer panic by working. Third, find ways to solve your doubts.

Eduardo Souto de Moura, Architect, Pritzker Prize Winner

The Resolution of Architectural Space, Site, Structure, Envelope, and Building Systems

In the following six weeks you are required to design a work of architecture that is at once symbolically notable, eminently pragmatic, spatially profound, structurally developed, and rigorous in its environmental performance. In essence, this term serves as your entry gate to the Gateway Studio that follows in September.

The class will be divided into two sections that run from May 2nd until the mid-term on Monday, May 16, and then from the mid-term until Tuesday, June 14. The first section is dedicated to the development of the site strategy and architectural development of the program. This initial work will be entirely completed and presented in pairs. The second section will require the elaboration and transformation of your proposal based on the sustained development of the proposed structure, and the development of the building envelope and mechanical systems, which will be an extension of your coursework in Tech 3. Work in this second part of the term can be completed in pairs or individually.

For each half of the term there will be mandatory studio sessions held from 9:00 – 12:00 each day and at least once each week a required group review will be held on Monday, Wednesday, or Friday afternoon.

Please review the Handout provided on the first class day of the prior Winter term for a detailed list of class and university requirements and policies, which remain in place for this term.

Carleton Centre: A New Entry and Orientation Place for the University

This new center is essentially a new Uni-Center (Let’s assume the existing one, very sadly, was the victim of arson). The new Carleton Center is to be located directly in front of the Architecture Building. As such, the new “CC” must be a powerful visual and symbolic gate to the university that will be adopted by all members of the school community as the heart of campus.

Required public building areas:

Campus arrival area (this will need to be a long-span space): SF as needed
Consider that a semi-protected car and bus drop-off and waiting area is needed, as well as bypass lanes. Study and measure the existing arrangements on campus and make relevant and common-sense solutions that are simultaneously provocative spatially.

Campus reception, orientation and information area: SF as needed

Assembly space (this will need to be a long-span space for campus groups to set up booths, town hall meetings, performances): 12,000 SF

Food hall, dining area, kitchens (this will need to be a long-span space): 15,000 SF  This space must have a connection to a loading dock.
Bookstore: 10,000 SF  This space must have a connection to a loading dock.

Commercial area for a minimum of 5 private concessions (general store, post office, bank, café, etc.):
   5,000 SF with shop areas minimum of 1,000 SF each

Washrooms: SF as required and distributed relative to common sense

Student organizations office area with a minimum of 15 separate offices: 7,500 SF with offices of a minimum of 500 SF each

Tunnel connection: See existing map of tunnels

Landscape and semi-outdoor areas to knit the new CC to the surrounding context: Many of the above programmatic
   requirements could be associated with outdoor areas that are managed architecturally. Likewise, as Carleton’s if a suburban campus, there is the possibility to create significant spatial linkages to the adjacent buildings via deliberately designed outdoor areas or semi-protected zones.

Note that the above square footages are approximations and the associated programs can very well be given due space in different quantities of area; it all just depends on your vision and spatial skills…

Circulation:

Expect that at least 25% of the total area will be required for primary stairs/ramps, hallways, and elevators; it should go without saying that all of the above spaces are accessible for all abilities.

Circulation must include a stair and an elevator connection to the existing tunnels and two fire stairs located at opposite ends of the building.

The above program includes spaces of many different sizes, but moreover of different degrees of privacy and publicness. The association and separation of all these parts is always a matter of cultural propriety but there is no single “appropriate” solution: it just depends on the manner in which space is deployed, which requires both daring ingenuity and subtle nuances. “Everything is possible” is not the same as “anything goes.” Note that at times a programmatic requirement is identified as a “room,” which implies actual partitioning, whereas an “area” or “space” can be more spatially ambiguous.

It is impossible to create a functional work of architecture that houses a varied program without the scrupulous use of hierarchy. Architecturally speaking, hierarchy of program are managed by utilizing a range of scales, materials, lighting conditions, the obvious and/or hidden placement of parts at various point in a general massing and sequence, and the manner in which circulation is used to lead one through the spatial and sculptural arrangement. Each student pair will need to assess which parts of the program will receive different degrees of hierarchical importance at which point in the total indoor and outdoor spatial system.

Approximate building footprint: 25,000 SF
Approximate amount of programmed space: 100,000 SF

Requirements:

To be determined on a weekly basis, however, in general, the architectural requirements for this studio will move in tandem with the requirements for Tech 3.
INTRODUCTION

In his book, Stuff Matters, materials scientist Mark Miodownik describes the workshop of the future as a critical space of collaboration, exchange, innovation and invention. This social and interdisciplinary approach to design and material culture would seem to be at odds with the specialization of industrial production and their corresponding specialized environments. Production spaces regulate humidity, light, dust, noise and fumes and these levels are precisely determined by the equipment and materials.

How might architecture serve to redefine the modern workshop to allow for greater social and cultural exchange and collaboration? Many building environmental systems have also followed the path of specialization and exclusion from one another. While building codes and industry may seem to impose limitations on the design of integrated systems, this course will aim to illuminate areas where the comprehensive design of buildings, systems and the environment, in tandem with building program, will highlight the awareness of these boundaries and aim to expand their potential to create a delightful architecture with a very small environmental footprint.

Working together with the graduate course in Advanced Building Systems, this studio will build upon the lectures and assignments provided to create a socially, culturally and environmentally responsible architecture documented in a robust set of architectural drawings.
COURSE THEME & FORMAT
This studio-based course is specifically targeted at addressing the idea of singular comprehensive design engaging the theme of “Workshops for the Next Century” through the development of a rigorous series of design drawings that synthesize design expertise and technical knowledge. In addition to the lectures received in Advanced Building Systems, the Studio program will also provide several lectures and workshops with experts in the fields of daylighting, stair & bathroom design, building codes, structural integration in building systems, building envelope, technical drawings, creative systems integration, lighting and acoustics.

The studio will be divided into two groups based on two distinct sites in Ottawa - one in Vanier which will propose a new construction and another in Mechanicsville which will incorporate adaptive reuse and new construction. Each site will incorporate and design an adjacent urban landscape as part of the building systems design.

Group A: Vanier Site: Professor Lucie Fontein & Maria Denegri (Visiting Canadian Architect)
Group B: Mechanicsville Site: Professor Sheryl Boyle & Professor Jill Stoner

GRADING:
30% drawing set 20%
Mid review 20%
60% drawing set 20%
90% drawing set 20%
Final Review 20%

COURSE OBJECTIVES, PEDAGOGY and ASSIGNMENTS
Drawings will be developed in a comprehensive drawing package with 30%, 60%, and 90% completion before the final deadline. These packages will be submitted for review and red-marking on the designated dates in the schedule below. Students are encouraged to use the specialized lectures and workshops within studio as well as the Advanced Building Systems design charette to advance the comprehensive design of this project. Students will be required to develop and submit their specific building program as part of the drawing set.

30% Drawing Package - due Friday, October 7th
60% Drawing Package - due Friday, November 4th
90% Drawing Package - due Wednesday, November 30th

The final drawing set will contain thirteen (or more) sheets, plotted on tabloid size A3 paper. The scales refer to drawings when plotted full size. Reduce as necessary for this set. Wall sections may be cut for set, or reduced to fit. APPLY GRAPHIC SCALES TO ALL DRAWINGS, so that scale will be accurate when drawings are reduced.

All sheets should be REVISED significantly, and should now include EXTENSIVE NOTES. Pay attention to placement of drawings relative to the page, line weights, density of information, New sheets include stair drawings, wall sections details, and schedules.

Schedule of Reviews:
The studio will be divided into 5 review phases as follows:

1. Analysis and definition of Site and Program due Monday September 19th
2. Design Probes (site / program / conceptual framework) due Wednesday September 28th
3. Schematic Design due Wednesday October 19th
   Mid Term Review Oct 19.
4. Building area @ 1:50 due Monday November 7th
5. Conceptual Detail due Monday November 21st
6. Synthesis due December 12th

Final Review Dec 12 & 13
Ice

Instructor: Inderbir Singh Riar
Course Hours: Monday, Wednesday, Friday, 1:30-5:30pm

“The sorceress saw him go. She ran into the water to catch him but when she could not reach him she slashed at the granite rock with her ulu as easily as if she were cutting meat. But Kivioq harpooned a stone and it smashed. He warned her that he would have harpooned her in the same way. She asked him to become her husband, but he refused. She was so maddened with rage that she threw her ulu at him and turned all the water to ice.”

_The sorceress saw him go._

Inuit legend

“’My reign is not yet over’ (these words were legible in one of these inscriptions): ’you live, and my power is complete. Follow me; I seek the everlasting ices of the north, where you will feel the misery of cold and frost to which I am impassive.’”

_The Creature addressing Victor Frankenstein in Mary Shelley’s Frankenstein (1818)_

“Nature is perhaps the most complicated word in the language.”

_Raymond Williams, Keywords (1976)_

Ice proposes ways to consider anew the built and unbuilt worlds. Drawing on many cultural, material, and social concerns – myths of the Canadian North, our shared experiences of the cold, the pressing realities of climate change, or rising geopolitical concerns tensions around the Arctic – the studio will explore the environmental, physical, and spatial properties of ice in order to advance new scapes.

In our day and age, does ice immediately conjure dire predictions of irreversible ecological catastrophe – or can its properties be harnessed to produce meaningful social-environmental relations (associations that may have existed in societies well before the advent of modernity)? As such, can ice help us to define notions on time, of things unfolding slowly (cyclical experiences of seasons) or accelerating quickly (melting polar caps) or occurring suddenly (Russia planting its flag under the North Pole in August 2007)? Will our considerations lead to immediate (and necessarily short-lived) solutions or long-term (and possibly lasting) results? What could architectures of ice look like – will they be rooted in history or project the future? Do we imagine these works in far-flung places or could their effects be discovered much closer to home?
The studio will begin by undertaking two concurrent comprehensive investigations: first, research on 
environmental, social, and technological conditions of ice encountered in local, regional, national, or
global spheres as well as in multiple histories across different cultures; second, aesthetic representations
of ice as material form and spatial phenomenon. Drawing on these studies, students will project
architectures of ice. The final works—whether squarely practical or utterly experimental—may be realised
at any number of scales. In all instances, students will remain attentive to contemporary politics
surrounding their work. Projects must, therefore, situate both critique and solution. No matter how
visionary, each result will be led by a thoughtful resolution of program, space-making, and tectonics.

Critical to this effort is approaching environments of ice—that is, sites—not as tabulae rasaee but as vast,
complex worlds with deep meanings and histories including those of indigenous peoples. At the same
time, ice may provoke explorations at molecular levels or at the expanse of the solar system. In other
instances, notions on time may become paramount (for example, the differences between, say, melting
and cryonics). Scientific, literary, and artistic narratives—whether ancient practices of alchemy or
visions of the “crystalline” in early twentieth-century Expressionism—offer countless ways to register
the effects of ice on human consciousness. Projects could, therefore, respond to greater dimensions
of life—namely, a vast biodiversity of fauna and flora that easily eclipses needs of human habitation
and projections of the built world. Throughout, we will consider the degrees to which current
discourses on the Anthropocene are the truest measures of our epoch and future.

note: Ice is the sixth in a series of M.Arch studios based on the theme of political science. The aim is to
project representative architectures for the renewal of public space, civil discourse, global environments,
and everyday life. The studio is animated by a belief in design as the best means for spurring ideas on
improving the world.

Sponsored Studio
The studio is generously sponsored by Perkins+Will (Ottawa). Among the resulting initiatives will be
a monograph on research and design work produced this term.

Pedagogy
For successful completion of the studio, students must possess the following: strong reading and
writing skills; effective oral communication; ability to complete library- and archive-based research,
which assumes facility with database searches, conducting interviews, and techniques of recording site
information (including GIS); ease with shop-based production including the use of hand and machine
tools; knowledge of digital design and fabrication; the ability to work well with others, which includes
sharing tasks, delegating where necessary, and balancing varying skillsets; and, finally, commitment to
the studio ethic—namely, a spirit of exchanging ideas among the group.

Given the multiple stages and different kinds of work—again, research, graphic design, shop-based
and digital fabrication, and advanced techniques of architectural representation—the pace will be
demanding. Students are expected to be self-starters and capable of collaborating efficiently. When
working in pairs, a clear appraisal of tasks and deadlines must be communicated to the Instructor.

Part 1 – Defining Ice
Part 1 concludes in the Preliminary Review (constituting 10% of the course grade).

Part 2 – Architectures of Ice
Part 2 is divided between several phases comprising 90% of the course grade.

Bibliography
See full Syllabus
Theory at the Seam of Making

Description
Drawing from your experience in studio classes and in seminars dealing with theoretical approaches and research methodologies relevant to the discipline of architecture, you will now embark on the realization of a thesis proposition. This work represents the fulfilment of your MArch cursus and a contribution to architectural discourse.

This course guides and supports students through to the completion of their Masters’ Thesis work, to be submitted June 17th and defended on July 4, 2016. The time frame of the first part of this course follows the Winter Semester calendar.

Notable dates are:
Colloquium 1 = Wednesday February 29
Colloquium 2 = Tuesday April 19

Class format and structure Meetings are Monday and Wednesday afternoons, and, while much more self-directed than a normal studio, follow a traditional architecture studio format. Sessions will include a combination of group discussion, individual “desk crits” and pin-ups /reviews.

Theory at the Seam of Making: introduction and pedagogy
We live in history, and we do not escape our epoch. By virtue of this, each of your theses investigations falls into the larger discourse of post-modernity. Whatever your area or topic, these will typically tie into influential theoretical constructs from the second part of the twentieth-century into the present, including structuralism, post-structuralism, phenomenology, regionalism, and historicism. Our one-on-one discussions will focus each of your topics as theoretical investigations, while also identifying fruitful venues of exploration through specific, tangible, architectural propositions. These may include interventions onto existing sites or buildings, or may take the form of experiments in architectural representation, or of critical re-workings of conventional approaches to professional practice, among others.

During our discussions (one-on-one or in groups) we will explore how your lines of investigations relate to broader lines of inquiry in contemporary architecture. You will be responsible for locating and framing your work in relation to critical approaches within contemporary architectural theory and practice, in areas ranging from approaches to history and memory, the environment, technology, parametric design, design/build and community-building paradigms, among others. Our overarching goal will be to “frame” architecture’s questions – broad and multifarious as they may be – in the context of a well-focused design problem / exploration. I invite you to remember that “big,” beautiful ideas, and even brilliant ones, emerge from specific and well-circumscribed investigations. Let us keep this humbling truth in mind, throughout this journey together.

The architect’s thesis is a very unique academic form for which few models exist in other fields. Your final thesis will take the form of a book, as per examples seen together during our meeting of November 20 2015. This book will contain reproductions of your thesis artefacts (models and drawings), including foldout sheets, as appropriate. The writing compliments these images, and decodes them, to guide the reader into a thorough and deep understanding of them.
The book as a whole constitutes a complete “working-through” of an architectural idea or question. The text will alternately be descriptive and factual, or speculative, and perhaps even literary in nature. As discussed during our fall meetings, we invite you here to privilege making over “too many words,” and to edit your work finely. Words, as images, are abundant in our age. We seek here to achieve a balanced contribution to architectural discourse, in which all images and all words play an important and necessary role in your thesis story. The question of how words and images relate to each other in each of your theses will be a constant topic of discussion during our time together.

**Theory at the Seam of Making: working method**

Design studios are privileged sites of teaching and learning in all architecture programs. In this very special Thesis DRS, our physical space offers itself to us as a true laboratory of testing and investigation of architectural ideas. Our aim is to make ARCN 5909 a vibrant environment for developing your thesis questions through the making of meaningful forms. As thesis students, you will avail yourselves of known and familiar techniques, but will also push these into new territories of exploration, whether digital design, physical model making, manual or hybrid drawing, or other.

The discipline of architecture unfolds at the seam between theory and praxis; it is paramount that your work inhabits that seam responsibly and in a provocative manner. You are encouraged to be avid makers throughout this journey, and to be involved in translating ideas and research into artefacts and propositions, with curiosity, carefulness (and sometimes careful abandon!) and in a constant way.

We will consider our work in four-parts: “research –measuring – action - words” as a framework for our pin up review sessions.

**Important Events / Dates**

- Colloquium 1 = Monday February 29 (1:30 -7:00, 30 minutes each)
- Colloquium 2 = Tuesday April 19 (time and duration tba)
- Thesis submission (June 17, 2016 *)
- Thesis Defence (July 4, 2016*)

**Grading Breakdown**

- Colloquium 1 40%
- Colloquium 2 20%
- Attendance 10%
- Discretionary 10%

**Recommended Readings**

- Chicago Manual of Style.

**Class Schedule**

Please note: the outline could be altered in accordance with the emerging interests of the class.

**ASSIGNMENTS**

- Assignment 1 Question in the form of a Haiku
- Assignment 2 Critical Description and Commentary
- Assignment 3 Bibliography
- Assignment 4 Refined Research Statement and Sample Text
- Assignment 5 “Book” Review

**SPC:**

A2, A4, A5, A6, A7, A8, A9, D1 and D2.
ARCH

History Theory of Architecture
Elective Courses
CARLETON UNIVERSITY
School of Industrial Design

IDES 1000 (Arch2006) – Fall 2016

Instructor: Brian Burns  (emails will be forwarded to instructor by TA when appropriate)
TA: Leilla Czunyi  (LeillaCzunyi@cunet.carleton.ca)

Office Hours: TBD

Note: Please contact the TA via email for any questions you may have outside of office hours. They will contact instructor in case they are unable to address the question.

Time and location: Friday 8:35am -11.25am in 3380ME

Student Emails: Students should monitor their CuLearn emails.

Course description: The theoretical and historical background of industrial design and design; disciplinary foundations and interdisciplinary connections; methodological aspects and economic and social contexts; contemporary scenarios in design; technological innovation and manufacturing processes. Also listed as ARCH 2006.

Learning Outcomes: By the end of this course, students will be able to:

1. Recognize professional definitions of industrial design and professional organizations nationally and internationally
2. Describe typical work responsibilities of an industrial designer
3. Describe interdisciplinary connections with social sciences, engineering and business
4. Identify historical events associated with the development of the industrial design profession from the 18th to 21st century
5. Describe the evolving nature of design by outlining contemporary issues in design
6. Name common plastic, wood and metal materials and be familiar with their primary properties
7. Describe mass production processes in plastic, metal, fabric and wood
8. Describe the steps associated with the design process, including: research, concepts, manufacturing and sales
9. Apply creativity methods in a group setting including mind maps and brainstorming
10. Acquire theoretical skills, critical attitudes and design thinking
<table>
<thead>
<tr>
<th>Week 1</th>
<th>Course Introduction</th>
<th>Second Half of Class (History and Context)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 09</td>
<td>• Course Outline is presented and course is overviewed</td>
<td>• Movie &quot;Objectified&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 2</th>
<th>A: What is Industrial Design?</th>
<th>B: Historical Context and Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 16</td>
<td>Textbook: Ch1:Introduction</td>
<td>Textbook: Ch1: Introduction</td>
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<tr>
<td></td>
<td>• Group project is distributed and groups are released</td>
<td>CuLearn: Week 2 Readings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raizman Pg.31-36</td>
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<tr>
<td></td>
<td><strong>Group Assignment handed out Students are assigned to groups (check CuLearn)</strong></td>
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<thead>
<tr>
<th>Week 3</th>
<th>A: Research, Briefs and Specifications</th>
<th>B: Mechanization &amp; Design 1830-1914</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 23</td>
<td>Textbook: Ch2. Research, Brief and Specifications</td>
<td>CuLearn: Week 3 Readings</td>
</tr>
<tr>
<td></td>
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<td>Raizman Pg.31-36</td>
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<tr>
<td></td>
<td><strong>Quiz 0: This quiz is a practice quiz only worth 0%</strong></td>
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<thead>
<tr>
<th>Week 4</th>
<th>A: History of Mass Production (Paul Thibodeau-guest)</th>
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<tbody>
<tr>
<td>Sep. 30</td>
<td>No readings this week</td>
<td></td>
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<tr>
<td></td>
<td><strong>Group Project Step 1: Hand In Project Identification on CuLearn</strong></td>
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<table>
<thead>
<tr>
<th>Week 5</th>
<th>A: Conceptual Design-Ideation</th>
<th>B: Art Nouveau,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 07</td>
<td>Textbook: Ch3 Concept Design</td>
<td>CuLearn: Week 5 Readings</td>
</tr>
<tr>
<td></td>
<td>• In class ideation exercises on project</td>
<td>Ferebee 63-85</td>
</tr>
<tr>
<td></td>
<td><strong>Quiz 1: All Readings Week 1- 3 + Lecture Material</strong></td>
<td></td>
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<thead>
<tr>
<th>Week 6</th>
<th>A: Conceptual Design- Drawing</th>
<th>B: The Bauhaus and Die Stijl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 14</td>
<td>Textbook: Ch3 Concept Design</td>
<td>CuLearn: Week 6 Readings</td>
</tr>
<tr>
<td></td>
<td>• In class ideation exercises on project</td>
<td>Penny Sparke</td>
</tr>
<tr>
<td></td>
<td><strong>Quiz 2: All Readings Week 4- 7 + Lecture Material (Guest lecture is not included)</strong></td>
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<thead>
<tr>
<th>Week 7</th>
<th>Materials of Manufacture</th>
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<tbody>
<tr>
<td>Oct. 21</td>
<td>Textbook: Ch4. From Manufacture to Market</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pg 107 – 127 (e 1780 – 2023)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Quiz 2: All Readings Week 4- 7 + Lecture Material (Guest lecture is not included)</strong></td>
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<tr>
<th>Week 8</th>
<th><strong>Fall Break</strong></th>
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<tr>
<th>Week 9</th>
<th>Manufacturing Processes</th>
<th></th>
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<tbody>
<tr>
<td>Nov. 04</td>
<td>Textbook: Ch4. From Manufacture to Market</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pg. 128-153 (e 2023-2557)</td>
<td></td>
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<table>
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<tr>
<th>Week 10</th>
<th>B: Modernism after WWII</th>
<th>B: Postmodernism</th>
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<tbody>
<tr>
<td>Nov. 11</td>
<td>CuLearn: Readings Raizman 260-291</td>
<td>CuLearn: Readings Raizman 370-374</td>
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<td></td>
<td>**Group Project Step 2: Hand In Brief on CuLearn and bring in the DIY project for</td>
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<td>presentation</td>
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<tr>
<th>Week 11</th>
<th>A: Marketing and Selling</th>
<th>B: Contemporary Issues in Design</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Pg.156-166 (e 2587-5047)</td>
<td><em>(except for ethical design)</em> (Pg. 168 – 200)</td>
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<tr>
<td></td>
<td><strong>Quiz 3: All Readings from Week 8- 11 + Lecture Material</strong></td>
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<thead>
<tr>
<th>Week 12</th>
<th>A: The Product – Aspects to Consider</th>
<th>B: Ergonomics and Human Factors</th>
</tr>
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<tbody>
<tr>
<td>Nov. 25</td>
<td>CuLearn: Readings Gilles Ch. VII Aspects to Consider</td>
<td>Prof. Chantal Trudel-Guest</td>
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<tr>
<td></td>
<td>CuLearn: Readings Gilles Ch. VIII The product-It's presence</td>
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|         | **Quiz 3: All Readings from Week 8- 11 + Lecture Material**                            |                                            |
Course Projects/Assignments/Exams

There is one group project for the term. Students will be assigned by the instructor into groups of 5 students. The group project includes group activities and is focused on applying design principles introduced in the class.

Course Evaluation Information

Participation: 10% (undertaken on-line and in the classes)
Quiz 1: 10% (All tests will be undertaken on-line in class using CuLearn Quiz)
Quiz 2: 10%
Quiz 3: 10%
Group Project: 25% (Team Project)
Final Exam: 35% (During Exam Period in December)


Please note:
The textbook covers most of the professional aspects of industrial design, while the additional reading covers the historical and contextual developments of design. The textbook should be purchased electronically, whereas the readings are available (for free) as PDF documents on CuLearn under ARES link to the Carleton Library. Note that the readings are tagged by week. They have been scanned and made available to you for free.

Materials:
Some simple materials may be required as part of in-class exercises and students will be notified what to bring. Some simple materials may also be required for the project.

Additional Notes:

- Individual/Group Work
Courses may include various combinations of individual and group work. Students must demonstrate individual aptitude. It is important where collaborative work is undertaken that students be able to clearly demonstrate that individual contribution has been made. Where the evaluation for individual work is below a passing grade, that grade will be awarded for the course.

- Late Submission of Deliverables
All deliverables submitted late will accrue a 10% per day deduction from the determined grade, to a maximum of 3 days, from the original deadline time and date. Failure to submit within 3 days, without approval from the instructor, will result in a grade of F.
Instructor
Thomas W. Garvey, B.I.D, M.Sc., Ph.D.
Office
3481 MacKenzie Building (ME)
613-520-5674 / thomas.garvey@carleton.ca
Office Hours
By appointment
Teaching Assistant
Leilla Czunyi / leillacunyi@cmail.carleton.ca
Office Hours
During class or by appointment
Course Time and Location
Thursday 11:35 – 14:25 / 342 TB (Tory Building)

Course Description
Principles of comparative industrial design analysis covering marketing and sales, manufacturing
techniques and materials, ambiance and qualities of the object/context relationship, and design
analysis from the perspective of the designer, the maker and the user.

Learning Outcomes
• Demonstrate qualitative and quantitative comparative product analysis techniques
• Identify and describe fundamental human factors elements and evaluation techniques
• Disassemble, analyze, and identify product components and production techniques
• Describe products and environments using professional terms for ambiance, form, color and style
• Carry out and demonstrate application of preliminary research regarding market, use,
  manufacture, and environmental context along with observational research of product use
• Discuss the principles of sustainability of products and manufacturing methods
• Write a basic product design brief based on analysis process and findings
• Understand better the challenges and advantages to teamwork and the need to develop
  interpersonal communication skills for teamwork
• Demonstrate improvement in presentation and graphic skills, and make group presentations of
  knowledge gained

Course schedule – attached as separate document

Course Support
This course will be supported by the cuLearn Course Management System. Course-related
announcements and a variety of resources (some readings, handouts, class presentations or relevant
links) will be made available through the cuLearn site. Make sure that your cuLearn account is
activated (webct.carleton.ca) and check the class site well before each class. You are responsible for
reading and responding to all information distributed through cuLearn.

Course Materials
Course Reference Textbooks:
Additional readings may be added. You will be notified in advance.

Durable Consumer Product:
Required for Assignment 1 (to be purchased by team as advised in class)

Course Format
The course consists of lectures, hands on analyses of existing products and student presentations, and in class exercises and quizzes. Each lecture presents a different approach to product analysis. Readings will be assigned in order to prepare for the next lecture and/or for the exercises and quizzes. Attendance and participation is required and critical to learning and success. Those who do not attend classes are unlikely to achieve their full potential in this course.

Course Assignments
Assignment 1:
Students will work in teams to analyze various aspects of a consumer product according to material delivered in the course, and will make final public presentations of their results. For this purpose, a portion of the class time will be allocated to teamwork and consultation with the instructor and teaching assistants.

Assignment 2:
Students will individually complete an Ambiance/Form Analysis of a product series and environment.

In class exercises and quizzes:
There will be a range of in class exercises and quizzes to periodically evaluate comprehension of the ongoing readings.

Course Evaluation Information
Assignment 1 - Product Analysis (team): 40%
Assignment 2 - Ambiance/Form Analysis (individual): 30%
In class exercises and quizzes 30%

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Individual/Group Work
Courses may include various combinations of individual and group work. Students must demonstrate individual aptitude, and achieve a passing grade for individual work, in order to pass the course. Where the evaluation for individual work is below a passing grade, that grade will be awarded for the course. It is important where collaborative work is undertaken that students be able to clearly demonstrate that individual contribution has been made.

Late Submission of Hand-in Deliverables
All hand-in deliverables submitted late will accrue a 10% per day deduction from the determined grade, to a maximum of 3 days, from the original deadline time and date. Failure to submit within 3 days, without prior approval from the instructor, will result in a grade of F.

Review Attendance and Deliverables
Attendance at scheduled project reviews is mandatory. Failure to attend and present as scheduled will result in a grade of F for the review. If you are not able to attend a review, please call the instructor or the General Office (520-5672) and leave a message in advance. A comprehensive medical certificate or other documentation to substantiate the absence must be submitted as soon as possible after the review. Such documentation must state the date of illness onset, the expected date of recovery, and the extent to which the student is incapacitated. A grade of F can be modified only if a student submits such documentation and completes the project requirements on a date agreed upon.
COURSE DESCRIPTION Course examines architecture in Canada from the 17th century to the present day including both stylistic and technological developments, with an emphasis on the Post World War II period and the modern movement in the Canadian Capital. Building styles, methods and materials will be covered in the context of social and economic conditions.

COURSE OBJECTIVES The object of this course is to give students an introduction to, and basic knowledge of, the history and historiography of architecture in Canada. Seen as a part of a universal human activity defined by, at first, a geographical, and, later, a political reality, the practice of architecture in Canada reveals itself to be a complex phenomena intimately connected with the common architectural culture of the western world as well as the ongoing traditions of the First Nations. At the same time, over its long history, Canadian architecture has proven itself to be an important site for the emergence and development of a localized sensibility and culture.

Is there such a thing as “Canadian Architecture” (defined by specific features, attitudes, and approaches) or can we only speak of “Architecture in Canada”? And in what manners does Canada’s architecture and building culture reflect and contribute to Canadian identity? How does contemporary practice in Canada fulfill, or alternately, constitute, a new departure vis-à-vis historical traditions and memory? These are some of the questions we will broach in this class.

COURSE REQUIREMENTS
1. Test 1 20%
2. Group Presentation 15%
3. Presentation Paper 20%
4. Test 2 20%
5. Take Home Exam 25%

REQUIRED READINGS Readings will (for the most part) be assigned from the following texts:
Geoffrey Simmins, Documents in Canadian Architecture (Peterborough: Broadview Press, 1992);
See Supplemental Reading List (CuLearn)

CLASS SCHEDULE:
Note that readings for each class are listed and linked through Ares (CuLearn)

January 8
Part 1 Introduction: Canadian Architecture – Architecture in Canada?
Part 2 Architecture, Landscape and Material Imagination of Canada’s First Nations.
Film: Aboriginal Architecture (excerpts)
Readings:
January 15
Part 1 The French
Part 2 English and American Influence: Early Architecture in the Maritimes
Part 3 Class Presentation (1)

January 22 ...................................................... Walk and Visit (1 of 2)
- 8:30 Meet at Eternal Flame on Parliament Hill
- 9:05 Visit of Parliament (begin security a few minutes earlier)
- 10:00 Walk to 125 Sparks Street
- 10:15 Visit of Bank of Nova Scotia (John Lyle 1924)
- Walk to Supreme Court of Canada
- 10:50 Visit of Supreme Court of Canada (Ernest Cormier 1939)

January 29
- Part 1 Guest Lecture: Peter Coffman “Gothic Revival in Canada”
- Part 2 Guest Lecture: Peter Coffman: Gothic as the National Style – A look at Secular Buildings

February 5
Part 1 ...................................................... Test 1
Part 2 Class Presentation (1)
Part 3 Guest Lecture Daniel Millette – Indigenous Architecture

February 12
Part 1 Continentalism –The Railway
Part 2 Continentalism –Legislative Buildings
Part 3 Class Presentations (1)

February 19……………………………………………… Winter Break

February 26
Part 1 Art Deco Introduction
Part 2 Class Presentations (1)
Part 3 Guest Lecture: Michael Windover: "Art Deco and the Entry of Modernism in Canada"

March 4
Part 1: Modernism: Canada’s New Universities
Embracing Modernity – Shifts In Architectural Pedagogy, Education Buildings, Transportation And Civic Bldgs
Part 2: “Expo’67”
Part 3 Class Presentations (2)

March 11
Part 1 Centennial Buildings
Part 2 Canada’s Domestic Landscape
- CMHC history, Regent Park, Don Mills; CMHC Small House Plans; New Housing Forms
Part 3 Class Presentations (1)

March 18
Part 1 ...................................................... Test 2
Part 2 Domestic Modernism in Ottawa: Case studies of Ottawa Modern Houses
Part 3 Class Presentations (2)

April 1……………………………………………… Walk and Visit (2 of 2)
Part 1 Meet at the Museum of Canadian History (formerly, the Museum of Civilizations), Gatineau and walk to National Gallery.
Part 2 Douglas Cardinal and Moshe Safdie: Visions of Nation in the Postmodern Period

April 8 (Last Class)
Part 1 Contemporary Issues
Part 2 Class Presentations (5)
Take Home Exam assigned.
This seminar explores the idea of an “avant-garde” in modern architecture. The inquiry follows the late architect, critic, and historian Alan Colquhoun’s observation, made when introducing his book *Modern Architecture* (2000), that it remains difficult to distinguish clearly between “an avant-garde that sought to change the status of art within the relations of production and a Modernism that sought only to change its forms.” No matter how radical, prewar modernists – in other words, those figures, often European, leading the Modern Movement in architecture – never escaped the demands of aesthetics and form. Behind artistic and political notions on an *avant-garde* (in other words a force capable of intervening in human affairs) was an abiding faith in *progress*, in being able to guide the course of history. This idea of *Zeitgeist*, of a “spirit of the age”, remained at the heart of pragmatic and prophetic declarations on the “future”.

The course will use Peter Bürger’s important book *Theory of the Avant-Garde* (1984) to examine ways in which artistic avant-gardes have shaped modern consciousness. Key philosophical texts and architectural case studies will be situated alongside Bürger’s work as means to study significant passages through modernity reaching back to the late eighteenth century but largely focusing on the twentieth century. Along the way,
students will encounter groups, ideas, and thinkers dedicated to a revolution of everyday life. This leitmotif of avant-gardism spurred visions of, among other things, remaking the modern metropolis. At stake is evaluating the degree to which an architectural avant-garde could ever become truly autonomous – that is, as an unfettered form of critique (like, for example, art practice) – or remained, by virtue of the very act of building, bound to systems of culture and capital (thereby perhaps limiting its full utopian thrust). Understanding links between aesthetics, politics, and technics – whether in written statements or built symbols – is a crucial ambition of this seminar. As such, attention will be paid to primary sources of philosophy and critical theory as well as architectural manifestoes. Critical histories of modernism – for example Manfredo Tafuri’s Architecture and Utopia (1976) – offer concluding notes on ways in which intellectuals and designers have envisioned further openings or final closures to avant-gardism in the late twentieth century.

Enrollment
The seminar is limited to approximately fifteen students. Priority will be given to graduate students (M.Arch or M.A.) and upper-level undergraduates, though not necessarily in this order. If the course is over-subscribed, then enrollment may be decided by a writing assignment or interview and at the Instructor’s discretion. The resulting shortlist will be opened if space becomes available.

Master of Architecture students must have passed ARCH 5200 Graduate Seminar 1. Undergraduate architecture students must have successfully completed ARCH 2300 Introduction to Modern Architecture (or its equivalent). Participants should possess a good grounding in the history and theory of modern architecture and urbanism. Non-architecture students are welcome to contact the Instructor to assess their eligibility.

ARCH 4009 is not a lecture class but a seminar. The course requires, therefore, sustained critical engagement with the assigned readings. Students must possess strong writing skills and be committed to generating weekly discussion.

Assignments and Evaluation
20% Seminar Presentation (of approximately 45 minutes – see Seminar Format below). Depending on class enrollment, additional presentations may be required; the grade will be divided accordingly
15% Research Paper Proposal; submission: March 2, 2016, in class
50% Final Research Paper (12 pages); submission: April 11, 2016 (location to be announced)
15% Class Participation; see above for description on seminar participation.
Failure to complete weekly readings or not speaking regularly (i.e. during each session) will be noted and contribute to a lower mark. Unexcused absence will result in losing 5 marks (out of 15); two unexcused absences will lead to 0 marks (out of 15); additional unexcused absences will see the deduction of 5 marks (out of 100) per missed class
THE DESIGNED LANDSCAPE: From Arcadia to Necessary Aesthetics

COURSE SUMMARY
This course brings attention to issues bearing upon the modern landscape in order to observe how at the first part of this new century landscape design and land art address social and environmental shortcomings. The overarching intention of this class is to address not merely the benefits that design disciplines can derive from a critical understanding of landscape, but also the benefits that landscape practices might garner from a rigorous consideration of other areas of study. Through coursework, students will examine questions pertinent to contemporary landscape using an interdisciplinary approach where material is taken from the fields of art and landscape art, architecture and western landscape architecture, as well as from social and critical theory, cultural geography, philosophy, and design history. The class adopts a case-study method where in each class current landscape practices are examined alongside historical examples. Note: In this course "landscape" refers to the entwined presence of humans, nature, and artifice; “landscape” does not refer to an exclusively natural (nor exclusively human-made nor abstract) topography.

COURSE OUTLINE
This course aims to introduce students to significant historical and theoretical issues in the design of the landscape. Coursework will introduce works of landscape, the intentions of designers and authors whose subject is landscape, and contemporary theoretical issues that bear upon a studied consideration of landscape in our current era. Topics are arranged thematically, however, due to the character of the themes and the complexity of the subject of landscape, themes will invariably overlap; at times themes will seemingly contradict each other. These gaps are precisely the basis for subsequent discussions.

Week 1: Imagining the Landscape: From Arcadia to Necessary Aesthetics
Week 2: Historical Landscape Precedents and Modern Interpretations
Week 3: Imaging the Landscape: The Significance of Pictures
Week 4: Recording the Landscape: Cartography and the Mapping of Culture
Week 5: Politicizing the Landscape: Memory, Nationalism, and Propaganda
Week 6: Landscape as Infrastructure: Naturalizing Urbanism Through Public Parks
Week 7: Landscape and Architecture: Urban and Architectural Extensions of the Landscape
Week 8: Landscape and Environmentalism: Art as Ecology
Week 9: *Metaphors of Landscape: Invocations of Gender, Morality, and Physical Health*

Week 10: *The Designed Landscape: Art, Critique, and Necessary Aesthetics*

Week 11: *Case Study (TBD)*

Week 12: *Case Study (TBD)*

**COURSE ASSIGNMENTS**

There are two papers required in this class due at the semester's midpoint and end (dates to be announced in class). For each paper a general topic will be assigned where each student will select and develop his/her own subject to explicate the given topic. Each paper will be a minimum of 1,000 words long, and will be submitted on each due date both as a hard-copy and as a Word format email attachment.

Essay #1 is worth 35% of the final grade; Essay #2 is worth 40%, quizzes totaled are worth 25% of the final grade.

**COURSE FUNDAMENTALS**

The larger part of each meeting day will be dedicated to a lecture presented by the professor, while the second, smaller part, will be used for discussions led by students that incorporate each week’s lecture, readings, material covered previously, as well as "outside" material deemed to be pertinent to the topic at hand. The success of the class is directly linked to each student's preparation for, and participation in, each class discussion. The objective of the discussion portion is not to reiterate read or presented materials but to apply these materials in original, creative and synthetic ways.
GENERAL COURSE OUTLINE
ARCH 4201 R – History of Modern Housing
Winter Term, 2015
Instructor: Benjamin Gianni, AA 423, Benjamin_gianni@carleton.ca
TA: Jayla Dekraker, JaylaDekraker@cmail.carleton.ca

Course Description

Our primary experience with architecture is with the “house” – in the form of the domestic environments with which we interacted as children. These environments exert a profound influence on us, frequently forming the basis of our decision to pursue architecture. Ironically, however, architects play a relatively minor role in the housing marketplace.

This seminar will begin by looking broadly at housing as a function of social organization, demographics, and market demand. We will then explore the evolution of house form over time, tracing influences and identifying types. Next we will examine the evolving role of the state in provision of housing – both through direct participation (i.e., social housing projects) and by means of incentives to the private sector. Finally we will review key attempts by architects to influence the housing marketplace – promoting design as a form of social reform.

Course Objectives

- To become familiar with a variety approaches to the question of housing
- To understand the forces that produce housing and their impact on the kinds of housing produced
- To be able to identify key housing categories (owner-occupied, rental, etc.) and types (courtyard, villa, etc.), permutations of which appear throughout time
- To understand the architect’s role in the provision of housing
- To understand the government’s role in provision of housing – through both direct and indirect interventions
- To be able, as an architect, to meaningfully engage the question of housing in the current governmental and economic climate of Canada.

Course Schedule

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<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings to have completed</th>
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<tbody>
<tr>
<td>Lecture 1</td>
<td>Introduction: Tenancy and Typology</td>
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<tr>
<td>Lecture 2</td>
<td>Overview of housing in Canada at the end of the 20th century</td>
<td>Sewell, Ch. 1-4</td>
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<tr>
<td>Lecture 3</td>
<td>Types Throughout Time 1: ancient and medieval</td>
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<tr>
<td>Lecture 4</td>
<td>Types Throughout Time 2: 18th century residential squares, districts and terrace housing</td>
<td>Arendt, Ch. 1 &amp; 2 (on reserve)</td>
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<tr>
<td>Lecture 5</td>
<td>Types throughout time 3: 19th century urban housing</td>
<td>Wright, Ch. 2, 8</td>
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last updated January 10, 2016
| Lecture 6 | Reactions to Urbanity 1: Suburban Housing 1  
19th and early 20th century | Wright, Ch. 4, 5, 6, 9 |
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<tr>
<td>February 9</td>
<td>Take-home exam posted online.</td>
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<tr>
<td>February 15</td>
<td><strong>Winter Break: no class</strong></td>
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<tr>
<td>February 23</td>
<td>Take-home Mid-Term exam due.</td>
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<tr>
<td>Lecture 7</td>
<td>Reactions to Urbanity 2: Social Housing 1</td>
<td>Wright, Ch. 7</td>
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| Lecture 8 | Reactions to Urbanity 3: Suburban Housing 2  
Post WWII housing types | Wright, Ch. 11, 13  
Sewell, Ch. 5 |
| Lecture 9 | Reactions to Urbanity 4: Social Housing 2  
The ascendance of modernism and the influence of CIAM. | Wright Ch. 12  
Sewell, Ch. 8 |
| Lecture 10 | Prefabrication | |
| Lecture 11 | Urbanity Revisited 1: the anti-sprawl debate and variations on suburban density | Sewell, Ch. 6  
Duany, *Suburban Nation, Ch. 10* (handout) |
| Lecture 12 | Urbanity Revisited 2: Resettling the City (addressing the ageing post-war social housing stock, demographic changes and effect on demand for urban housing, etc.) | Sewell, Ch. 7, 9, 10, 11 |
| Friday, April 8th | Take home final examination posted online | |
| Saturday, April 23rd | Take-home final examination due | |

**Readings**

Wright, Gwendolyn, *Building the Dream, a Social History of Housing in America*, HD7293.W74  
Sewell, John, *Houses and Homes, Housing for Canadians* HD7305.A3S48  
Duany, Andes, *Suburban Nation*, HT384.U5D83

Readings are on reserve at the McOdrum Library. You are also encouraged them to purchase them online. *Houses and Homes* is out of print but used copies are available on Amazon.

**Grading**

<table>
<thead>
<tr>
<th>Homework</th>
<th>Mid-Term exam</th>
<th>40%</th>
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<tr>
<td>Final exam</td>
<td>60%</td>
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ARCH 4502 W Research & Criticism Winter 2016
Title: THE SITUATED SELF
WHAT IS ARCHITECTURAL KNOWLEDGE?

Instructor: Roger Connah
Class Time: Tuesdays 11.35-14.25 (Jan 6 – April 8)
Room: Architecture 515 (seminar rm)
Hours Per Week: 3 hours
Credit Value: 0.5
Professor: roger_connah@carleton.ca
Office Hours/Location: Tuesdays 15.00 – 17.30 Room 524

COURSE OVERVIEW The Situated Self
Thinking Architecture, Researching Concepts & The Critical Clue:
https://www.youtube.com/watch?v=x1bX3F7uTrq

To understand why ‘research’ has become so important (even a fetish) in architectural education, and why the ‘criticality’ favored by the academy may have all but disappeared in the professional field of architecture, we will need to take a fresh look at the ‘conception of architectural knowledge’. What is architectural knowledge? This is not frightening. But for every idea, concept and theoretical notion put forward by recognized (canonical?) sources and accepted critical histories (often called ‘received wisdom’) we have to understand what it means to talk of situated and even subjugated knowledge.

What is wrong with this picture?

To balance this it would be wise to consider what is ‘architectural knowledge’ today. Has it remained unchanged in the vastly changed and relentlessly changing world today? What is your ‘conception’ of that knowledge as you pass through studio, seminar and semester? What over the years has built this up? What is the narrative presented and what is the narrative you receive and adapt? And how do you use this to research, think and help you design.

COURSE FRAMING – critical focus
To explore ‘architectural knowledge’ the course concentrates on:
1 The Critical Self – what is it and how do you train it and use it?
2 The Four Point Cognitive Model (fluency – infancy – truancy – redundancy) – how do you select/edit today?
3 Is architectural knowledge static but relational. What are the relations and dynamics between research, design & critical thinking (criticism)?
4 What is criticality? How do you/we use it in an age considered both post-critical and post-informational? How does this relate to the history and theory presented? What is a Situated Self?

COURSE UNDERPINNING
We read texts to read architecture, to read the world. In spite of everything that features architecture today in the trend magazines, and daily online sites, it seems so few hold critical views that last. Why is this? Is the iconic lazy? Is immediacy too prominent? Not in the academy so much, as in the profession. Then there is the general fear of theory and contest since the turn of the new millennium. This may have invited a spectacular architecture to fit in with, or utilize with, the market a little too easily. Is this a laissez-faire attitude with bells and whistles? Is this a conformity producing a sort of mimic architecture of high image value and seduction seen daily online and changing daily?

Is this the (architectural) meme machine?

How might this affect those of you about to move into the profession? How can we be critical today? Faced with the richness and excess of online information and media, there is courage in editing, in selecting what’s available for your own life and education. But how do you do it? To be in ignorance of something is surely only useful if we know about it. And skepticism is positive if we edit aggressively. These questions will help understand and shape your own thinking and thus research.

This is the situated self.
COURSE FORMAT
Who speaks, who writes, who lectures?
The set of seminar sessions, lectures, mapping and visual presentation will explore research and criticism, architectural knowledge and non-knowledge.
The course consists of 10 interactive, cross-disciplinary sessions on the conception of architectural knowledge using deep reading and mapping aspects of cultural theory and critical thinking from the second half of the 20th century to our current moment.
Each class will consist of – a presentation – a mapping – reading an extract – student presentation(s) – a discussion/debate.
Sessions will tie up with the weekly topics, material covered and student weekly seminar presentations*. We will also have short weekly debates around the idea of the use/abuse of theory. Students will be encouraged to take researched positions; for or against architectural theory. Each student will present twice (before and after mid-term) short seminar presentations from a shared list of critical options. The course will consider how these ideas have found their way into architecture?

COURSE OBJECTIVES
To ask what is architectural knowledge, what is research and how is (architectural) ‘criticism’ useful?
To learn about research methodologies and how to utilize them.
To be introduced to critical thinking and cultural theory: what is the intertext?
To approach cognitive modeling: the four-point model of (your) ‘knowledge in flux’.
To understand and use contradictions & generalizations; for example
- we are bombarded with so much ‘information’ & ‘knowledge’, how do we choose?
- to understand how we have to remain in ignorance of some of this information
- to understand what it might mean to speak of “retention deficit disorder”.
To understand and exercise informational/relational mapping
To understand architectural knowledge in flux
To write, re-write, edit and prepare a text.
To research the Critical Self, to shape the Situated Self
To situate oneself in the (contemporary) conception of Architecture

Part 1 Critical theory & Research methods
1 Jan 12 - 5 Easy Pieces - course structure - introduction –assignments introduced – 1st mapping (We didn’t Start the Fire) - assignment 1 (blind text)
3 Jan 26 - Six Big Ideas & a Spanner – Critical Theory (Movements, ideas & Architecture)
   student presentations 1 (group a) – The Post Modern Condition.
4 Feb 2 - Selected Ignorance –Critical Writing workshop session - Cognitive Modeling/Deconstruction - Thinking Architecture – Drawing Architecture - Four Points - student presentations group B/C
5 Feb 9 - The Rhetoric of the Text – writing, re-writing, erasing and re-making - student presentations (Group D) Mapping, Diagramming and Text – Research Methodologies 2

Part 2 Cultural Theory & Post-Criticality – Living in a Post-Truth World?
6 Feb 23 - Structuralism, Taboos, Networks and Fictions –Mapping (RC) student presentations group A
7 March 1st - North South-East-West – Cultural theory, movements, ideas & post-structuralism (group B)
8 March 8 - Research Methodologies 3 - the notebook - mapping, text and new graphics
9 March 15 - Cultural Theory 2 – mapping of Architectural Thinkers vis a vis Philosophers
10 March 22 - Portfolio – Post_Criticality/Post-Truth/Post-Image?
   - Writing and Diagram workshop
11 March 29 - Closing Session : the Rapid Lecture – the Acceleration manifesto.
On Lying and a Debate : For or Against Architectural Theory (Timo Penttilä, The School of Exile, Connah, Datutop, Finland 2015)
12 April 5 - Celebrations
17 April 5 - Easy Assignments

Weekly Seminar Presentations
Using Neil Leach’s Re-Thinking Architecture - A Reader on Cultural Theory (1997 Routledge) each student will present the following as a narrative (Prezi) presentation from a significant thinker of the 20th century, followed by an ‘echo’ to an architectural thinker.

1 Research the thinker & introduce & introduce the ‘research’
2 Offer and discuss 5 keywords
3 Trace any links to architecture
4 Add one caste study where possible
4 Consider the diaspora of architectural ideas or (thin/thick) application of theory
Stage 1: Thinkers (for architects):


Stage 2 Architects (practitioners, critics and historians) as Thinkers

Each student will study an architect practitioner, thinker linked with each thinker identified above (details to follow – elected from the following) -

- Le Corbusier
- Naum Gabo
- Theo Van Doesburg
- Siegfried Giedion
- Bruno Zevi
- Jane Jacobs
- Brenard Rudovsky
- Cedric Price
- Robert Venturi
- Reynar Banham
- Manfredo Tafuri
- Kenneth Frampton
- Alison & Peter Smithson
- Aldo Rossi
- Herman Hertzberger
- Aldo Van Eyck
- Giancarlo de Carlo
- Charles Jencks
- Colin Rowe
- George Baird
- Rem Koolhaas
- Bernard Tschumi
- Stan Allen
- Winy Maas
- Beatriz Colomina
- Teddy Cruz
- Alejandro Aravena

COURSE ASSIGNMENTS 5 Easy Pieces

Exercises – which run in parallel - will be scripted by each student and eventually build up to become a final portfolio of text and image on (Situated) Architectural Knowledge. More details will follow on discussion and shared agreement in class.

Assignment 1 The text

a) an Untutored Blind essay called The Situated Self (1) 750 words (by January 19th).
b) A Revised version of this essay called The Situated Self (2) 1500 words (by 23 February)
c) A Final expanded, revised, changed essay The Situated Self (3) 3000 words (by March 28th)

Assignment 4 The Accelerated Exercise (tbd) – the (new selected) seminar notebook

Assignment 5 The Politics of Common Sense – diagrams of life and architecture

Assignment 5 The Manifesto is Dead (tbd)

COURSE READING/BIBLIOGRAPHY (selected)

Key texts:
- Building Change - Lisa Findlay
- Architectural Research Methods - Groat & Wang
- Reality Hunger - David Shields
- Theories & Manifestos - ed Jencks & Kropf
- Beginning Theory: an introduction to Literary & Cultural Theory - Peter Berry
- Re-Thinking Architecture - Neil Leach

For personal Topic (concept) selection for Assignments:
- I Swear I Saw This, Michael Taussig, (Chicago 2011)
- Despatches from Dystopia (Histories of Places not yet Forgotten) - Kate Brown (Chicago 2015)
- Cartographies of the Absolute, Toscano & Kinkle. (Zero 2015)
- Postmodern Geographies The Reassertion of Space in Critical Social Theory, Edward W Soja, (Verso 1989)

Toward a Minor Architecture - Jill Stoner (MIT Press 2012)
- Buildings Must Die, A Perverse View of Architecture - Cairns & Jacob (MIT Press 2014)
- Learning from Las Vegas - Venturi, Rauch and Brown (MIT Press 1977)
- How Architecture Got its Hump - Roger Connah (MIT Press 2001)

Accelerate - The Accelerationist Reader - ed Mackay/ Avanessian (Urbanomic 2014)
- Cyclonopedia: Complicity with Anonymous Materials (Anomaly) - Reza Negarestani (re.press 2008)
- The Ontology of the Accident, an essay on Destructive Plasticity - Catherine Malabou (Polity 2012)
- In the Dust of This Planet (Horror of Philosophy) - Eugene Thacker (Zero 2011)
- The Nightmare of Participation - Markus Miessen (Sternberg 2011)

Cities John Lorinc (Groundwood 2008)
- Cities are Good For Us, The genius of the metropolis Leo Hollis (Bloomsbury 2013)
- For Space - Doreen Massey (Sage 2005)
- Losing Control? Sovereignty in the Age of Globalisation - Saskia Sassen (Columbia 2015)

roger.connah@carleton.ca winter term 2016
ARCH
ARCC

History/Theory
Techniques

Elective Course for M.Arch
ARCC 3004A – Energy and Form Workshop [Ecologically Positive Community Design]

Semester: Winter 2016

Instructor: Giancarlo Mangone, (e) giancarlo.mangone@carleton.ca, (o) Architecture Building Rm 409

Class time: Tuesday + Thursday, 2:35 – 5:25 pm Location: Architecture Building, Rm 435

Office Hours + Communication: Office hours are 5:30-6:30pm on Thursdays. Students must notify the instructor at least 24 hours in advance if they are planning to attend office hours. E-mail correspondence is permissible for making an appointment or emergency situations only. The Instructor will respond to permissible, non-emergency e-mails one day a week, by Thursday evening. The course email policy is outlined in detail in the Email Policy section below.

PROJECT BRIEF

The goal of this course is to explore the maximum potential of buildings to improve the ecological integrity [health] of local ecosystems. Students will explore the potential effectiveness of diverse ecological design strategies, including design for ecological behavior, design for ecosystem functions, and design for biodiversity.

The ecological explorations for this semester will be applied to the design of a mixed use development in Puerto Morelos, Mexico, in a way that promotes the preservation and restoration of the local wetlands and forest ecosystems. This project will be developed in collaboration with a sociology research team in Mexico, as well as collaborators from other disciplines.

Students will work both individually and in groups, in order to develop deep and broad design solutions. The coursework will be collaborative in nature, whereby each student is contributing to the overall development of the project, and students are working together, rather than competitively. Therefore, collaboration is encouraged.

Through the coursework, students will broaden and deepen their knowledge about ecological design, as well as improve their ecological design skillset. In addition, by working with a real world community and context, students will gain experience in working on ecological design projects.

LEARNING OBJECTIVES

- Broaden and deepen understanding of ecological design
- Develop an understanding of current ecological design strategies
- Develop an understanding of how to develop high performance and high quality buildings and building spaces
- Develop a critical understanding of sustainability, and its interrelationships with the design process
- Develop an understanding of how to evaluate the ecological performance of building projects
- Provide experience working in interdisciplinary project teams

METHODOLOGY

The course will be structured partly as collaborative, interdisciplinary workshop seminar, partly as lecture, as well as partly as a multidisciplinary design studio. The course will employ a design research-based pedagogical model, in which a substantial portion of the learning will be developed individually and peer-to-peer. Evaluation will be based on three projects: high impact ecological behavior design solutions, project site analysis, and an ecological building design project. This course will require the use of digital modeling and visualization programs, as well as Adobe Illustrator and Photoshop.

COURSE EVALUATION CRITERIA + CALENDAR

Project 1: High Impact Ecological Behavior Design Solution………………………………………………20%……Due Jan. 21, 2016
Project 2: Site Analysis………………..…………………………………………………………………………………………..25%……Due Feb. 11, 2016
Project 3: Ecological Building Design Project…………………………………………………………………………45%……Due April 23, 2016, noon
Individual In-Class + Group Participation…………………………………………………………………………………………..10%
REFERENCES

For a map of the project site, input the following into Googlemaps: Jardín Botánico Alfredo Barrera Marin en Puerto Morelos, Quintana Roo

Required Reading


Suggested Reading (by research topic)

Ecological Performance

- Emma Marris, Rambunctious Garden, Bloomsbury, NY, 2011

Social Performance (Design for People)

- David Abram, Becoming Animal, Vintage Books, 2010
- www.Simpl.biz
- www.Centerforactivedesign.org

Water Systems

- Italo Calvino, The Call of the Water, in: Numbers in the Dark and Other Stories

Nutrient Systems


Comprehensive Building Systems (Overall)

- www.wbdg.org (Whole Building Design Guide)
- www.architecture2030.org

Wall Assembly + Structures

- Buckylab.blogspot.com TU Delft Wall Assembly Innovation Research Lab
- www.transmaterial.net
- www.case.rpi.edu
- Detail Magazine www.detail-online.com
- Architect Magazine www.architectmagazine.com
- Edward Allen and Joseph Iano. The Architect’s Studio Companion: Rules of Thumb for Preliminary Design

Thermal Environments

- Lisa Heschong, Thermal delight in architecture, MIT Press, 1979
- J. Yu, etc. A comparison of thermal adaptability of people accustomed to air conditioned environments and naturally ventilated environments. Indoor Air, 2012
EMAIL POLICY

Please read through the syllabus and project briefs before sending emails to the Instructor. Historically, the majority of emails by students are asking questions that are directly answered in the project briefs or syllabus. In addition, email is not a substitute for meeting with the Instructor. If necessary, then use the time before or after class for scheduling an office appointment, to ask questions about course material and assignments, or to address any concerns regarding your performance. Email is appropriate to notify of an absence for legitimate reasons (e.g. family emergency or illness, the latter which must be identified by a doctor’s note); other emails may not be acknowledged. Do not send the following kinds of emails: messages that use inappropriate language and/or formatting (e.g. addressing the Instructor as “hey”, writing entirely in lower cases, slang, etc.); requests for information if you miss a class; any internet jokes, chain letters, junk email, and invitations to join Facebook, LinkedIn, or other social media. The Instructor may use email to communicate with the class as a whole – for example, to inform of class progress, modifications to the course schedule, or miscellaneous announcements. Additionally, the Instructor may ask students to work together by email for group assignments and research. Failure to comply with the email policy may result in referral to the Director of Student Affairs.

ACADEMIC ACCOMMODATION

You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please review the course outline promptly and write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

It takes time to review and consider each request individually, and to arrange for accommodations where appropriate. Please make sure you respect these timelines particularly for in-class tests, mid-terms and final exams, as well as any change in due dates for papers.

You can visit the Equity Service website to view the policies and to obtain more detailed information on academic accommodation at http://carleton.ca/equity/accommodation

ACCESSIBILITY

Students with disabilities requiring academic accommodation in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that I receive your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadlines published on the PMC website: http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/

GRADING

For the grade in the “A” range, the Instructor will have judged the student to have satisfied the stated objectives of the course in an outstanding to excellent manner; for the “B” range, in an above average manner; for the “C” range, in an average manner with C- being the lowest acceptable grade in the BAS - Design Core courses; for the “D” range, in the lowest acceptable manner in non-Core courses, and for “F”, not to have satisfied the stated objectives of the course. Grades will be assigned as A+ (90-100%), A (85-89%), A- (80-84%), B+ (77-79%), B (73-76%), B- (70-72%), C+ (67-69%), C (63-66%), C- (60-62%), D+ (57-59%), D (53-56%), D- (50-52%), F (0-49%) and ABS. A grade of C- or better in each course of the BAS - Design Core is required for a student to remain in Good Standing. (Please refer to the
ARCH 5003 – Grad
ARCHN 3003 – U/Grad
Theatre Production Workshop 0.5 Credit Workshop Elective

Winter 2016
T Th 2:30 – 5:30

Instructor: Yvan P Cazabon (Yvan.Cazabon@Carleton.ca); xt 2863

COURSE DESCRIPTION AND OBJECTIVES
This Workshop will introduce the complex workings of live theatre. It will be concerned with the theoretical and technical aspects of theatre production including questions of interpretation, abstraction, representation, design and construction. Students in this workshop will work closely in teams in order to communicate and debate ideas about specific scenes in plays as well as more general concepts relating to (re)-presentation and live performances.

Robert Lepage tells us:
“There is a great affinity between theatre projects and architectural preoccupations, relating to space, function, philosophy and especially the poetics of building. This is especially true of our company “Ex Machina” where we attempt to extract poetry and magic from technology and architecture. We share in our reflections on the “metaphysics” of space as a vehicle for assembly and cultural fiction.” - Le Devoir (trans. ypc)

The structure and scheduling of this workshop will be in large part determined by the readings, rehearsals and the eventual live performances of a Shakespearean-themed play, as set by the Drama Workshop group from Carleton’s English Department. Working in concert with the School of Architecture, students and experts from both departments will undertake to prepare, produce and present:

Soliloquies, Sonnets & Selfies
scenes of self-reflection
by numerous authors (incl. Shakespeare)

Participants in this workshop will be assigned to scene-teams that will be comprised of students from the architecture program and the English Department’s Drama Workshop. Teams will be responsible for various aspects of the production and performance including:
1. The assembly of a collaged narrative in multiple parts
2. The design, design development and construction of all required sets and stage features. Drawings, Models, etc. Note: All productions will benefit from “elegance of means” and rarefied abstraction.
3. Collection, editing and projection of images and videos as settings.
4. Lighting & Sound design - Cueing and Presentation.
5. The design and mock-up of the “press-package” including posters & flyers.
Delegation of work will be discussed within the group in consultation with the course’s tutor and representatives from the Drama Workshop unit. By the end of Week One, groups will have been formulated and assigned readings will have been distributed to all group members. It is the responsibility of each participant to complete all readings and to remain in close contact with other team members. Due to the fast-pace of theatre production in the early part of the plays development, impromptu gatherings, and presentations will be necessary in order to deliver the product in time for the fixed deadlines. A supplementary schedule, highlighting important dates will be distributed under a separate cover.

Also, this workshop will introduce participants to the personnel of theatre production (directors, lighting designers, artistic directors, etc.) who will be invited to give lectures and presentations.

**SPECIAL REQUIREMENTS**
Due to its design/build aspects and to the short working schedule, this workshop will be limited to eighteen (15 to 18) students distributed into four to five teams. All participants as a co-operative effort will produce the final presentation. While related construction experience is an asset, it is not mandatory to the selection of participants for this workshop.

**ASSIGNMENTS**
Minimum Workshop deliverables, expected of all participants are as follows:
1. A working script - with one scene per working group
2. Set design (drawings and models - physical/digital) of individual interpretation of assigned play, acts or scenes.
3. Group critique and proposal of final design for construction.
4. Set construction (design/build) & digital projections.
5. Lighting + Sound installation.
6. Press Kit mock-up: Posters, flyers and programmes.
7. Personal contributions identified within Group Logbooks documenting lectures and presentations, design and construction processes and final results. This “team diary” should include photographs, drawings and sketches, as well as production notes and instructions.
8. Participation in final Performance(s): Anticipated Date: April 5, 2016

**ACCREDITATION AND PROFESSIONAL EXPERIENCE**
Student Performance Criteria (STC)
For the purposes of accreditation, graduating students must demonstrate understanding or ability in the 31 student performance criteria according to an established sequence.

**THIS COURSE MEETS THE FOLLOWING CRITERIA:**
- A3: Graphic Skills are demonstrated through the presentation of design proposals for sets and stage-design, lighting, etc. In addition, digital media complements the physical sets presented in the live performance.
- A5: Collaborative Skills: Teams of 3 to 4 students are responsible for the design, construction and live presentation of individual scenes from the play. Teams collaborate within their scenes as well as with other teams across sequential scenes.
- A9: Precedents: The history of Theatre is explored and precedent studies of performance practices are examined in order to explore contemporary scenography and set design.
- B1: Design skills, similar to architecture studios, are demonstrated through the design proposals presented to all parties of the Theatre production. Detail design is discussed in the workshop in order to refine design-build elements and constructions.
The aim of this graduate course is to gain a shared operative definition of “research project”. What does it mean to undertake a research project today and what does it mean to “write” a dissertation as a research project? The contemporary distinction between “highest”, “higher” and “moderate” research activity (Carnegie Classification) requires a stance.

First of all we will explore, in our colloquium setting, the themes that are part of our current research (the students’ dissertation proposals and the designs and researches that I conduct and share with other colleagues). I propose to analyse the dissertation research based on the **methods, themes, finalities** and the type of **public** to which it is addressed. The three terms are written in the plural form to point out their possible multiplicity, while the word “public” already implies this plurality and we all know that there are many diverse type of “public”.

The Biennale of Architecture in Venice will be our initial space of confrontation: the international exhibition is meant to expose to the “general public” precisely the innovative kind of research projects that we might try to pursue, to discuss and to analyse. Its terrain is a good ground to begin our discussion.

The methods can be confronted with three very general categories: Practice, Theory and History; as there are very specific and diverse methods for each of them. The themes are the subject matters involved in the dissertation research. The finalities include scopes, aims, objectives and intentions that we should try to define and have been generally distinguished between those that are operative and those that are not-operative (a very fragile distinction that we will discuss). The public is the audience, spectators and readers to which the research projects is addressed. All these definitions are obviously very problematic – and their voluntary exclusion from our consciousness can also be a valid choice, but we should anyway be aware of this exclusion.

Secondly - We will organize interviews with practicing architects who seem to be willing to contribute to the theoretical debate through their designs. The issues that they are raising and the questions we will formulate for them together with their answers will become part of the course material.

**Thursday Sept 15** INTRODUCTION.
Interior and Exterior. Extreme Cases: a Subverted Camp and a “De-sacrated” Church
Thu. Oct 6 What’s Inside the Wall. Interview
The Case of the Hospital False Ceiling (with Federica Goffi) Interview
Thu. Oct 20 The Notion of Systems and the Power of Technocracy. Interview
Thu. Oct 27 FALL BREAK
Thu. Nov 3 Dissertations’s Outlines Discussion
Thu. Nov 10 Dissertations’s Outlines Discussion
Thu. Nov 17 Dissertations’s Outlines Discussion
Thu. Nov 24 Dissertations’s Outlines Discussion
Thu. Dec 1 Dissertations’s Outlines Discussion
Thu. Dec 8 Conclusions
Requirements:

1st assignment. Provide the most recent version of your Dissertation Outline (including an Abstract) to be discussed collectively. This should be made in a format that can circulate between the group of students and should be handed out (e-mailed) by the second week of classes: Sept. 22

2nd assignment. Correct and eventually rewrite one of your colleagues' Dissertation Outlines. The distribution of the Outlines between the students will be worked out during the third meeting.


Reference Readings

Biennale of Architecture 2014 Catalogue, Fundamentals
Biennale of Architecture 2016 Catalogue, Reporting From The Front

General Reference Texts (one for each author)

Gunther Anders, The Obsolescence of Man, 1956
Walter Benjamin, The Work of Art in the Age of Mechanical Reproduction, 1936
Geroge Bataille, Story of the Eye, 1928
Pierre Bordieu, La Domination Masculine, 1998
N. O. Brown, Love’s Body, 1966
Italo Calvino, Six Memos for the Next Millenium, 1988
Michelle Foucault, The Will to Knowledge, 1976
Marco Frascari, Eleven Exercises, 2011
James Frazer, The Golden Bough, 1915
Umberto Galimberti, I Miti del Nostro Tempo (The Myths of our Time), 2009
Carlo Ginzburg, The Judge and the Historian, 1991
Vittorio Gregotti, The Territory of Architecture, 1966
Ivan Illich, H20 and the Waters of Forgetfulness, 1985
Donald Kunze, The Unsung Role of Metonymy, 2014
Claude Levi-Strauss, Tristes Tropiques, 1955
Marcel Mauss, The Gift, 1923
Octavio Paz, In Search of the Present, 1990
Uwe Porkezen, Plastic Words, 1995
Emanuele Severino, La Potenza dell’Errare, 2013
Carlo Sini, The Ethic of Writing, 2009
Manfredo Tafuri, The Sphere and the Labyrinth, 1980
Mario Vargas Llosa, In praise of Reading and Fiction, 2010
Architecture encompasses many theoretical fields from theory of beauty to theory of construction, from sociological theories to medical theories, from theory of education to theory of knowledge and so on. The same is true for practice, from drawing to construction from financing to maintenance, etc. Architecture incorporates an extraordinary wide collection of subjects. Using the Vitruvian tradition of story telling and mapping, these exercises intend to bring into play the enigmatic origin and nature of a discipline to develop an illustration and promise of what should be a proper architects’ oeuvre. The seminar will direct the student through a sequence of seminar presentations to the discovery of the common roots existing between the theory and the practice of architecture. The proposed exercises are based on Drawing. Reading and Writing. The assumable result of these exercises is that the union of theory and practice is a demonstration of the elegant power of architecture, a discipline that is still resourceful, resilient, and comprehensible.” Marco Frascari, 2011.

**COURSE REQUIREMENTS**
All PhD and MAS students are required to read all of the assigned texts and submit a copy of their notes at the end of each class. Each student will prepare one seminar presentation and a final paper (5000 words) based on their presentation. The paper should follow the rules of the Chicago Style Manual. The essay will also include an original frontispiece made by the author.

Final essay due: 18 December 2015. Digital (by email) and paper (Room 306).

**EVALUATION**
Weekly readings/writings/participation: 20%
Seminar Presentation: 30%
Final essay: 50%

**SCHEDULE**
INTRODUCTIONS


Eco, Umberto. *Interpretation and overinterpretation* http://tannerlectures.utah.edu/_documents/a-to-z/e/Eco_91.pdf


Celsus: *De Medicina*
Virgil *Aeneid*
Quintilian *Institutio Oratoria*


CONCLUSIONS
SUGGESTED READING

1. What is architectural theory?
Mallgrave, H.F. *The Architect's Brain: Neuroscience, Creativity, and Architecture*.
Rykwert, Joseph. *Adam’s House in Paradise*.

2. Is architectural history the same as history of architecture?
Smail, Daniel Lord. *On Deep History and the Brain*, University of California, 2008.
Watkin, David. *The Rise of Architectural History*

3. Architecture: Art, Craft or Profession?
Trachtenberg, Marvin. *Building in Time: From Giotto to Alberti and Modern Oblivion*.
Vesely, Dalibor. *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production*.
Woods, Mary N. *From Craft To Profession*.

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GRADING

Each grade will be based upon a comparison (1) with other students in the course and/or (2) with students who have previously taken the course and/or (3) with the instructor’s expectations relative to the stated objectives of the course, based on his/her experience and expertise.

Student Conduct

Please refer to [http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv15/](http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv15/) [item 15.0] for specific information regarding Student Conduct and Academic Integrity standards.
Vitruvian Tradition II
Azrieli School of Architecture and Urbanism
Winter 2016
Room 306 Architecture

ARCH 5302/ARCH 6002

Louis Brillant - Lbrillant3@bellnet.ca

In the Spirit of Jacques-François Blondel’s *Cours d’architecture*, this Seminar proposes a *praxis* of comparative readings of key treatises, architectural, philosophical, scientific and poetic texts as applied hermeneutics. Working hand in hand with the Daedalic Tradition Seminar it seeks to provide participants with a foundation for theoretical discourse in architecture. It builds upon the previous –Fall Term- Vitruvian Tradition Seminar and places itself in the spirit of Marco Frascari’s material investigations.

**Schedule**

**January 7th 2016**
Introduction – Presentation of participants
Thesis topics/Fields of interests
Distribution of Reading Material for the Term
Coordination with Daedalic Tradition II

**January 14th 2016**
Opening-up Printing Strategies
Francesco Colonna 1433-1527
Aldus Manutius 1449-1515
Cesare Cesariano 1475-1543
Sebastiano Serlio 1475-1554
François Rabelais 1494-1553
Philibert de l’Orme 1514-1570
Andrea Vesalius 1514-1564
Giordano Bruno 1548-1600

**January 21st 2016**
Movement and the Gesture of Displacement
Domenico Fontana 1543-1607
Vincenzo Scamozzi 1548-1616
Galilei Galileo 1564-1642
William Harvey 1578-1657
Gian Lorenzo Bernini 1598-1680
Francesco Borromini 1599-1667
Nicola Zabaglia 1667-1750

**January 28th 2016**
Societies and the Explosion of Correspondence
Raphael’s Lettera a Leone X 1514
Giorgio Vasari 1511-1574
Cassiano dal Pozzo 1588-1657
Marin Mersenne 1588-1648
Athanasius Kircher 1602-1680
Claude Perreault 1613-1688
Christopher Wren 1632-1723
Isaac Newton 1642-1727

**February 4th 2016**
Maieutic of Architectural History
Juan Bautista Villalpando 1552-1608
Juan Caramuel de Lobkowicz 1606-1682
Johan Bernhard Fischer von Erlach 1656-1723
Carlo Lodoli 1690-1761
Jacques-François Blondel 1705-1774
Francesco Milizia 1725-1798

February 25th 2016  Society and the Critical Self
John Locke 1632-1704
Marie-François Arrouet de Voltaire 1694-1778
Jean-Jacques Rousseau 1712-1778
Claude-Nicolas Ledoux 1736-1806
Donatien Alphonse Louis de Sade 1740-1814
Jean-Jacques Lequeu 1757-1820

March 3rd 2016 Resetting the clock: Rethinking History
Giambattista Vico 1668-1744
Étienne Boullée 1728-1799
Jean-Nicolas-Louis Durand 1760-1834
Alexandre Lenoir 1761-1839
Georg Wilhelm Friedrich Hegel 1770-1831
Eugène-Emmanuel Viollet-le-Duc 1814-1879

March 10th 2016 In what Style should we build? It’s not Style stupid, it’s craft!
A. Welby Pugin 1812-1852
John Ruskin 1819-1900
William Morris 1834-1896
Louis Sullivan 1856-1924
Edward Maxwell 1867-1923
Victor Horta 1861-1947

March 17th 2016 A difficult passage: Craft and Industrialization
Gustave Eiffel 1832-1923
Alois Riegli 1858-1905
Auguste Perret 1874-1954
Siegfried Giedion 1888-1968
Walter Benjamin 1892-1940
Cesare Brandi 1906-1988

March 31st 2016 No-Ornament – Orna-Mentis
Surrealist Imagination and the Poetics of space
Lewis Carrol 1832-1898
Antoni Gaudí 1852-1926
Adolf Loos 1870-1933
James Joyce 1882-1941
Gaston Bachelard 1884-1962
Ludwig Mies van der Rohe 1886-1969
Edouard Jeanneret Gris dit Le Corbusier 1887-1965
T.S. Eliott 1888-1965
Louis Aragon 1897-1982
Alvar Aalto 1898-1976
Malcolm de Chazal 1902-1981

Assignments & Grading will be as follows:
Class participation: 20% (attendance is mandatory)
Class presentations: 30% (each student will have five)
Draft Term Paper: 20% (to be handed in on March 10th)
Term Paper: 30% (to be handed in on April 21st)
ARCC

Technical & Professional
Elective Courses
PROJECT BRIEF
The goal of this course is to explore the maximum potential of buildings to improve the ecological integrity [health] of local ecosystems. Students will explore the potential effectiveness of diverse ecological design strategies, including design for ecological behavior, design for ecosystem functions, and design for biodiversity.

The ecological explorations for this semester will be applied to the design of a mixed use development in Puerto Morelos, Mexico, in a way that promotes the preservation and restoration of the local wetlands and forest ecosystems. This project will be developed in collaboration with a sociology research team in Mexico, as well as collaborators from other disciplines.

Students will work both individually and in groups, in order to develop deep and broad design solutions. The coursework will be collaborative in nature, whereby each student is contributing to the overall development of the project, and students are working together, rather than competitively. Therefore, collaboration is encouraged.

Through the coursework, students will broaden and deepen their knowledge about ecological design, as well as improve their ecological design skillset. In addition, by working with a real world community and context, students will gain experience in working on ecological design projects.

LEARNING OBJECTIVES
- Broaden and deepen understanding of ecological design
- Develop an understanding of current ecological design strategies
- Develop an understanding of how to develop high performance and high quality buildings and building spaces
- Develop a critical understanding of sustainability, and its interrelationships with the design process
- Develop an understanding of how to evaluate the ecological performance of building projects
- Provide experience working in interdisciplinary project teams

METHODOLOGY
The course will be structured partly as collaborative, interdisciplinary workshop seminar, partly as lecture, as well as partly as a multidisciplinary design studio. The course will employ a design research-based pedagogical model, in which a substantial portion of the learning will be developed individually and peer-to-peer. Evaluation will be based on three projects: high impact ecological behavior design solutions, project site analysis, and an ecological building design project. This course will require the use of digital modeling and visualization programs, as well as Adobe Illustrator and Photoshop.

COURSE EVALUATION CRITERIA + CALENDAR
- Project 1: High Impact Ecological Behavior Design Solution .................................................. 20%.......Due Jan. 21, 2016
- Project 2: Site Analysis ....................................................................................................................... 25%.......Due Feb. 11, 2016
- Project 3: Ecological Building Design Project .................................................................................... 45%.......Due April. 23, 2016, noon
- Individual In-Class + Group Participation .......................................................................................... 10%
REFERENCES

For a map of the project site, input the following into Googlemaps: Jardín Botánico Alfredo Barrera Marín en Puerto Morelos, Quintana Roo.

Required Reading


Suggested Reading (by research topic)

Ecological Performance
- Emma Marris, Rambunctious Garden, Bloomsbury, NY, 2011

Social Performance (Design for People)
- David Abram, Becoming Animal, Vintage Books, 2010
- www.Simpl.biz
- www.Centerforactivedesign.org

Water Systems
- Italo Calvino, The Call of the Water, in: Numbers in the Dark and Other Stories

Nutrient Systems

Comprehensive Building Systems (Overall)
- www.wbdg.org (Whole Building Design Guide)
- www.architecture2030.org

Wall Assembly + Structures
- Buckylab.blogspot.com TU Delft Wall Assembly Innovation Research Lab
- www.transmaterial.net
- www.case.rpi.edu
- Detail Magazine www.detail-online.com
- Architect Magazine www.architectmagazine.com
- Edward Allen and Joseph Iano. The Architect’s Studio Companion : Rules of Thumb for Preliminary Design

Thermal Environments
- Lisa Heschong, Thermal delight in architecture, MIT Press, 1979
- J. Yu, etc. A comparison of thermal adaptability of people accustomed to air conditioned environments and naturally ventilated environments. Indoor Air. 2012
ARCC 3902

CHAIR PROTOTYPE WORKSHOP 2015-2016 WINTER TERM

INSTRUCTORS:

MARK MACGUIGAN mark.macguigan@carleton.ca x2853

ROBERT WOOD robert.wood@carleton.ca x 2854

N.b. Successful completion of this course requires a high degree of autonomy and workshop experience, including thorough knowledge of safe workshop practice as instructed in the School. It is therefore restricted to fourth year.

Course Overview:

Chair design is relevant to architectural designers because successful designs incorporate strength under live load, a wide variety of fabrication techniques, and efficient use of materials. Design and fabrication of chairs is regarded as being among the most challenging woodworking projects. In this .5 credit course students will have the opportunity to design and make functional chair prototypes (a prototype is an experimental iteration, not a finished product, and students are encouraged to use inexpensive materials. e.g. a wood frame chair can be made of poplar or pine, rather than maple or walnut). The completed project will function as a load-bearing, ergonomically sound prototype. Design parameters are based on the footprint, size and ergonomics of a common dining or desk chair (footprint not to exceed 20” by 20”). Student deliverables include shop production drawings, photo documentation of fabrication processes, and documentation of final projects.

Practical objectives:

Various aspects of design will be explored, including ergonomics, aesthetic design, practical parameters, and material explorations. Technical exploration tutorials will include aspects of wood theory and technology, metalwork, machining procedures, use and care of hand tools, building fixtures and jigs as part of the fabrication process, and other topics determined by students’ design choices. At least one main component of each chair must be made of wood.

Learning objectives:

By the end of the term, each student should be capable of demonstrating: design and execution of furniture projects using a variety of common woodworking (and for some, metalworking techniques). In addition, they should have gained an appreciation of design as it relates to materials and structural integrity.
Class will meet Tuesday and Thursday from 6pm until 9pm. Additional class hours will be scheduled as needed.

Readings will be discussed in class.

**Grading will break down as follows:**

**Assignment #1: 10% of final grade**

Shop drawings—One side elevation, one rear elevation, one front elevation, and one 3/4 or isometric paraline view. Descriptive drawings of all structural elements, e.g. joints and/or fastenings. Although the exact format of the drawings is not specified, the instructor will evaluate based on whether the chair could be fabricated from the drawings provided.

**Assignment #2: 40% of final grade**

Attendance—More than two unexplained absences will result in penalty.

**Assignment #3: 40% of final grade**

Chair prototype—Prototypes will be evaluated on craft, ergonomics, and utility within the project’s requirements for size, strength, and weight.

**Assignment #4: 10% of final grade**

Documentation—3 digital photos of each project required.
CROSSINGS SEMINAR: STRUCTURE, FORM AND PROCESS

The Crossings Workshop offers a more hands-on focused direction to the themes of the History and Theory Crossings Seminar that is offered usually in alternating years. Both the Workshop and the Seminar explore developments in architecture, the arts and sciences that reinforce or re-introduce the interrelationships between these diverse disciplines. While in the Seminar there is more of an emphasis on theoretical research and speculation (through writing), in the Workshop we will focus more on the act of making things based on the course themes. To a lesser extent, theoretical research and speculation will still be a vital part of the process. Let’s not forget that “knowledge,” according to Vitruvius, “is the child of practice and theory.” Overall, Crossings as a Workshop and Seminar focuses on the implications of recent scientific and cultural developments that have led the chemist/theoretician Ilya Prigogine to describe our time as:

“A period of scientific revolution – one in which the very position and meaning of the scientific approach are undergoing re-appraisal – a period not unlike the birth of the scientific approach in ancient Greece or of its renaissance in the time of Galileo.”

This renewed “renaissance” crosses and disrupts the established boundaries and foundations resulting from the compartmentalization of disciplines and provides us with new insights into the natural processes within the rich diversity of nature. A revitalized and stimulating uncharted field of inquiry is offered to the creative individual. Within this ‘cross-fertilizing’ open forum, with its technological and cultural implications, students are encouraged to investigate and speculate, through their projects, research, and writings on the possible implications of these developments to the discipline of architecture. A research topic will be selected (and approved) from a list that will emerge from the reading requirements, course theme, and the class discussions. Overall, the Crossings Workshop and Seminar offer a hands-on approach to intuitive learning and making while simultaneously establishing a theoretical framework and foundation for the exploratory and/or investigative theme and process.

COURSE THEME: CRYSTAL & FLAME, FORM & PROCESS

A series of projects, lectures, and reading assignments, followed by class discussions, will investigate the theme of the Crystal and Flame and all its variations (i.e., Discrete and Continuous, Form and Process, Counting and Measuring, Order and Fantasy, Invention and Necessity, Law and Exception, Constraints and Freedom, etc.). The architectural implications of these ideas will be discussed along with examples of architects, engineers, writers, and theoreticians that are investigating and speculating on these concepts.

One primary course project will be developed throughout the first half of the semester as a full- scale construction derived and developed by student groups. The full-scale construction will be installed at the Aberdeen Pavilion for the 2015 Maker Faire, November 7th – 8th (installed at the Azrieli School of Architecture and Urbanism instead).
The lectures, reading, and discussions will address the following topics:

**Special Lecture/performance on Bach Canons and Fugues**
Special guest musician Andrew Fox.

**The work and speculations of Leonardo Da Vinci on:**
“Geometria Naturale” and Dynamic Generative Processes

**The structure of dynamic and complex systems:**
Discrete and Continuous Structures.
The interrelationships between Form, Structure and Process. The nature of our embodied structural awareness
Fractal Geometry, Complexity and Emergence

**Examples of work by:**
Leonardo Da Vinci, Antoni Gaudi, Robert Le Ricolais, Pier Luigi Nervi, Buckminster Fuller, Kenneth Snelson, Eladio Dieste, Cecil Balmond, Olafur Eliasson, and other more recent individuals.

**Developments in cognitive science and speculations on the nature of consciousness**

**The nature vibratory phenomena:**
Sound, Light and other phenomena

**Musical space-time structures and elements.**

**The dynamic nature of Patterns and Information.**
Excerpts from *Italo Calvino’s:*
Invisible Cities: The Hymn of Dialectic
Mr. Palomar and Leonardo Da Vinci: The Depth of Light

**The Chaos in Quantum Dynamics**
Understanding the nature of wave phenomena Minkowski

**Space: The Garden of Relativity Greek Mythology:**
The Duality of Dionysus vs. Apollo and Narcissus

**The nature of the Metamorphoses inherent in the Crystal and Flame**

**REQUIRED READINGS:**
“Prelude … Ant Fugue” by Douglas Hofstadter Mr. Palomar by Italo Calvino (excerpts)
Six Memos for the Next Millennium by Italo Calvino (suggested)
Other course reading assignments during the term (i.e., Oliver Sacks readings).

Students are required to submit to the instructor an essay (500 words) for specified required reading assignments. These essays and readings will complement the ideas explored through the course projects. The course requirements will be considered incomplete until this has been done.

**EVALUATION:**
Mid-Term Essays and Project(s) (40%)
Final-Term Essays and final Project(s) (50%)
A discretionary evaluation (10%) for participation, initiative, and effort is part of the final course grading process.
Instructors

Dr. Mohammad Mohammad
Tel: 343-292-8496
mohammad.mohammad@fpinnovations.ca

Dr. Jasmine Wang
Tel: 613-747-5544 x. 240
Jasmine.Wang@carleton.ca

Tutorial Schedule

<table>
<thead>
<tr>
<th>Tutorial</th>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>(W) 13 Jan</td>
<td>Mass–Water relationships</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>(W) 27 Jan</td>
<td>Specified Strengths, Tension, Compression</td>
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<tr>
<td>3</td>
<td>5</td>
<td>(W) 10 Feb</td>
<td>Columns, built-up, beams</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>(W) 24 Feb</td>
<td>Bending</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>(W) 9 March</td>
<td>Mid-term solutions, fastenings</td>
</tr>
<tr>
<td>6</td>
<td>11</td>
<td>(W) 23 March</td>
<td>Fastenings</td>
</tr>
<tr>
<td>7</td>
<td>13</td>
<td>(W) 6 April</td>
<td>Introduction to lateral loads resisting systems</td>
</tr>
</tbody>
</table>

Lectures

Mondays 18:05 to 20:55 (Minto Centre 5050)

Problem analysis/Tutorials: ODD WEEKS ONLY

L1O: Wednesdays 8:35am - 11:25am (University Centre 282)
L2O: Wednesdays 8:35am - 11:25am (Southam Hall 502)

Teaching Assistants and Office Hours

- Samantha Faddoul (samanthafaddoul@cmail.carleton.ca)
- Sean Miller (sean.miller.canada@gmail.com)
- Hunter Davis (hunterdavis@cmail.carleton.ca)

Office hours to be announced.

Course Website and Communication

All course information and online quizzes will be available through cuLearn. All students are responsible for ensuring that they are correctly registered through cuLearn and that they are receiving messages properly through their official university email address. Students are responsible for checking the cuLearn course management site and their official email account frequently.

Textbooks

- Introduction to Wood Design. Canadian Wood Council (recommended)
It is necessary that all students own a copy of the 2010 Wood Design Manual. All assessment will be open book using this design manual only. It is not available at the university bookstore. You must get a copy on your own from the Canadian Wood Council (CWC). Below are the instructions to do so:

1. Register to create an account or Sign in at webstore.cwc.ca
2. Place your order online and choose “Pick up at 99 Bank Street, Suite 400, Ottawa” option.
3. Enter Promo Code “Student” in the Promotion field and finalize your order.
4. Email an image of the front and back of your student card to orders@cwc.ca your order will be on hold until they receive the ID.
5. The first email you receive will be an automated order confirmation.
6. The second email you receive will be entitled “Order Ready for Pick up” and confirms that your order is now ready.
7. Bring the “Order Ready for Pick up” email to 99 Bank Street, Suite 400, Ottawa (print or electronic) during CWC business hours.
8. CWC’s Front Desk staff will have the item ready for you.

To pick up your order, you only need your “Order Ready for Pick up” email in printed format or electronically. Someone else can pick up your order for you as long as they have a copy of your “Order Ready for Pick up” email (print or electronic).

<table>
<thead>
<tr>
<th>Student Evaluation</th>
<th>Weight</th>
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<tr>
<td>Assignments. Selected problems assigned. A professional level of performance (clarity, legibility, presentation, neatness) is expected in all students submissions</td>
<td>15%</td>
</tr>
<tr>
<td>Mid-Term Exam. Monday Feb 29, 2016</td>
<td>35%</td>
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<tr>
<td>Final Exam. (date to be determined)</td>
<td>50%</td>
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### Lecture Outline 2016

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<thead>
<tr>
<th>Wk</th>
<th>Date</th>
<th>Lectures</th>
<th>Topics</th>
<th>Instructor</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>• Introduction, Course outline • Mat. Prop./ mass-water relations</td>
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<td></td>
</tr>
<tr>
<td>1</td>
<td>Jan 11</td>
<td>• Limit States Design • Review of loads: Dead, Live, Snow wind, earthquake. • Lumber grades and species grouping. Characteristic values, Modification factors. • Sawn lumber, glulam, panels, and other engineered wood products • wood frame, post-and-beam, and special forms</td>
<td>MM</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Jan 18</td>
<td>• Design methodology • Factored resistance • Wood based products • Structural forms • •</td>
<td>JW</td>
<td></td>
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<tr>
<td>3</td>
<td>Jan 25</td>
<td>• Tension • Compression 1 • • •</td>
<td>JW</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Feb 1</td>
<td>• Compression 2 • Design of compression members in glulam. Built-up columns •</td>
<td>MM</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Feb 8</td>
<td>• Bending 1 • Sawn lumber beams, joists and planks, straight glulam, combined loading •</td>
<td>JW</td>
<td></td>
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</table>

Feb 15-19 Reading Week- No classes
<table>
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<tr>
<th>Date</th>
<th>Event</th>
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</table>
| 7 Feb 22 | • WoodWorks Software  
• Fire Safety  
- Introduction to Wood Design software (AR)  
- Guest lecture (IZ) |

**Monday, Feb. 29 Mid-term exam**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</table>
| 9 Mar 7 | • Bending 2  
Sawn lumber beams, joists and planks, straight glulam, combined loading |
| 10 Mar 14 | • Fastenings 1  
• Fastenings 2  
General requirements; Bolts & dowels  
Split rings, shear plates, factors |
| 11 Mar 21 | • Fastenings 3  
• Fastenings 4  
Nails, spikes, lag screws  
Glulam rivets |
| 12 Mar 28 | • Shear walls/diaphragms  
• Case studies  
Introduction to lateral load resistance systems. Analysis and design  
Guest Speaker (MM) |
| 13 April 04 | • Cross Laminated Timber (CLT)  
Manufacturing, structural design, connections & other performance attributes |

**COURSE POLICIES**

**Academic Integrity:** Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensure that a degree from Carleton University is a strong signal of each student’s individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. Carleton University’s Policy on Academic Integrity (http://www.carleton.ca/studentaffairs/academic-integrity) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. It is your responsibility to be familiar with these policies.

**Academic Accommodation**

Students with diverse learning styles and needs are welcome in this course. You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

**Pregnancy obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: http://www2.carleton.ca/equity/

**Religious obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: http://www2.carleton.ca/equity/

**Academic Accommodations for Students with Disabilities:** The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable) at http://www2.carleton.ca/pmc/new-andcurrent-students/dates-and-deadlines/

You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at http://www2.carleton.ca/equity/
ARCU
ARCH

Urbanism
Core Courses
COURSE OUTLINE

COURSE DESCRIPTION

Urbanism in Practice 1 is the first in a two–course sequence, organized as a series of design and analytical exercises. Students will explore contemporary issues in urbanism through the process of design – the translation of data into architectural form. The focus of Urbanism in Practice 1 is on urbanism in the core while Urbanism in Practice 2 explores urbanization on the periphery.

After a series of introductory exercises, the course will focus on the design of a major urban redevelopment. Working in teams, students will assess what can and should be built on the site, what form it should take, and what its impact will be on the adjacent neighborhood and the city as a whole.

COURSE OBJECTIVES

Upon successful completion of the course students will have demonstrated:

1. Ability to graphically describe and communicate information in a cohesive and compelling way.
2. Ability to present project information and abstract concepts in an ordered and easily understood way, tailoring the presentation to the audience.
3. Understanding of and facility in consultation of stakeholders and for translating their interests into a project.
4. Ability to explore and assess the form of the built environment through computer drawing, modeling, and illustrative drawings.
5. Understanding of the range of forces that shape the built environment. These include market forces, policies, politics, plans and ordinances, and the provision/distribution of infrastructure.
6. Understanding of the effect of these forces on the form of the city; an appreciation of the impact of the form of this built environment on its inhabitants and, specifically, those who work and live in or close to the urban core.
7. Familiarity with key issues and terminology associated with contemporary discussions about cities, density and urbanism, with a particular appreciation of the potentials and limitations of urban intensification as both a policy and paradigm.

SCHEDULE
<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 – Sept 5</td>
<td>No Class: Labour Day</td>
<td>No Class: All school</td>
<td>Mtg. Director’s Project</td>
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<tr>
<td></td>
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<td>Mtg. Murray &amp; Murray</td>
<td>/Murray &amp; Murray Competition assigned</td>
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<tr>
<td>Week 2 – Sept 12</td>
<td>Assignment 1: Setting The Context given</td>
<td>Directors Project/Murray &amp; Murray</td>
<td>Competition Due. 12:00 PM, all groups</td>
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<tr>
<td>Week 3 – Sept 19</td>
<td>Assignment 1 Due &amp; Presentations by students</td>
<td>LeBreton Discussed: Miriam MacNeil (TBC)</td>
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<tr>
<td></td>
<td>Assignment 2: Case Studies Given</td>
<td></td>
<td>Team work &amp; Desk crits</td>
</tr>
<tr>
<td>Week 4 – Sept 26</td>
<td>Assignment 2 Due &amp; Presentations by students</td>
<td>Heritage Discussed: Heather Thomsen (TBC)</td>
<td></td>
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<tr>
<td></td>
<td>Assignment 3: Site Documentation Given</td>
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<td>Team work &amp; Desk crits</td>
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<tr>
<td>Week 5 – Oct 3</td>
<td>Assignment 3 Due &amp; Presentations by Students</td>
<td>City of Ottawa Perspectives:</td>
<td></td>
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<tr>
<td></td>
<td>Assignment 4: Needs Analysis &amp; Program Development given</td>
<td>Nelson Edwards / C. Moise (TBC)</td>
<td>Team work &amp; Desk crits</td>
</tr>
<tr>
<td>Week 6 – Oct 10</td>
<td>Assignment 4 Due &amp; Presentations by students</td>
<td>Traditional Town Development Discussed: Stan Leinwand (TBC)</td>
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<td>Assignment 5: Program Given</td>
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<td>Team work &amp; Desk crits</td>
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<td>Week 7 – Oct 17</td>
<td>Assignment 5 Due &amp; Presentations by Students</td>
<td>Sustainability Strategies Discussed: Stephen Pope (TBC)</td>
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<td>group (TBC)</td>
<td>Assignment 6: Main Project Given</td>
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<td>Presentation of analysis to community</td>
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<td>Week 8 – Oct 24</td>
<td>Fall Break</td>
<td>Fall Break</td>
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<td>Week 9 – Oct 31</td>
<td>Team work &amp; desk crits</td>
<td>City of Ottawa Perspectives:</td>
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<td>Christopher Moise (TBC)</td>
<td>Team work and desk crits</td>
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<td>Week 10 – Nov 7</td>
<td>Team work and desk crits</td>
<td>Realty Issues in Development:</td>
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<td>Marco Zanetti (TBC)</td>
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<td>Week 11 – Nov 14</td>
<td>Team work and desk crits</td>
<td>Midterm Review</td>
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<td>Week 12 - Nov 21</td>
<td>Team work and desk crits</td>
<td>Team work and desk crits</td>
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<td>Week 13 – Nov 28</td>
<td>Team work and desk crits</td>
<td>Team work and desk crits</td>
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<td>Week 14 – Dec 5</td>
<td>Team work and desk crits</td>
<td>Team work and desk crits</td>
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<td>Week 15 – Dec 12</td>
<td>Final Reviews (TBC)</td>
<td>Final Reviews (TBC)</td>
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**GRADING**

| Project 1 – Setting the Context: | 10% |
| Project 2 – Case Studies:      | 10% |
| Project 3 – Site Documentation: | 10% |
| Project 4 – Needs Analysis and Program Development: | 10% |
| Project 5 - Program:           | 10% |
| Project 6 – Civic Hospital Mixed-Use Village: | 40% |
| Book report/presentation:      | 10% |
| TOTAL                          | 100% |

Participation and improvement over the course of the term: 10% (extra credit)

**ATTENDANCE**

Attendance during arranged Studio hours constitutes your contract with the School and your instructor. It is your responsibility to be informed of decisions and announcements made during these hours. Students are expected to submit work in the required format on time and at a high level of craft. Frequent unaccounted-for absences from studio meetings, seminars, reviews and desk crits may result in a failing grade, whether assignments are done or not.

**GRADING**

NOTE: see supplemental course outlines (distributed by your instructor) for breakdown of assignments and grading.

For the grade in the “A” range, the instructor will have judged the student to have satisfied the stated objectives of the course in an outstanding to excellent manner; for the “B” range, in an above average manner; for the “C” range, in an average manner with C- being the lowest acceptable grade in the Design Core courses; for the “D” range, in the lowest acceptable manner in non-Core courses, and for “F”, not to have satisfied the stated objectives of the course. Grades will be assigned as A+ (90-100%), A (85-89%), A- (80-84%), B+ (77-79%), B (73-76%), B- (70-72%), C+ (67-69%), C (63-66%), C- (60-62%), D+ (57-59%), D (53-56%), D- (50-52%), F (0-49%) and ABS. A grade of C- or better in each course of the Design Core is required for a student to remain in Good Standing. (Please refer to the Undergraduate Calendar}
ARCU 3501 Fall 2016
FUNDAMENTALS of URBANISM Workshop & Mini-Studio

Core course (Urbanism): Tuesdays/ Thursdays 08.25-11.25 rm 512
Instructor: Roger Connah roger.connah@carleton.ca
office hours: rm 524 tuesday & Thursday 13.00 – 15.30

A Bento-Urban Mapping studio integrating the Fundamentals of Urbanism working on a chosen site in Ottawa: the aesthetics of the urban lunchbox

Course format:
Weekly sessions include lectures, delivered through visual presentations in conjunction with a studio component in bi-weekly workshops. Assignments will allow students to explore the creative possibilities of various mapping conventions and visual communication techniques introduced through a variety of media. A small urban intervention will form part of the workshop as a mini-studio project.

STUDIO CONTENTS
The Bento Studio will proceed as follows – group and individual exercises will help introduce, study and exercise basic urban tenets – the fundamental of urbanism and the conventions necessary to move from detailed site documentation to urban parcel, community mapping to city mapping.

Site Documentation
Urban Parcel Mapping
City Mapping
Cognitive mapping
Relational Urban mapping

The following fields will also be introduced alongside the mapping conventions taught and prepared – organized as seminar sessions analyzed, mapped and presented in group form to the class.

- informational/relation mapping, (radical) cartographies/tactical urbanism
- morphology, cities & urban form (towers in the park etc), density, & Intensification;
- street section zoning & community, segregation/integration of uses; NIMBY
- flow and transit systems;
- ecological urbanism/bio-urbanism/landscape urbanism (LEED-ND)
- modern- new & postmodern urbanism,
- spatial practice & the public realm
- neoliberalism & the city
- smart growth, bot-culture, drone infrastructure;
- changing ideals/ideologies on urban renewal and the necessity of ruins
- the global city, the rebel city, the multi-nodal city/ the shifting centre city and post-urbanism

Narrative/Relational Urban Mapping

Pt 1 Relational complete all 6 maps (12 for the larger group) plus others outlined in pt.2

1 figure-ground - add legend and any details about the area you think appropriate (small right hand corner box as discussed)
   - add identifying small map right hand corner showing this part in red in relation to the whole of Vanier

2 plot lines, road and boundary map - add legend etc - add all plot details only of the strip – Montreal road - see GeoOttawa - plot address, size of building sq.ft. fl/a, age of building, zoning codes etc (put this info in small text areas above and below with very thin lines pointing to the plots/parcels)

3 aerial (Google) add legends - identify all vacant lots, existing green spaces, miscellaneous
   - space, car parks...add details above and below with thin line identifying each space also add notes
   - about the type of construction, condition of the building and general 'appearance'
4 Land use mix map
- complete legends - using agreed colours for categories (on the board) .. add up totals/sq. ft along the strip as follows:
  - building total = x  residential = x  retail/commercial + office = x  hotel = x  civic/institutional = x
  - parking = x  vacant = x  sq.ft.

5 Image strip
- identify with thin line all commercial signs, shop fronts, public amenities – consider potential communities and ‘invisible’ narratives (street-walking/homelessness/liquor etc)
- look up and read about ‘psychogeography’ (Merlin Coverley)

6 Flow, Transit & Zoning
- use Digital version (clean) as a layer - showing plot size, boundaries, roads etc. Begin to identify on this: flow/transit zoning conditions, - codes, utility lines (electric-water etc) – this will also become an economic mapping of the area (land prices etc).

Pt 2 Narrative Mapping & Spatial Practice
7 Using a copy of no 6 (digital) prepare Proximity Map for your chosen strip:
- transport - bus stops - supermarket - park - green space - school - bank - medical facility -library -faith
- on this also identify crime mapping - assaults etc (see Ottawapolice.ca) - begin to identify a 'community' space(s) within your strip area and psychogeographic narrative

8 Using another copy of 6 prepare Site Force/Line & Space Diagram & Future
- showing existing 'conditions' using colour conventions etc as in G/S/P pdf (lineandspace.com)
- consider ecological conditions/natural urbanism/bio-urbanism/landscape urbanism (LEED-ND)
- show on this map any future conditions for this area from City of Ottawa Future Plan
- - roads - development zones – re-zoning - planned expansion – intensification - transport paths etc….

9 on a clean new aerial map show solar orientation map - Climate Mapping – prevailing winds - snow patterns (see pdf G/S/P designshare.com)

10 Tactical Urbanism
- identify the 'Urban Cut' in your selected site (individually)
- that you find interesting and may wish to work on later for an 'Urban Games/Urban Flash' proposal.
- This is vertical to the road/strip 1 draw a street section showing zoning & community any segregation/integration of uses; (what is NIMBY?) – imagine the flaneur/the walker in Vanier
- Cut it out and present it on one sheet 11x17 for later work and development.
- (Details about this exercise will follow in November)
- please identify any other material, information that you find interesting about the strip - Montreal Road - in note form and/or diagram form)

Pt 3 Morphology and Urban Form – Agency, Tactical Urbanism, Image building & Transformation & Psychogeography
Details of this will follow in November covering more general urban issues: morphology, cities & urban form (towers in the park etc), density, & Intensification; spatial practice & the public realm – psychogeography – spatial/geographic imaginations - changing ideals/ideologies on urban renewal - the necessity of ruins - the global city - the rebel city - the multi-nodal city-informal urbanism - the shifting centre city - post-urbanism.

Course objectives
- To become familiar with and fluent in the conventions necessary for urbanism and an Urban understanding of geographical imaginaries and relational urbanism.
- To move from site documentation to urban parcel, community mapping to city mapping.
- To learn the necessary peer-shared software/multimedia processes in data collection and diagram/mapping preparation (analog and digital) and develop critical, graphic and modeling (urbanism) skills.
- To establish a critical framework for understanding urban thinking, urban design and planning with respect to their implications in urban theory and urban practice.
- The studio will also ground the students in a design approach to tactical urbanism.
- The mini studio part of the workshop is essential to meet the first full urbanism studio (3rd year) and contemplate what is implied in the transfer of urban thinking and ideas to urban design
- To introduce design and planning briefs and understanding the already predicated in terms of planning and conventional urban renewal programs.
- To demonstrate the above through participation in class discussions, through research, projects and in written/mapped form through the assignments.
COURSE REFERENCES (from among)
Ian McHarg *Design with Nature*
Peter Gould and Rodney White *Mental Maps*
Jane Jacobs *The Death and Life of American Cities*
Jonathan Barnett *City Design: Modernist, Traditional, Green and Systems Perspectives*
Alex Marshall *How Cities Work*
V. Venturi – R. Brown *Leaning from Las Vegas*
R. Connah *How Architecture got its Hump*
Leo Hollis *Cities are Good for Us*
ETH Zurich *After Crisis Contemporary Architectural Conditions*
Choi & Trotter *Architecture at the Edge of Everything Else*
J. Stoner *Towards a Minor Architecture*
INTRODUCTION
This seminar investigates the relationship between advancing technologies, medical theories, and ideas of art, nature, and public life - and the ways in which the dialog between these forces has shaped and reshaped cities. Water and circulation are threads that pass through all of our studies, linking the basic sustenance of life with the highest cultural aspirations towards improvement, democracy, freedom, and beauty.

COURSE THEME AND FORMAT
This is an advanced seminar in selected topics related to urbanism. The course combines lecture and seminar formats. Each three hour session will include a brief lecture by the instructor, as well as presentations by students on assigned topics. In addition, students will develop their own research questions, and generate final projects that engage issues of urbanism for the 21st century in the global context.

This class demands independent intellectual effort and engagement on the part of students. Weekly readings will challenge students to grasp the meanings of health and the artifacts of urban infrastructure and remediation throughout history. From this perspective, students will be required to ask questions regarding our own time. Final projects will require that students understand and document a city of today, in order imagine a healthy city of the future.

COURSE OBJECTIVES, PEDAGOGY and ASSIGNMENTS
Students will develop their knowledge of urban development in relation to public health, infrastructure, and technology. Through presentations and term projects, students will advance their research abilities and critical faculties.

Course Objectives
1. To interrogate the relationship between ideas of health and environment, techniques of infrastructural management, design and planning around civic space and urban settlement, and the experience of urban landscapes.
2. To thoughtfully consider how designers, planners, and engineers engage the inherent complexity of social, political, cultural, technical, and scientific issues surrounding urban sustainability in the global context.
3. To develop excellent skills of interpretation and comparison, using clear and succinct written, visual, and verbal communication to describe and to understand historical and contemporary urban issues.

Assignments and Grading
- participation and weekly assignments (including blog posts, discussion, attendance) = 35%
- in-class presentations = 20% (the number of presentations will depend on the enrollment count)
- research outline and bibliography = 15%
- final project draft = 10%
- final term project = 20% (graded upon successful completion of revisions)

STUDENT RESPONSIBILITIES in this course
Attendance to all classes is required, and no late work will be accepted. If for any reason the goals of the class seem unmanageable, it is the student’s responsibility to schedule a meeting with the instructor to discuss the issue and to actively seek a solution that supports the student’s progress. Meetings can be scheduled outside of office hours upon request.
Class Participation
• You are required to read all the required texts and to post to the blog every week prior to class.
• You are required actively participate in all class discussions.
• You are required to attend all classes.
• Cell phones may not be used in class, not ever, for anything.

Term Project
• You will complete one research project on selected topics approved by the course instructor. This will be a self-driven project. Your will conduct research on a contemporary city independently, outside of class. Your term project will be a synthetic report, which documents existing conditions of a city through text and mapping, and includes an imagined narrative and a graphic (mapped and human’s eye view) which forecasts the implications of future revisions to urban infrastructure, technology, or theory of health. (Total word count, body text only, 2500-3000 words, double-spaced. Put the word count at the end of the paper.)
• You will present this synthetic project in special class sessions for comments and suggestions from your peers.
• You will revise your project based on these comments and suggestions and upload them to CULearn in a final single synthetic document. This constitutes your final exam.

Work Expectation
A large portion of your time for this course will be devoted to the weekly readings. Although many of the readings are difficult, it is expected that you will dedicate the time to develop your own understanding of the texts. If you are having difficulty, please schedule a meeting, so we can review the ideas together. Also use the blog as a means to work with your colleagues to raise your questions regarding the readings.

CALENDAR

| Week 01 | Classes begin Wednesday, Sept. 7. |
| Week 02 | Sept 12 Introduction - Themes + Responsibilities / Water + H2O |
| Week 03 | Sept 19 Why Water? / Transitional States |
| Week 04 | Sept 26 19th c. Stinks + Structures / London + Paris |
| Week 05 | Oct 03 Floods, Control + Resistance / New Orleans + Mumbai |
| Week 06 | Oct 10 No Class Meeting - Statutory Holiday - Term Project Topics Due Tues 10/11 |
| Week 07 | Oct 17 Mosquitos + Supermodernity / Lagos + Lagos |
| Week 08 | Oct 24 No Class Meeting - Reading Week |
| Week 09 | Oct 31 Industry + Greenery / Central Park + Columbian Exposition - Outline + Bibliog. Due |
| Week 10 | Nov 07 Surface + Structure / Parc de la Villette Competition + 1980s Barcelona Recovery |
| Week 11 | Nov 14 New Ecologies + Resilient Infrastructures / New York + Toronto |
| Week 12 | Nov 21 Super-urbanization + Meta-infrastructure / Quezon City, Manila + Shenzen SEZ Term Project Drafts Due |

| Week 13 | Nov 28 In-Class presentations - Term Project Presentations Due |
| Week 14 | Dec 05 In-Class presentations (cont) |
| Week 15 | Dec 12 No Class Meeting. |
| Week 16 | Dec 19 No Class Meeting. Term Project with Revisions Due Thurs, Dec. 22. |

While assignment due dates are fixed, calendar may be modified at any time by the instructor.
**WEEKLY INDIVIDUAL STUDENT PRESENTATIONS**

*Digital copies of presentations - text, powerpoints, and handouts - are due at the start of class via CULearn.*

Each of you will be responsible for presenting critical summaries of urban case studies and readings understood together. You must also lead the class discussion on the scheduled theme of the week. Class presenters must conduct additional research inspired by their chosen reading. Presentations will be at least thirty minutes in length with fifteen minutes for discussion, a total of 45 minutes per student.

A 30 minute presentation is roughly ten double-spaced pages of text or 2,500 words. **Students are required to meet with the instructor at least 1 week prior to their presentation.**

Preferable meeting times are between 10-12:30 Wednesdays, or immediately following class on Monday, but alternate times may be scheduled. The initiative lies with the student to email and arrange this **required meeting in advance.** At this meeting they will have already completed the readings for their presentation, and will be prepared to discuss their beginning research, bibliography, and thesis, and get help with additional sources and ideas. The students must have an idea for the outline and angle of their presentation.

1. You are responsible for creating a powerpoint presentation and accompanying typed, scripted text version of your presentation. **Your text presentation is not an informal outline or a book report, but a formal critical presentation with thesis, supporting images, quotes, research, and a conclusion and questions.** You may read it directly, as one would a conference paper. It must be accompanied by a bibliography of all sources consulted. For many projects, you may need to request books or articles via interlibrary loan, so start your research ASAP.

A good source for journal articles is the Avery Index to Architectural Periodicals which you can access through the library website. JSTOR is another source for downloadable scholarly (not wikipedia) pdf articles. Web research is not sufficient to complete a scholarly presentation. You must craft your presentation of the designed works around the readings and ideas from that week, guided by your own thesis and questions!

The Carleton MacOdrum Library provides access to many information resources, including books and journals (both electronic and paper-based), as well as useful databases. [https://library.carleton.ca/find/databases](https://library.carleton.ca/find/databases)

There are also specialized research librarians who can help you to locate scholarly sources.

2. You are responsible for an outline and framing questions for discussion, which you will print and distribute at the start of your presentation. Include key terms and definitions that are important to the project or reading.

**WEEKLY READING RESPONSES by all students, except those presenting for the week. (CULearn Forum)**

Do your readings with the following questions in mind:

- What is the understanding of health in this time and place?
- What is the understanding of dangers to health or environment?
- What is the social or governmental response?
- What is the architectural, planning, or engineering response?
- What is the result to city form and city life?

By **7pm Sundays**, post a short reading response that includes the following:

- Big ideas? What seems to be one of the most important or interesting ideas from the text? This might be an idea you’d like to discuss further in class, even if you don’t agree with it.
  
  You should take the quote, and try to learn more to understand it.
  
  “Direct quote from the text.” (author’s last name, pg no)

  1-2 Sentences: Your first understanding or analysis of the quote, from reading

  1 Question: Question about the quote, or what you’d like to know more about

  2-3 Sentences: What you learned by looking further OUTSIDE the readings

- Definitions?

  1-2 Terms that you found new or interesting, with 1-2 sentences defining each.

Please use the OED for all definitions: [http://www.oed.com.proxy.library.carleton.ca/](http://www.oed.com.proxy.library.carleton.ca/)
ARCU

Urbanism & Urban Studies
Elective Courses
CARLETON UNIVERSITY
SCHOOL OF ARCHITECTURE
COURSE OUTLINE
2015-16 Academic Year

COURSE TITLE: City Organization & Planning
COURSE #: ARCU 4400B
SPECIAL FOCUS: Genetics of Urbanism
TERM: Fall
INSTRUCTOR: Greg Andonian
HOURS PER WEEK: 3
TIMETABLE: Tuesday 6:00—9:00 PM
CREDIT VALUE: .5
ROOM #: 444 AZ

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ARCU 4400 B: City Organization & Planning

CALENDAR DESCRIPTION:
Structure, form & functioning of cities. Infra-structure, facilities & networks, ecosystems, demographic &
social organization, government, quality of life, goals & perceptions, urban management, development,
regulation & codes, design, planning & policy-making. (Elective Course)

Special Focus: Genetics of Urbanism

COURSE DESCRIPTION:
An introduction to the broad field of urbanism as it relates to the architecture of the city and the general
field of design. The course is given in seminar mode and will promote debate on issues of the city as a
work of art from historical, modernist and post-modernist perspectives. In general, topics discussed will be
adhering to the assigned order in selected chapters from references cited below, but will not be limited to
their content. Students will be encouraged to voice their independent judgment, and will be invited to
articulate plausible positions as they become more familiarized with the challenges poised by urban
dwelling in the postmodern age.

COURSE OBJECTIVES:
1) Help students to gain critical insights on why issues of urban content impact the profession of
   architecture and society as a whole
2) Promote awareness on how technology transforms the urban rhythm and the concept of cadence
3) Advance understanding on what characteristics of the cultural landscape of the city, as embodiment
   and expression of art work (form and space), promote human interaction that contextualizes urban
   dwelling beyond time constraints
4) Expose students to relevant and important texts on issues pertaining to contemporary urbanism

REFERENCES:
1) The Idea of a Town: The Anthropology of Urban Form in Rome, Italy and the Ancient World, by
3) RECOMBINANT URBANISM: Conceptual Modeling in Architecture, Urban Design & City Theory,
10) The Seduction of Place: The History & Future of the City, by Joseph Rykwert. Oxford University
    (Note: More to follow in the class)
COURSE GRADING:

Grading will be based on the following:

I) Weekly Chapter Reviews  20%
II) Book Presentation:   20%
III) Topic Presentation:  20%
IV) Term Paper:   30%
V) Attendance & Class Participation 10%

A) BOOK PRESENTATION: 20% OF TERM GRADE
A book will be assigned to you for your critical reading. Your task will be preparation of a synopsis of the book in written form for distribution to students in class and power-point presentation for discussion. Your synopsis should comprise five pages typed (maximum, double spaced) and could have an addendum of footnotes and graphic illustrations. In your presentation you should include the following:

1) Profile of the Author (R&D and Publications)
2) Intentionality and articulation: Why & when the book was written and in what way its content is still relevant to our present condition?
3) Summary of author’s position on urbanity.
4) Identify high points re critical issues, important concerns, and emerging challenges.
5) Your Criticism (Positive & Negative)

After in-class presentation and discussion your written synopsis will be submitted for evaluation.

Date of Book Assigning:       Tuesday, September 08, 2015
Date of Book Presentation:  Tuesday, September 22, 2015

B) TOPIC PRESENTATION:  20% OF TERM GRADE
The student in consultation with the instructor will choose a city as a topic for presentation. The city topic investigation could relate to issues of art & urban design, architecture of the city & dwelling, craftsmanship & identity, place-making & space narrative, ritual & artifact, color-texture-materiality articulation & sense of vitality etc.

Your city topic for presentation could be a prelude for your follow up term paper. After your presentation and discussion in class you could use the feedback to better position yourself regarding comparative issues of two cities.

You should submit the following short outline after your topic selection:

1) Relevance of your topic in our present day Urban Design and Recombinant City condition
2) Objectives and method of your topic investigation
3) A thorough bibliography

After in-class presentation and discussion the evaluation will be based on the following:

1) Intentionality and Merits
2) Main points of the Argument
   -- Identification of the critical issues
   -- Questioning the position of primary authors
   -- Formulate a personal position
3) What does the future hold?

Date of Topic Choosing:       Tuesday, October 06, 2015
Date of Topic Presentation:  Tuesday, November 03, 2015
ARCH
CDNS

History Theory of Architecture
Core Courses for Conservation & Sustainability
INSTRUCTOR: Lyette Fortin (email: lyette.fortin@carleton.ca)

COURSE NUMBER: ARCH 4200A

TIMETABLE: THURSDAYS 8:30am to 11:30pm

COURSE LOCATION: Room 209 Architecture Building

OFFICE HOURS: THURSDAY 11:30am to 1:30pm. All appointments to be organised by e-mail.

OFFICE NUMBER: Room 416 Architecture Building

CREDITS: 0.5

TEACHING ASSISTANTS: Students last names A to H: Miquel Reina Ortiz: miquelreinaortiz@cmail.carleton.ca
Students last names I to W: Johanna Abril: johannamoscoso@cmail.carleton.ca

COURSE DESCRIPTION:
This seminar is an introduction to the history of architectural conservation with an overview of the evolution of heritage conservation, from Antiquity to the present in the context of world built heritage. Conservation philosophy, theories, practices, questions of ethics and related approaches to the material transformation of heritage buildings will be examined, especially looking at how these philosophical theories and experimental practices made it possible to redefine and advance new concepts of architectural conservation.

Heritage buildings will be examined in their broader context. They are not isolated symbols; they form part of a larger network of areas, places, towns and cultural landscapes. In making decisions regarding the conservation of the built heritage, the setting and context of a heritage building is as important as the building and its material components. Architectural conservation is not simply about buildings, it is also about people, and the approaches to conservation at any time will inevitably be linked to the values of society at that time.

The course will explore the changing notion of built heritage and the implications of this evolution on heritage theories, processes and practice at the local, national and international level. The course will point out how conservation has evolved to be considered a sustainable approach as it maximizes the use of existing materials, reduces waste and safeguards the main values of the built heritage. The course will emphasize that architectural conservation is a creative design process.

COURSE OBJECTIVES:
Through the study of evolution of philosophies, theories, practices and related ethical aspects of heritage conservation:

• students are made aware of the historical and international roots of conservation and the various schools of thoughts in conservation over time;
• students are provided with a framework of internationally accepted contemporary conservation concepts: goals, approaches, principles and process to guide decisions;
• students recognize the importance of understanding, defining and respecting heritage values and character-defining elements of cultural heritage in order to intervene in a manner that will protect these values;
• students develop both the skills and knowledge for analytical reflection and critical thinking in the ethics of heritage conservation;
• students realize that conservation has realistic application in their design projects and future professional practice where conservation is a valid and sound sustainable approach to deal with the built fabric, to address society’s changing needs, respect inherent values and to add meaningful, creative layers to our built environments.
METHOD OF INSTRUCTION:

- This course is taught in weekly lectures with discussions. Students are expected to come to class prepared to discuss assigned mandatory readings and assigned exercises.
- Case studies will be used as a way to explore issues and understand approaches of architectural conservation.
- During the course, two guest speakers (a conservation engineer and a landscape architect) will come to share their knowledge on the practice of heritage conservation.

METHOD OF EVALUATION:

<table>
<thead>
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<th>Participation</th>
<th>Attendance, quizzes, exercises</th>
<th>(15%)</th>
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<tr>
<td>Assignment due date</td>
<td>September 22, 2016</td>
<td>(15%)</td>
</tr>
<tr>
<td>Test/Exam date</td>
<td>November 17, 2016</td>
<td>(30%)</td>
</tr>
<tr>
<td>Term paper due date</td>
<td>December 8, 2016</td>
<td>(40%)</td>
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Mandatory readings and mandatory exercises will prepare students for in-class lectures, discussions and quizzes and will facilitate their understanding of the subject matter that will be presented in class.

**If any students miss more than 3 classes, without a medical report, they can fail the course. Please, send an email to the Instructor if you cannot attend a class.

Assignment – Heritage Sites
You have to select two Heritage Sites - one in Canada and one abroad. The sites should be designated either as a World Heritage Sites or as a National Historic Sites in Canada. The sites can be cultural or a mixed cultural/natural sites. You have to analyze and compare both sites, you have to discuss why you chose these sites, what impressed you about these sites, reasons for designations, identify heritage value, describe in your words the character-defining elements and identify potential conservation challenges and ways to mitigate these. The text is to be 1500 words (4 pages). Images are to be used to support your written text and be placed after the written part.

Test/Exam
The closed-book test consists of a combination of short to long answers (essay style) with a few multiple-choice questions. The questions will be based on the assigned mandatory readings, on the themes presented during class lectures by instructor and guest speakers, as well as on the assignment.

Term Paper – Adaptive Reuse Case Study
Submit a paragraph to our Teacher Assistant (TA) with the explanation of the proposed adaptive re-use case study by November 10.

The term paper will consist of an analytical reflection and critical thinking of an adaptive re-use case study on any heritage architecture, engineering work, landscape or urban design project that was done in the last 20 years in Canada or abroad. The paper will analyze:

- History of the heritage resource and its evolution
- Heritage values of the resource and the character-defining elements
- Cultural landscape in which the site is located
- Criteria for the design/conservation concept and philosophy making references to the theories, the Standards and Guidelines (Canada’s Historic Places) discussed in the lectures
- How the intervention respects or not the heritage values and the character-defining elements
- New requirements and appropriateness/suitability of the new use and how it contributes to the community
- Damages, causes of decay and alterations
- Sustainability (based on Jean Carroon article)
- Ethical issues
**SCHEDULE OUTLINE**

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>TOPIC</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Sept. 8</td>
<td>COURSE OVERVIEW</td>
</tr>
<tr>
<td>2</td>
<td>Sept. 15</td>
<td>BASIC CONTEMPORARY CONSERVATION CONCEPTS</td>
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<tr>
<td>3</td>
<td>Sept. 22</td>
<td>ASSIGNMENT Due&lt;br&gt;ANTIQUITY to RENAISSANCE</td>
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<td>4</td>
<td>Sept. 29</td>
<td>RENAISSANCE to 1800s&lt;br&gt;ANASTYLISIS</td>
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<td>5</td>
<td>Oct. 6</td>
<td>STRUCTURAL CONSERVATION *GUEST SPEAKER: LYNE FONTAINE</td>
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<td>6</td>
<td>Oct. 13</td>
<td>CULTURAL LANDSCAPE CONSERVATION *GUEST SPEAKER: JOHN ZVONAR</td>
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<td>7</td>
<td>Oct. 20</td>
<td>1800-1880&lt;br&gt;ARCHAEOLOGICAL RESTORATION – STYLISTIC RESTORATION</td>
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<td>Oct. 24 to Oct. 28</td>
<td>FALL BREAK</td>
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<td>8</td>
<td>Nov. 3</td>
<td>Late 1800s&lt;br&gt;ANTI-RESTORATION</td>
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<tr>
<td>9</td>
<td>Nov. 10</td>
<td>1880-1930 HISTORICAL &amp; SCIENTIFIC RESTORATION&lt;br&gt;1880-1940 URBAN RESTORATION</td>
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<tr>
<td>10</td>
<td>Nov. 17</td>
<td>TEST/EXAM – CLOSED-BOOK</td>
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<tr>
<td>11</td>
<td>Nov. 24</td>
<td>1940-1970 POST WORLD WAR II RECONSTRUCTION&lt;br&gt;1970-1990 MODERN PRESERVATION</td>
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<tr>
<td>12</td>
<td>Dec. 1</td>
<td>ADAPTIVE-REUSE CONSERVATION STANDARDS &amp; GUIDELINES</td>
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<tr>
<td>13</td>
<td>Dec. 8</td>
<td>TERM PAPER Due&lt;br&gt;CONCLUSION</td>
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</table>

Note: Content of a class may be adjusted and some dates may be modified in relation of the guest speakers.

Important dates:
- **Assignment** -------------- September 22, 2016
- **Test/Exam** --------------- November 17, 2016
- **Term paper** -------------- December 8, 2016

**LECTURES & CONFERENCES**
Heritage Ottawa 2016-2017 Lecture Series
http://heritageottawa.org/
INTRODUCTION

Introduction – The Pearl Diver

Full fathom five thy father lies,
Of his bones are coral made,
These were pearls that were his eyes.
Nothing of him that doth fade
But does suffer a sea-change
Into something rich and strange.
The Tempest

Why should we keep elements of the city that no longer function as originally intended or whose function no longer exists? This question asks us to explore why we keep anything at all? Within the context of a technological world driven by progress the role of memory and identity are indeed in a state of crisis.

Humanity has long assembled tactile fragments that form cities, buildings and collections, from large in scale to intricately detailed small things kept in cabinets of curiosity. As material culture, these objects hold physical traces of past practices and ideas beyond the matter from which they are constructed. This course looks at ways of sensing these traces and how others have participated in assembling, adapting and articulating a future built upon these past traces.

---

1 Hannah Arendt in the introduction of Walter Benjamin’s Illuminations uses this title (followed by the quote from Shakespere’s Tempest) to describe Benjamin during the stage of his life where he confronted the concept of history in his writings.
In his book, *The Architecture of the City*, Aldo Rossi describes the city as an ever-transforming narrative of inhabitation, a story that reveals its layers simultaneously, giving depth to the present and allowing new narratives to come to light. While Rossi’s theories are primarily rooted in the Italian context, the notion of revealing the depth of place is vital to all cities.

Canadians have long sought define their identity in art, music and other cultural productions. Architecture provides a voice for cities and cultures to define themselves. While typical developments demand new projects with new materials and new ideas there is a growing awareness in Canada of the potential of recycled urban fabric and adaptive reuse projects to provide a valid contribution to civic and national identity and to answer to the demands of sustainability.

For centuries, architects have recycled buildings and their ideas. These existing ideologies and practices of recycling are well documented although the language that describes them may sit outside our current understanding of “recycling”. This course will provide the student with key concepts of recycling architecture at the scale of the city, the individual building and the material detail.

Just as the foot grounds our body to the earth, material memory grounds us in time and place.

> Perhaps, today, we need to gather the fragments of our present and clumsily construct with them our ‘new churches,’ as was done in the fifth century, which used fragments of ancient architecture as a construction material that was partly gifted with a discourse.

### COURSE THEME & FORMAT

*A concrete case of fragmentary architecture is the architettura di spoglio (architecture of spoils). This is not an architecture of prefabricated romantic ruins, or of post-modern “instant history”, but is a way of producing architecture as the assimilation of prior architectural artifacts. Buildings are cultural texts that are generated by assembling fragments, excerpts, citations, passages and quotations. Every building is then both assimilation and a transformation of other buildings.*

With the modernization of industry and the shift of physical work from the center of the city to the periphery, large tracts of built environment, once vital to not only a community’s sustenance but also to their sense of identity are now abandoned. The 20th century North American city saw the proliferation of suburban development and decentralization of the urban population. The 21st century is ushering in working concepts of sustainable development from manufacturing concepts and design practice to governmental policy. Issues of density, brownfield development and adaptability provide a framework through which ideas of adaptive re-use and urban revitalization can flourish. The opportunity for a new ways of looking at building our environment is now at hand and we must seize this opportunity.

The course will be delivered in lecture format supported by visual presentations. *Students are expected to have completed the course readings before each week that they are presented.*

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COURSE OBJECTIVES, PEDAGOGY and ASSIGNMENTS

1. To become familiar with key architectural reuse strategies and projects in both historical and contemporary realms in Canada and abroad.
2. To establish a critical framework for understanding these projects with respect to their implications in theory and practice.
3. To bring these projects to bear on an understanding of the issues facing contemporary architectural production and the built environment in the 21st century such as sustainability and the growth/decay of cities.
4. To demonstrate the above through active participation in class discussions and presentations, through research by drawing and research in written form through the assignments.
5. To prepare students to work independently and to impart and improve research, writing and critical thinking skills.

Architecture is a kind of corporeal time machine where the past, the present and the future are related architecturally through memory.

Overall Schedule:

Sept. 12  First class.
Sept. 20  Last day for registration. Last day to change courses for fall term courses.

**Sept. 30**  Embodied Energy Exercise due at 11:00am via CU Learn (as a PDF)

Oct. 10  Statutory holiday, University closed.
Oct. 17-21 Individual meetings to define/refine study drawing and essay topics.
(time slots posted on CU Learn)

Oct. 24-28  Fall break – no classes

Nov. 4  Essay outline and Bibliography due at 11:00am via CU Learn (as a PDF)

Nov. 11  Last day to submit, to the Paul Menton Centre for Students with Disabilities, Formal Examination Accommodation Forms for December examinations

**Nov. 25**  Architectural Recycling Study Drawing due at 11:00am in the main office (original)

Nov 28-Dec 1  Final Paper tutorial meetings (individual)

Dec. 9  Last day for academic withdrawal from fall term courses

Dec. 9  Last day of fall-term classes. Last class held on Friday Dec 9th (due to Monday holidays)

**Dec. 21**  Final Papers are due at 11:00am via CU Learn (as a PDF).
**“Contemporary urban space-making at the water’s edge” by Richard Marshall (pp.3-14), and “Waterfronts as catalysts for city renewal” by Martin L. Millspaugh (pp.74-85) in Waterfronts in Post-Industrial Cities.**

“Etienne-Louis Boulée visits the Tate Modern” by Adolf Max Vogt in Herzog & De Meuron – Natural History

11. **Canadian Projects – the road ahead (FRIDAY 12/09) * Final paper due Dec 21 by 11:00am.**
RE-built projects and sites in Canada with particular interest in re-inhabitation of industrial sites
- Pulperie, Chicoutimi by Luc Fortin Architect
- The Ottawa Workshops at Bayview Yards
- Waterloo Regional Children’s Museum by Levitt Goodman
- Little Brown Jug Brewery in Winnipeg
- where do we go from here? Canadian firms leading the way

**GRADING AND REQUIREMENTS**

Evaluation in the course will be based on class participation, the case study and on the final paper. The outline and bibliography will be returned to students before the last class with comments.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Class participation</td>
<td>10%</td>
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<tr>
<td>Embodied Energy Exercise</td>
<td>20%</td>
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<tr>
<td>Essay outline &amp; bibliography</td>
<td>10%</td>
</tr>
<tr>
<td>Recycling Architecture Drawing</td>
<td>20%</td>
</tr>
<tr>
<td>Final Paper</td>
<td>40%</td>
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***All projects and papers are to be submitted via CU Learn by 11:00am. Project 1 and 3 original drawings should be submitted in the main office. Late papers or projects will be penalized with a 5% grade reduction per day.***

**Primary Bibliography**

Winter 2016
Lectures Wednesday 11:35-1:25 pm in Tory Building TB 210
Instructor Susan Ross, Assistant Professor, School of Canadian Studies
Office Hours Mondays 1:30-2:30, or by appointment
Office DT 1218, Email: susan_ross@carleton.ca
TAs james_arteaga@carleton.ca, tonya.temple@carleton.ca

Course Description
Heritage Conservation in Canada in 2016 is in a very different place than it was twenty years ago when Carleton University first started offering related courses in the School of Canadian Studies. If it began with advocacy, today it includes established multi-disciplinary practices, integrated national and local inventories, internationally recognized charters, evolving heritage legislation, and governments and non-governmental organizations with decades of experience. All this makes it possible for students today to go back to the basic questions: why is heritage important, who does it matter to, why do we conserve it and who is involved? Looking forward, what more could heritage conservation achieve, and how should practice in the field look in the coming decades?

There are also now pan-Canadian tools for practice to start from: the Canadian Register for Historic Places, which documents what matters, and the Standards and Guidelines for the Conservation of Historic Places in Canada, which provides principles and best practices or the “how to”. This course, intended for students in the Arts, Humanities, Architecture and Engineering will build on the lessons we can learn from Canadian and international theories, practices, and tools to continue to move the field ahead in stimulating and critical directions.

Learning Objectives

- Understand the basic concepts, issues and approaches that have evolved over time in the heritage conservation field in Canada and elsewhere.
- Identify and explain the concept of heritage value in relation to a broad range of historic places, including buildings, engineering works, cultural landscapes and urban districts.
- Recognize some of the basic documentation, research and evaluation methodology used in the heritage conservation field; and understand roles and stakeholders in different contexts.
- Develop and exercise judgment when examining conservation issues in the community and understanding the values inherent in those judgments.
Course Schedule Overview

Class 1 (January 6): Introduction
Class 2 (January 13): Heritage Commemoration, Values and Significance
Class 3 (January 20): Heritage Values in Buildings, Landscapes and Archaeological Sites
Class 4 (January 27): Heritage Conservation in Canada: A Historical Overview
Class 5 (February 3): Conservation Charters, Regulations and Codes of Ethics
Class 6 (February 10): Conservation Decision-making and Treatment Types
  Winter Study Break
Class 7 (February 24): Conservation Principles and Guidelines
Class 8 (March 2): Stakeholders, Initiatives and Programmes Across Canada – w Jim Mountain
Class 9 (March 9): Emerging issues and themes
Class 10 (March 16): Local Heritage Conservation Case Studies – w Stuart Lazear
Class 11 (March 23): Provincial Heritage Conservation Case Studies
Class 12 (March 30): Federal Heritage Conservation Case Studies – w Chris Ouimet
Class 13 (April 6): World Heritage Conservation Case Studies, and Course Review

Overview of Student Assessment

Assignment 1 “What is heritage value?” – worth 10% of final grade
Assignment 2 “Conservation charters” – worth 5%
Assignment 3 “Conservation treatments” – worth 5%
Assignment 4 “Conservation stakeholders” – worth 10%
Assignment 5 “World Heritage in Canada” – worth 10%
Mid-term online quiz – worth 25%
Essay “Emerging Issues in Heritage Conservation” – worth 25%
Contribution – worth 10%

Assignment deadlines, requirements, and other details, including on electronic submissions through cuLearn, are provided in the section on Assessment below. In most cases, a paper copy should be brought to class or the tutorial. Note that some assignments will be completed during the tutorials.

cuLearn

This course uses cuLearn, Carleton’s learning management system for document sharing. To access your courses on cuLearn go to carleton.ca/culearn. For help and support, go to carleton.ca/culearnsupport/students. Any unresolved questions can be directed to Computing and Communication Services (CCS) by phone at 613-520-3700 or via email atccs_service_desk@carleton.ca.

Communication

Office hours, location, and emails are indicated on page one. Students are welcome to drop by during office hours, but making an appointment ahead ensures you will be seen.

Email: The instructor will communicate with you via email using your Carleton account. General emails will be sent out using cuLearn. Students should carefully read all emails from the instructor. These may include additional information about assignments, readings or changes to schedule and classroom arrangements. Please acknowledge or answer any email that asks a question. Please notify the instructor promptly of email problems and provide an alternate as back up if needed. Send an email at least two hours before class if it pertains to your expected absence. Emails requesting information about assignments may sometimes be answered on the cuLearn Forum. An email will normally be answered within 24 hours, except possibly on Saturday or Sunday.
Course format and classroom protocol

The class includes lectures and discussions of themes and student findings from related assignments. There may also be three or four guest speakers later in the course. Students are expected to read up about the speaker and prepare questions to show interest in their experiences. Students will be encouraged to limit the use of electronic devices to note taking. Presentations by the instructor will be posted after the class in a 6-slide per page format, but since many slides include images that are discussed at length, note taking will be important. If you miss a class, it is your responsibility to ask a classmate about what you missed. This is especially important when new assignments are introduced. You are encouraged to have a couple of class buddies, who notice if you are not there, and take extra copies of handouts, or provide you with updates. The instructor appreciates polite behavior and expects all students to show courtesy and respect for each other.

**Tutorials:** This course makes active use of the tutorials, led by teaching assistants and/or the instructor, to advance student learning in assignments, discussions of readings and presentation of specific learning aids. Attendance is required, and will count towards your contribution grade.

References – see also the Readings and Online Resources listed at the end

Two basic Canadian online resources will be used throughout the course:


These two Ontario-based resources will also be used:


The instructor will from time to time make available additional references to follow up on class lectures, or provide references to current news items and sources of information. The remaining readings will also be available online or through the university library. Students are encouraged to become familiar with the main journals and popular publications on heritage conservation.

A session with librarian Martha Attridge-Bufton will be organized for one of the tutorials.

CU library subject guides:

- Canadian Studies [https://library.carleton.ca/research/subject-guides/canadian-studies](https://library.carleton.ca/research/subject-guides/canadian-studies)
ARCC
CIVE
ENVE

Technical & Professional
Core Courses for Conservation & Sustainability
CANADIAN MODERN HOUSE ANALYSIS: **INTERPRETATION & INTERVENTION**

John di Castri, **Dunsmuir Residence**, Victoria (1951)

Jim Strasman, **Wandiche House**, Peterborough, Ontario (1979)

Ronald J. Thom, **Fraser Residence**, Toronto, Ontario (1968)

Raymond T. Affleck, **Klassen Residence**, Mont St-Hilaire, Quebec (1951-53)

James Strutt, **Kemper House**, Briarcliffe, Ottawa (1962)

Cummings & Campbell, **Joey Smallwood Residence**, NF (1958-60)

Alfred Hennessey Residence, Charlottetown, PE (1980)

Roger d’Astous, **Maison de Demain**, Boucherville, Montreal (1961-62)

Arthur Erickson, **Smith Residence 2**, West Vancouver, B.C (1964-66)


Barton Myers, **Myers house**, Toronto Ontario (1971)
List of CANADIAN MODERN HOUSE ANALYSIS:
2. John di Castri, *Dunsmuir Residence*, Victoria (1951)

COURSE TITLE: Conservation in Practice I

Course Number: ARCC 3301
Term and Year: Fall 2016
Days and times of meetings: Mondays and Wednesdays. 1.30 to 5.30
Room: 517
Professor: Mariana Esponda (Mariana_esponda@carleton.ca)
INTRODUCTION

The **13 distinctly modern houses** chosen designed between the 1950s to 1980s represent several diverse regions of Canada. Some of the architects are the most prolific and best known in Canada and elsewhere, but others architects have a more regional reputation. Canadian modern houses were designed with an intimate awareness of international developments. Most of the architects were looking for innovation, design according to modular structural system and in the interest to adapt new forms of technology and new materials. Another characteristic of this period is the relationship between the site and the human body.

How each house reflects the intersection of culture, politics, economics, and aesthetics as these forces are played out in distinct social settings and distinct times.

How the houses represent the particular landscape? Maritimes, Quebec, Ontario, Prairies, the Rockies and the West Coast. How the Canadian Modern Architects interrelates?

Each house will be an exercise of interpretation, beginning with the examination of the forces that impact on the site (topography, orientation, views, winds, vegetation, structure, etc.) and the requirements of the clients. **Part I** is a creative investigation on the architect’s imaginative response to a given house, looking how the modern architectural principles were applied: textures, sounds, shapes of a specific landscape and the functional requirements. Specific research the conceptual themes on the house. **Part II** will be the construction of a model (could be your house, site or a particular feature inside your house (ceiling, wall, furniture, etc), we will define which element during the research process. **Part III** will be your critical analysis on how you could improve your house, what does the house need? Your proposal could be a conservation, an adaptive reuse or an addition. The decision will come from your house interpretation. The intervention part will be describe after finish Part 1.

COURSE OBJECTIVES

The **main objective** is to bring attention in some of the most significant Canadian modern houses from the period and in doing so increase the interest on this type of architecture and identify the distinctly Modern Architectural Heritage that Canada has.

- Critically examine regional Canadian architecture, in terms of the PROCESS: look for sketches & comparative design solutions.
- Seek to raise awareness and to understand better structures and landscape from the Modern Movement in Canada
- Identify key people (architects, engineers, landscape architects, artists, planners, etc) that developed a unique Canadian modern style
- How the architect respond to the particular landscape?
- Exhibition: The best projects are going to be exhibit in the Strutt House, Gatineau during the celebration of the 150 Anniversary. You will learn how to design the panels for the presentation. Time and date to confirm during winter 2017

**Modernist heritage issues.** Each student needs to study the following elements in their house.

- History of the architect, most representative projects, influence of other modern architects. Still alive tried to contact.
- Owners & users
- Context: Relationship to older heritage, site analysis
- Concept: Main feature of the house
ARCC 3501  FUNDAMENTALS OF CONSERVATION and SUSTAINABILITY

Course Number: ARCC 3501

Term and Year: FALL 2016

Days and times of meetings: Thursdays 2.35 to 5.25

Professor: Mariana Esponda  
(Mariana_Esponda@Carleton.ca)

Office Hours: Thursday 1:30 – 2:30.  
All appointments to be organised by e-mail.

CREDITS: 0.5

LOCATION: Room 209

St. Pere de Corbera, Spain (2005)

COURSE DESCRIPTION

Heritage conservation means STEWARDSHIP, defining methods of extending the life of buildings, understanding the value of maintenance and repair and by applying appropriate adaptive reuse.

There are different approaches to the concept of conservation, but I propose that recognizing architectural strategies which were used in the past and which ensured that the buildings are still today could be one way to renew the value of traditional knowledge and to incorporate it into contemporary buildings. Through readings, discussions and projects, students will learn basic concepts, guidelines, and methods currently being used to preserve and to make adaptive reuse compatible with the existing buildings. The course addresses questions like: why to conserve (values & statements of significance); how to conserve (minimal intervention, tangible and intangible heritage, cultural landscapes); historic research methods (sources: oral and documentary research) and the stages of a conservation project.

It will also analyze some solutions for an energy retrofit of historic building, understanding concepts such as embody energy, life cycle, durability, indigenous materials, passive measures, daylight and natural ventilation. An abandoned structure can be transformed into a building the local community can feel proud, enhancing the quality of the environment and the interest of the area, and often, providing employment possibilities and sense of place. The most sustainable building is the one that already exist.

This course introduces key discipline-specific content early in the curriculum to raise awareness of the VALUES for historic buildings and introduces preliminary design exercises on energy efficiency solutions for historic buildings. By several field sessions and case studies, students will debate the potentials and limitations of the heritage conservation field.
COURSE OBJECTIVES Upon completion of this course students will:

1. Identify key precedents and terminology associated with conservation, minimal intervention, energy efficiency, cultural heritage impact statement and adaptive reuse.

2. Understand the values of the site (heritage, socio-cultural, urban, spatial and environmental).

3. Demonstrate competency in visual representation with an emphasis of heritage conservation strategies and decision making on architectural concepts.

4. Understand the three scales: site, building and detail in a conservation project.

5. Be aware of the concept of sustainability in architecture by analyzing four different aspects that cannot be separated: the natural, the socio-cultural, the economic, and the technical practices.

6. Students are expected to explore a variety of approaches to conserve the built and natural environment and how to assess sustainability.

METHOD OF INSTRUCTION:

- This course is taught as a discussion seminar in weekly lectures. Students are expected to come to class prepared to discuss mandatory readings or assignments.
- Heritage case studies are used as a way to explore issues in-depth and integrate different approaches of architectural conservation and sustainability.
- During the course, two guest speakers will come to share their knowledge on the practice of architectural conservation. Dates to be confirmed.

METHOD OF EVALUATION:

<table>
<thead>
<tr>
<th>Assignment 1- Directors’ Project: “THE NEXT 150”</th>
<th>September 14 drawing @ 2pm</th>
<th>(5%)</th>
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<tbody>
<tr>
<td>Assignment 2- Case Study in Ottawa Adaptive reuse, restoration &amp; addition</td>
<td>September 15 essay @ 2.30</td>
<td>(5%)</td>
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<tr>
<td>Assignment 3- power point presentation Energy efficiency Sustainability</td>
<td>October 13 @ 2.30</td>
<td>(25%)</td>
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<tr>
<td>Term paper</td>
<td>November 10 @ 3.30</td>
<td>(20%)</td>
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<tr>
<td>Participation &amp; Assistance in class</td>
<td>December 1 @2.30</td>
<td>(40%)</td>
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Assignment 1.- “The next 150” (5+5= 10%)

- The drawing will represent a vision of how Ottawa might reflect the CHALLENGES and opportunities of the next 150 years. “You will make a single drawing, looking out through one of the windows of your building, one hundred fifty years into the future. If your building was constructed in 1868, you are presenting a view situated in 2018; if your building was constructed in 1990, you are looking into the year 2140, etc. Your vision may indicate your intuitions and/or desires about ecological, technical, spatial, urban, and political developments, the foreground should include or allude to ‘window.’ You will write a two-sentence caption for your drawing.

- The essay: Analyze in detail your SPECIFIC SITE identifying the character defining elements: urban, circulation (pathways, roads), landscape, buildings (scale, massing materials) and the relationship to surrounding elements. Specify which values have been or haven’t been respected on the 150 years. The essay format will be no more than 1000 words (3 pages); add photos and/or images after.

Assignment 2.- Cases Study in Ottawa, Category: Adaptive reuse, restoration & addition (25%)

Part 1- By several sketches the students will identify the character defining elements, which are the heritage values of each building: urban, socio cultural, design and landscape, and the main heritage strategy and use. As well as they will measure one detail of the building. They will perform the heritage impact statement of each building.

Part 2- Develop a DESIGN CONCEPT for a new intervention (i.e. building & landscape) and demonstrate how your design respects, enhances, adds value to your specific site character defining elements and to the overall context. The drawing will be 11x17.

Assignment 3.- Heritage & Sustainability (20%)

Students have to research what & how can heritage buildings teach us about modern energy efficiency, analyzing the criteria, materials & strategies. One Case Study. Power Point Presentation no more than 10 minutes, on November 10.

Term paper.- (40%). Students are welcome to discuss their in progress papers with the Instructor

The essay can’t be more than 6 pages (1500 words) and will focus in one case study. One detail drawing & images should be placed after the written part with the bibliography. Students have to investigate several questions on an adaptive re-use case study and their relationship with sustainability. Done in the last 10 years. They will analyze the criteria of the restoration and the heritage values of the place, requirements of the new building & place, studying the methodology of the intervention, criteria for the selective materials, sustainability issues. It has to be submitted on the last day of class (December 1st). Essays submitted late will receive a 5% deduction per day.

Plagiarism is grounds for automatically failure the course and will be reported to the University.

**If any students miss more than 3 classes, without a medical report, they can fail the course. Please, send me an email if you cannot assist to the class.

**The content of the course could be modified if the students and the professor agreed to study another topic that will be related to the general objectives.

CuLEARN
This courses use cuLearn, Carleton’s learning management system for document sharing.
ARCC 4909: HONOURS PROJECT (4th year C&S)

Term: Winter 2014
Instructors: Mariana Esponda, Professor, B. Arch, Ph.D.  Mariana_Esponda@carleton.ca
Timetable: Monday & Wednesday 1:30 to 5.30pm
Credits: 1.0
Location: Fishbowl room

COURSE OUTLINE

This course aims primarily to develop the student's critical thinking regarding design in the context of heritage buildings. The students are going to work in two projects.

First in the International Student Design Competition organized by ACSA title Preservation as Provocation, with the project FARNSWORTH HOUSE: NEW VISITOR EXPERIENCE. This competition challenges students and multi-disciplinary teams in architecture, preservation, landscape architecture, planning, engineering, sustainable design and other cross-disciplines, to create a new Visitor Center and approach experience for the iconic Farnsworth House by Mies van der Rohe in Plano, Illinois.

The second project will be the adaptive reuse of the Deschâtelets Building as the Old Ottawa East Community Center. In 1885, the Missionary Oblates of Mary Immaculate built Saint Joseph Scholasticate in Ottawa East. It is a vast structure that faces Main Street and stretches along the Rideau River. The Scholasticate housed young Oblates who studied philosophy and theology with a view to becoming priests. The Deschâtelets Building, which included a small infirmary and provided health care services to Oblate priests and brothers, offered rooms for priests, brothers, fathers, sisters and laymen who were studying at Saint Paul University.

GENERAL COURSE OBJECTIVES: (They could modify between the 2 projects)
The goal is to learn how we can merge new uses and contemporary sustainable design respecting existing historical structures. Elements of architectural design will be introduced together with a discussion of the added complexity created by historic buildings and best practice to respect historical values.

1. Understand the values of the site: heritage, spatial and environmental
2. Identify the conservation/architectural concept and demonstrate how it protects and enhances the site’s values.
3. Demonstrate how their design successfully addresses the client’s program requirements and meets their needs.
4. Have honed their presentation skills, especially in the area of graphic communication (hand drawings will be required)

STRUCTURE OF THE COURSE

The course will run in the manner of a studio, with class time on Mondays and Wednesdays devoted to “desk crits”, lectures, site visits and design work. For the first project –Farnsworth House- students could work as a group (max. 2). In the second project –The Oblate- each student will develop their own concept design. During some parts of the projects students are going to work in teams (site model, building code analysis, heritage impact assessment, etc). Presentation requirements will include
standard orthographic projections (plans, sections & elevations) as well as 3 dimensional representations (axonometric, sketches and models)

The designs will be developed incrementally with the following criteria for each phase:
- Site analysis and values (landscape, heritage and spatial)
- General disposition of the programmatic elements
- Conceptual approach: heritage strategy
- Floor plans (including aerial views), Section, Elevation, Sketches, Axo., etc.
- Explanation of how the design embodies their concept (500 words)
- Construction materials and finishes.
- Possible Cost estimates (Oblate project only)

ATTENDANCE
Full participation in the course is mandatory. 4 or more unexcused absences may be ground for failure.

PROJECT 1:
FARNSWORTH HOUSE: NEW VISITOR EXPERIENCE
Introduction (from the competition brief)
Solutions are encouraged to respect the Farnsworth House and site while creating an appropriate orientation and visitor services building(s) that prepares the guest for the Farnsworth experience. Solutions are encouraged to explore the relationship between historic preservation and contemporary design, landscape design, the changing climate and development patterns that result in the worsening flooding conditions, off-grid energy consumption, land use and habitat protection, heritage tourism and the design of public space. The goal of this competition is to explore how the collaboration between existing historic buildings and new design can produce uniquely thoughtful new places that negotiate the relationship between the past and the present. The solution should celebrate the past while optimistically addressing the aesthetic, cultural, spiritual, economic, practical and climactic challenges of our times.

Schedule
March 30, 2016   Registration Deadline
May 11, 2016     Submission Deadline
July 2016        Prize winners chosen by the design jury
Summer 2016      Announcement of competition winners

Awards
The design jury will convene in July 2016 to select winning projects and honorable mentions. Winning students, their faculty sponsors, and schools will receive cash prizes totaling $10,000, with distribution as follows:

<table>
<thead>
<tr>
<th>First Prize</th>
<th>Second Prize</th>
<th>Third Prize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student/Team $3,500</td>
<td>Student/Team $2,250</td>
<td>Student/Team $1,500</td>
</tr>
<tr>
<td>Faculty Sponsor $1,500</td>
<td>Faculty Sponsor $750</td>
<td>Faculty Sponsor $500</td>
</tr>
</tbody>
</table>

GRADING
Project 1: 45%
Project 2: 45% (final presentation)
Participation and improvement: 10%

ACCREDITATION AND PROFESSIONAL EXPERIENCE
PROGRAM ACCREDITATION
Specifically, this course meets the following criteria for: A1- A6,A7-A9, B1-B5, B9, C4 and D2
The objective of this course is to introduce students to the basic theories in mechanics of materials of solid bodies that are relevant to structural analysis and design.

Instructor: Jack van den Berg  M.Eng., P.Eng.
Office: 3054 MC.  Phone: 613-520-2600 ext. 3896.  Jack_Vandenberg@Carleton.ca
Office hours:  Mondays and Wednesdays 5:00 pm – 6:00 pm

Lectures
Mondays and Wednesdays 6:00 pm – 9:00 pm.

Teaching Assistants Contact Information and Office Hours: When finalized will be posted on CuLearn.

Textbook

Course Format (lectures + 3 lab sessions and 8 PA sessions)
- Lectures are structured to go over the theory first, and then solve a number of relevant problems.
- There will be either a lab or a PA session during each 3 hour session.
- The Lab is located in room 1084MC (inside room 1060MC in the basement). The labs will be completed in pairs with one lab report per pair. Lab reports are due one week after your lab at the beginning of your PA session.  **NOTE: There are no formal lab reports required.**
- Recommended textbook problems to solve will be provided on cuLearn.
- The PA sessions are mandatory and there will be six quizzes during the sessions (ie, every PA session except the first and last). Students are encouraged to ask any questions to the TA before the quizzes. Students can work in groups of two or three people.
- Mid-term examination – Saturday May 28/16: 9:00-11:00 am. Once the midterms are handed back, students have a maximum of one week to resolve any issues on their exam.
- Final Examination – to be scheduled.

Grading
- 5 Laboratory reports: 10%
- Mid-Term Exam: 25%
- 6 Quizzes in PA sessions: 15%
- Final Examination: 50%
- TOTAL: 100%

How to be successful in this Course:
1. Check cuLearn frequently, including your marks.
2. Purchase a textbook.
3. Print the lecture notes and bring them to the lectures.
4. Attend all lectures and tutorials. Attempt the recommended problems in advance of each PA session.
5. Do the recommended problems weekly so you don’t get behind.
6. Attend the labs and hand them in on time.
7. Prepare well for the mid-term and final examination.

<table>
<thead>
<tr>
<th>Lab</th>
<th>Laboratory Topic (Note: there are lab handouts and short video links that describe each lab – check cuLearn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Behaviour of engineering materials: Ultimate strength and Load-deformation characteristics</td>
</tr>
<tr>
<td>2</td>
<td>Estimation of the elastic properties of materials using strain measurement techniques (strain gages)</td>
</tr>
<tr>
<td>3</td>
<td>Load-deformation behaviour of beams (Flexure)</td>
</tr>
<tr>
<td>4</td>
<td>Stress-strain relationship of thin-walled cylindrical pressure vessels</td>
</tr>
</tbody>
</table>
## Lecture # | Tentative Lecture Topic
--- | ---
1 | Introduction; Stress; average normal and shear stress; allowable stress; Strain; normal and shear strain; Mechanical properties; stress-strain relationship; Hooke’s Law.
2 | Poisson’s ratio; shear stress-strain relationship, other behaviours; Axially loaded member- statically determinate and indeterminate; St. Venant’s Principle; Principle of Superposition; thermal stress; stress concentration.
3 | Bending; beam static – beam reactions; axial, shear and moment diagram – direct and graphical method.
4 | Beams in bending; flexure formula; moment of inertia; unsymmetrical bending.
5 | Unsymmetrical bending - continue; inelastic bending; shear stresses in beams: Transverse shear; Shear formula.
6 | Shear flow in built-up and thin-walled members; Beam deflection; elastic curve.
7 | Deflection by integration; Deflection by moment-area method; Principle of superposition.
8 | Thin-walled pressure vessel - Generalized Hooke’s Law.
9 | Torsion of circular members; torsion formula; power; angle of twist; statically determinate and indeterminate; thin-walled tubes; Combined loading.
10 | Columns; elastic buckling - Inelastic buckling - Design of columns.
11 | Stress transformation; principal stresses; maximum in-plane shear stress; Mohr’s circle.
12 | Strain transformation; Mohr’s circle; Strain rosettes; Theories of failure.

### Notes:
1. Attendance to all tutorials and labs (including submitting lab reports) is mandatory and a requirement for a passing grade. Absence must be accompanied by a formal explanation or special permission from the instructor. If you are sick, a doctor’s note is required. Print the following form from the registrar’s website and have it completed by your physician: [http://www1.carleton.ca/registrar/ccms/wp-content/ccms-files/med_cert1.pdf](http://www1.carleton.ca/registrar/ccms/wp-content/ccms-files/med_cert1.pdf)
2. Switching between labs or between PA sessions is not permitted, as there is limited space.
3. All grades for the labs, quizzes and midterm must be resolved within one week from their return.
4. Students who perform poorly during the term (term work less than 33%) will be assigned the grade FND (Failure - No Deferral). To pass the course, a minimum mark of 33% in the final exam is required and a minimum of 50% of both term work and final exam combined. The final examination is for evaluation purposes only, and the paper will not be returned.

### Academic Accommodations for Students with Disabilities

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first mid-term exam. After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam at [http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/](http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/)

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

**Pregnancy obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: [http://www2.carleton.ca/equity/](http://www2.carleton.ca/equity/)

**Religious obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: [http://www2.carleton.ca/equity/](http://www2.carleton.ca/equity/)

You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at [http://www2.carleton.ca/equity/](http://www2.carleton.ca/equity/)

### Instructional Offences:
Please consult the university undergraduate calendar for definitions and penalties.
Civil and Environmental Engineering

cive 2700 civil engineering materials a

Course Outline
Fall 2015

Hours per week                  Lecture/Lab/ Tutorial.
                                    3     1.5   1.5

The main learning objectives of this course are the following: introduce students to material science (atom structure, crystallography, imperfections); and to discuss the characteristics, properties, behaviour, and use of Civil Engineering materials (steel, concrete, asphalt, wood, polymers and composites). The course will consider their specifications, physical, chemical, thermal and mechanical properties. The students will also learn about fatigue and corrosion of metals.

Instructor:
Dr. John Gales
Office: 4206 Canal Building
Office hours: open door policy (or by appointment).
Email: john.gales@carleton.ca
When emailing the instructor/teaching assistants please type “CIVE2700-Course query” as your subject header and use your Carleton university account. Course feedback at any time is welcomed.

Section A;
Lectures: Monday (10:05am-11:25am); and
    Wednesday (10:05am-11:25am)
Lectures room: Tory 340

Teaching Assistants:
There are six Teaching Assistants for this course. They will be announced in lecture.

Textbook:

References:

Website:
• Lecture notes, laboratory notes, assignments and solutions will be available on-line at CULearn.
Evaluation:
- Lab reports: 20%
- Assignments: 10%
- One midterm: 20%
- Final Exam: 50%

Important notes:
- Attend the Section (A or B) in which you are registered. Switching between sections is not permitted as midterms and assignments will be different.
- The notes supplied on the website are intended to serve as complement and not replacement to regular class attendance.
- The schedule of the topics covered may not be exactly as shown in the course weekly calendar. The instructor may alter the course weekly calendar and schedule slightly during the term. The up to date outline will be posted on CULearn.
- Attendance to all labs (including submitting lab reports) is mandatory and a requirement for a passing grade. Absence to labs must be accompanied by a formal explanation (doctor’s note for example).
- Switching between labs or between tutorial sessions is not permitted, as there is limited space.
- To pass the course, a minimum mark of 50% in the final exam is required.
- The midterm is tentatively scheduled during week 7. The date and location will be announced in class. There will be no alternate make-up date for the mid-term examination.
- If you miss the mid-term examination (or leave the examination), due to documented illness, the 20% will be added to the weight of your final exam. Otherwise, your mark will be zero.
- If you miss the mid-term examination due to prior arrangement as documented with approval as legitimate from me, the 20% will be added to the weight of your final exam. Otherwise, your mark will be zero.
- The date for the final exam will be announced by the university.
- Marked course work will be returned during the tutorials.
- The final examination is for evaluation purposes only, and the paper will not be returned or made available to students after it is marked.

Late policy
All students are expected to complete their assignments and labs in a timely fashion. All late assignments and lab reports should be given to the instructor. Late assignments and lab reports will be subject to a reduced grade of 10% of the maximum grade per day late (where weekends count as two days). A mark of zero will be applied if the assignment or lab is submitted after the solutions have been posted.
Carleton University  
Department of Civil and Environmental Engineering  

CIVE 3204 Introduction to Structural Design  
2015 Fall  

Week       Topic  
1-2       Building Systems and Structural Form  
• Structural form, linear members, planar systems, shell structures, tension structures.  
• Types of buildings  
• Structural framing for buildings, industrial buildings, multistorey buildings  
3-4       Design Philosophy and Design Process  
• limit states design  
• codes and standards  
• design process  
• loads, load combinations and load factors  
5-6       Dead and Live Loads  
• use and occupancy  
• tributary area  
• live load reduction factor  
7-8       Snow, Ice and Rain Loads  
• basic snow load, accumulation, drift  
• load distribution and combinations  
• ponding  
9-10      Wind Loads  
• reference velocity pressure  
• load distribution and statically equivalent forces  
11-12     Earthquake Loads  
• objectives of earthquake-resistant design  
• seismic regionalization  
• evaluation and distribution of lateral seismic forces.  

Required Texts

**Reference Texts**


**Marking Scheme**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>25%</td>
</tr>
<tr>
<td>Mid-Term examination, 3 November 2015</td>
<td>25%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Instructor**

Professor D.T. Lau, 3436ME  
Office hour: Tuesday 10:15 – 11:15 hr.  
Thursday 13:00 – 14:15 hr.

**Teaching Assistant**

* I. Shaheen  
* A. Abdelkarim  
* H. Keelson  
* P. Liyanage

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*D.T. Lau, 3 September 2015*
Building/Room: Architecture Building 204

Date: Thursdays @ 8:35-11:25 AM (3 hours), January 7th – March 31st, 2016

Course Description (from the Calendar):
The course centers around the impacts of the environment on architecture as well as the reverse impacts of architecture on the environment. This includes topics such as, ecologic footprint, energy consumption/efficiency, water conservation, air quality, waste divergence and generation, designing with the environment, renewable energy, effective siting and landscape, passive solar energy, natural lighting - all related to the built environment, with a focus on building reuse, heritage and conservation.

The following is an outline of the Architecture and the Environment course. The course is intended as a broad introduction to field of green buildings and sustainability. The course is based on a 12 week schedule, with one three hour class per week. Most classes will be separated into two parts; a lecture and a workshop. Some classes will include guest lecturers. Students leaving this course will have an understanding of the principles of sustainability, as they apply to buildings. The course will also serve as an introduction to other more intensive courses offered at Carleton.

Textbook (Optional):
1. Sustainable Construction: Green Building Design and Delivery, 3rd Edition by Charles J. Kibert

Course schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (Jan. 7)</td>
<td>Introductions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overview of course</td>
<td></td>
</tr>
<tr>
<td>2. (Jan. 14)</td>
<td>Climate Change &amp; Watersheds, communities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and Ecology</td>
<td></td>
</tr>
<tr>
<td>3. (Jan. 21)</td>
<td>Green Building Rating Systems</td>
<td>Greg Ross (Windmill)</td>
</tr>
<tr>
<td>4. (Jan. 28)</td>
<td>Sustainable Sites</td>
<td></td>
</tr>
<tr>
<td>5. (Feb. 4)</td>
<td>Hydrology &amp; Water use in bldgs</td>
<td></td>
</tr>
<tr>
<td>6. (Feb. 11)</td>
<td>Energy and sustainability</td>
<td>Liam O’Brien tbd</td>
</tr>
<tr>
<td></td>
<td>Midterm review</td>
<td></td>
</tr>
<tr>
<td>7. (Feb. 18)</td>
<td>Reading Break</td>
<td></td>
</tr>
</tbody>
</table>
### Basic Outline of each Class:
90 minutes: lecture
90 minute: lab work (exercise, charrette, etc.)

### Course Marking Overview:

<table>
<thead>
<tr>
<th>Test/Assignments</th>
<th>Marks</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshops</td>
<td>10%</td>
<td>• In class exercises in groups (approximately 5)</td>
</tr>
<tr>
<td>Assignment 1</td>
<td>20%</td>
<td>• Similar to exercises in class</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Due at midterm</td>
</tr>
<tr>
<td>Charrette</td>
<td>5%</td>
<td>• In class exercise in groups</td>
</tr>
<tr>
<td>Midterm test</td>
<td>20%</td>
<td>• Test in class (60 minutes)</td>
</tr>
<tr>
<td>Final Assignment</td>
<td>20%</td>
<td>• Similar to exercises in class</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Due at final exam</td>
</tr>
<tr>
<td>Final test</td>
<td>25%</td>
<td>• Test in class (60 minutes)</td>
</tr>
</tbody>
</table>
Green Building Design (GBD) – ENVE 4105

“Sustainable building design from back-of-the-envelope calculations to dynamic simulation”

Winter 2016, Lectures: Thursdays, 11:35-14:25
Tutorials and Labs: CB5301; various times (see your schedule)

Instructor: Prof. Liam O’Brien, PhD, Liam_OBrien@carleton.ca, CB 5208; office hours: Mondays 12-2 or by appointment only.
TAs: Aly Abdelalim (alyabdelalim@cmail.carleton.ca; CB 4207; office hours Wednesdays 12-2pm or by appointment only.)
Shawn Shi (ZixiaoShi@cmail.carleton.ca; CB4207; office hours Tuesdays 1-2pm or by appointment only.)

Course description
The course provides an overview of green buildings and their systems and technologies. The concepts will be supported with both theory and case studies. Emphasis will be placed on good design practice, the integrated design process, and quantitative design. A major objective of the course is to provide engineering students and architecture students an appreciation of their counterparts’ roles in the building design process. The tutorial component will involve a lesson on using a different software tools and/or example problems. Several guest lectures and a possible tour will supplement the regular lectures.

All evaluation (assignments, exams) will be in SI units. However, it would be beneficial for students to be comfortable with basic conversions to IP units (e.g., inches and °F).

Required background knowledge
All students should be familiar with basic heat and mass transfer, trigonometry, basic calculus and algebra, and use of Excel or similar spreadsheets.

Learning objectives
After taking the course, students should be familiar with and be able to apply concepts related to:
- Calculations and analysis for design of buildings and their subsystems at a wide range of details, from back-of-the-envelope to detailed simulations.
- Climate, weather, and site selection
- Building information modelling (BIM) and building performance simulation (BPS)
- Solar geometry and energy
- Lighting and daylighting
- Building envelopes, fenestration, and shading
- Passive techniques
- HVAC systems and Building controls
- Occupant comfort (thermal, visual, acoustic)
- Indoor air quality and natural ventilation
- Occupant behaviour
- Building-integrated renewable energy systems
- Embodied energy
- The integrated design process (IDP)

By the end of the course, students should be able to bring any green building-related aspects to conceptual design.

Evaluation

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>25%</td>
</tr>
<tr>
<td>Design project</td>
<td>25%</td>
</tr>
<tr>
<td>Mid-term exam</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
</tbody>
</table>
Course Materials
The primary reference material will be posted to cuLearn. Course notes (slides and hand-written on the blackboard) will supplement these. Blackboard notes will not be posted on cuLearn.

Additional reference texts include:

- The ASHRAE Fundamentals Handbook. The SI-unit version is highly favourable. 2013 edition is available from the library website (can save PDFs and print them).
- ASHRAE Stds. 55, 62.1, and 90.1

Readings
1-2 readings will be assigned to be read before the weekly lectures. These will be discussed in class and are included in the examinable scope.

Assignments
They are due at the beginning of the lecture. Late assignments will be accepted but at a reduced mark, at a rate of 1 percentage (of final grade) point per weekday. Assignments are to be completed individually (unless express permission is given otherwise); evidence of direct copying or plagiarism will be treated as cheating and will be handled according to university policy.

Design project
Students will be assigned to groups formed by the professor to ensure distribution of all disciplines. The project shall be structured such that students apply the concepts taught to a real building design (specification in a separate document). The project will contain written and oral components. Oral presentations will occur in the last few lectures.

Exams
The mid-term exam will occur after reading week and will cover all material taught up until the exam. The final exam covers all material of the course and will take place during the formal exam period. For both exams, students must bring a calculator, pen, pencil, eraser, and a single-sided 8.5 by 11-inch formula sheet. Formula sheets may not contain examples, and theory other than formulas.

Building Design/Analysis Software (freely available and installed on lab computers for tutorials)
A major component of the course will be to learn and use a number of freely-available tools (mostly Window-based). Students are also encouraged to install them on their personal computers if possible.

Academic integrity
Students should familiarize themselves with Carleton’s Academic Integrity Policy (available here: http://www1.carleton.ca/studentaffairs/academic-integrity/). The professor has a zero-tolerance policy.
ARCN

Representational Documentation & Techniques
Core Courses for Conservation & Sustainability
Historic Site Recording and Assessment

CIVE 3207 / ARCN 4100
2016 - 2017 Winter Session

Instructor:

Mario Santana Quintero, e-mail: Mario.santana@carleton.ca
ph. +1 (613) 520-2600 x 3093, Canal Building, Office 5207 (5th floor)

Teaching Assistants:

Class Lectures: Tuesdays and Thursdays 11:35 am-12:55 pm – Classroom: SA 417

Practicum and Fieldwork (at campus or onsite: 2 hours):

<table>
<thead>
<tr>
<th>Tutorials</th>
<th>Day</th>
<th>Times</th>
<th>Field</th>
<th>Indoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVE 3207 A2 / ARCN 4002 A2</td>
<td>FRI</td>
<td>8:35 am-11:25 am</td>
<td>SITE</td>
<td>CB 5301</td>
</tr>
<tr>
<td>CIVE 3207 A1 / ARCN 4001 A1</td>
<td>WED</td>
<td>8:35 am-11:25 am</td>
<td>SITE</td>
<td>CB 5301</td>
</tr>
</tbody>
</table>

Course Description:

Recording the physical characteristics of historic structures and landscapes is a cornerstone of preventive maintenance, monitoring and conservation. The information produced by such work guides decision-making by property owners, site managers, public officials, and conservators. Rigorous documentation may also serve a broader purpose: over time, it becomes the primary means by which scholars and the public apprehend a site that has since changed radically or disappeared.

Our team-taught course has two aims: to acquaint students with a wide range of recording techniques and to help students decide which techniques are best suited to which sites and objectives. Led by experts in the field, our classes will benefit from guest instruction by experts in various branches of the documentation field. Students, too, will work in teams, weighing the strengths of various methods before applying them. While tools from the simple measuring tape to laser survey devices will be at your disposal, you will need to think through and justify your use of them. Some tools will be used at all sites. Others are highly specialized.

ARCN 4100 / CIVE 3207 will be an introduction of condition assessments, and will be further examined in the ARCN 4200 / CIVE 4601 – Building Pathology & Rehabilitation course (Winter 2018).
Our students will be expected to:

- Come to understand the role of visual information gathering in historic conservation, with an eye to national and international standards for such work.
- Review the strengths and limitations of particular recording techniques.
- Approach some of these techniques as a documentation provider and others as an informed user.
- Analyze sites using these techniques.
- Understand the relationship between recording and good conservation decision-making.
- Learn how to integrate information gathered through these techniques into coherent presentations.
- Work in teams throughout the semester, ultimately completing a graphic and historical record of a chosen site in coordination/collaboration with site custodians.

Because of its proximity and rich cultural landscape, Ottawa will serve as our study area. Each week, we will learn about a given recording technique during our Tuesday lecture and apply it during lab sessions (dates and times to be scheduled based on team members’ availability). The Practicum’s will take place at the school of architecture or at the sites, depending on the objectives of the practicum.

**Heritage Places**

The following places will be analysed this fall, groups of five students are invited to select a site:

2. **Visitor’s Center, The Log Farm**, 670 Cedarview, Nepean, ON. Site custodian: Ryan Orr (ryanorr@rogers.com) and Geoff Frigon, Chief, Agricultural and Residential Property Management: Geoffrey.Frigon@ncc-ccn.ca
3. **Farm House, The Log Farm**, 670 Cedarview, Nepean, ON. Site custodian: Ryan Orr (ryanorr@rogers.com) and Geoff Frigon, Chief, Agricultural and Residential Property Management: Geoffrey.Frigon@ncc-ccn.ca
4. **Bytown Museum**, assessment of the third floor. 1 Canal Ln, Ottawa, ON K1P 5P6. Site custodian: Jonathan Morel, email: jonathanmorel@bytownmuseum.ca


6. **St Matthew’s Anglican Church**, 217 First Ave, Ottawa, ON, site custodian: Joan Lawrence, email: stmatthewanglicanchurch@bellnet.ca.

7. **185 Strathcona Ave House**. Site Custodian: Erinn Nowiski, email: nowiski@live.ca.

8. **Tabaret Hall, entrance at 75 Laurier**, ON K1N 7K3. Site Custodian: Sylvio Miron email: Sylvio.Miron@uOttawa.ca

**Technical Prerequisites**

Students are expected to know the two-dimensional drawing features of Computer-Aided Design (CAD) application. For tutorials, visit [http://www.cadtutor.net/](http://www.cadtutor.net/), also the Ottawa Library provides accessibility to Lynda.com: [https://bibliottowalibrary.ca/en/lynda](https://bibliottowalibrary.ca/en/lynda) here you can find CAD and other digital tools tutorials. Limited classroom instruction in the elements of CAD may be offered, depending on demand, but will not occur during course time.

AutoCAD 2015 through 2017 should be installed on students’ laptops prior to week 2 of the CAD survey. Free copies of AutoCAD release are available for download by registering at the Autodesk Education Community ([http://students.autodesk.com](http://students.autodesk.com)). AutoCAD is also available at the computer lab in event that you do not have a laptop computer.

For digital photography, each student is required to have:

- A camera with at least ten-megapixel resolution; (a departmental camera may also be available).
- A tripod may also be available.

Furthermore, to carry out Assignment 1, students are expected to obtain an ArcGIS license from the Carleton University Library, read: [https://library.carleton.ca/services/arcgis-student-edition](https://library.carleton.ca/services/arcgis-student-edition). Alternatively, students can use Quantum GIS, which is an open source and free GIS package available at [http://www.qgis.org](http://www.qgis.org).

To be provided by the School:

- Hand recording kits (measuring tape, Disto (electronic distance meter (EDM)), plumb bob and string)
We will be working with architecturally and historically significant sites in Ottawa. The sites will be presented to the students on the first day of class.

Students will analyze and document their sites throughout the semester, ultimately preparing a critical compendium of their work known as an Integrated Project Dossier (IPD). The goal of this document is not only to demonstrate proficiency with recording techniques taught in class but also to organize the resulting information in a clear and accessible manner. Your materials should be presented with an eye to likely audiences: owners, decision-makers, researchers, and conservation professionals. Think of this as a semi-public document, analogous to the graphic component of a historic structure report.

The report will contain an introduction summarizing the site’s significance (indicating character defining elements), lay out its chronology, condition, and explain students’ logic in emphasizing some recording methods over others.

Furthermore, the IPD will contain the measured drawings and site photographs resulting from different assignments that illustrate its significance and condition.

**Grading**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Participation and technical compliance</td>
<td>10%</td>
</tr>
<tr>
<td>Assignment 1</td>
<td>5%</td>
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<tr>
<td>Assignment 2</td>
<td>5%</td>
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<tr>
<td>Assignment 3</td>
<td>5%</td>
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<tr>
<td>Assignment 4 (including tutorial workflow completion)</td>
<td>5%</td>
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<td>Assignment 5 (including tutorial workflow completion)</td>
<td>5%</td>
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<tr>
<td>Assignment 6 (including tutorial workflow completion)</td>
<td>5%</td>
</tr>
<tr>
<td>Midterm Review*</td>
<td>10%</td>
</tr>
<tr>
<td>IPD dossier*</td>
<td>30%</td>
</tr>
<tr>
<td>Finals presentation (IPD)</td>
<td>20%</td>
</tr>
</tbody>
</table>

100% of final grade

Final letter grades will be figured on the basis of these assignments.
* Individual and Group evaluations will be conducted
Instructor: **Dr. Mario Santana Quintero**  
e-mail: Mario_santana@carleton.ca  
ph. +1 (613) 520-2600 x 3093, Canal Building, Office 5207 (5th floor)

Lecture class: Tuesday 8:35 am to 11:25 am. Room AA 204.

<table>
<thead>
<tr>
<th>Sctn</th>
<th>Day</th>
<th>Times</th>
<th>Field</th>
<th>Indoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVE 4601 - A3</td>
<td>Mon</td>
<td>8:35 am - 11:25 am</td>
<td>SITE</td>
<td>5301 CB</td>
</tr>
<tr>
<td>ARCN 4200 &amp; CIVE 4601 – A1</td>
<td>Thu</td>
<td>8:35 am - 11:25 am</td>
<td>SITE</td>
<td>5301 CB</td>
</tr>
<tr>
<td>CIVE 4601 - A2</td>
<td>Fri</td>
<td>2:35 pm - 5:25 pm</td>
<td>SITE</td>
<td>5301 CB</td>
</tr>
</tbody>
</table>

Teaching Assistants: **Carly Farmer**, email: CarlyFarmer@cmail.carleton.ca

Definitions:  
**Building Pathology** is a term “used to define a holistic approach to understanding buildings. Such an approach requires a detailed knowledge of how buildings are constructed, used, occupied, and maintained, and the various mechanisms by which their structural, material and environmental conditions can be affected. It is, by necessity, an interdisciplinary approach and requires a wider recognition of the ways in which buildings and people respond and react to each other.” David Watt, *Building Pathology, Principles and Practice*, 1999

**Rehabilitation** is the “action or process of making possible a continuing or compatible contemporary use of an historic place, or an individual component, while protecting its heritage value.” Parks Canada, *The Standards and Guidelines for the Conservation of Historic Places in Canada*, 2011.

Description:  
**Building Pathology and Rehabilitation** is a core course of the Bachelor of Engineering (BEng) and Architectural Studies (BAS) with a Major in Architectural Conservation and Sustainability. It is taught in the 4th year of the programme, after students have been introduced to basic conservation and sustainability principles and fundamentals of building materials, assemblies and structures. Building on the Architectural Technology courses taught throughout the BAS and BEng, and making use of basic documentation techniques learned in the Historic Sites Recording course, students will become familiar with the skills required to investigate and address the conservation and sustainability issues of historic and modern buildings. While focused on the building technologies of Eastern Canada’s existing building stock, the
discussion and analysis will include examples of buildings from all types, sizes and locations.

Objectives: Working individually and in teams, students will acquire and apply:

- Understanding of historic and modern building envelope and structural systems, assemblies and materials and their patterns and causes of decay and deterioration.
- Methodology for the assessment of the physical condition and performance of buildings and the preparation of condition assessment and performance evaluation reports.
- Identification, analysis and diagnosis of materials, assemblies and structures;
- The roles of architects, engineers, materials conservation specialists, building scientists, architectural/ building historians, traditional building trades and other disciplines.
- Development of rehabilitation treatment options based on analysis of physical conditions, conservation principles and other criteria (health and safety, cost, accessibility, etc.)
- Specific issues of historic and modern building rehabilitation, including preserving patina, addressing inherent vice, locating substitute materials, using modern technologies and identifying appropriate skilled labour.

One of the underlying objectives is to help build an understanding of the connections between conservation and sustainability, and sustainable conservation strategies:
Critical to the development of an integrated sustainable conservation project is the understanding of the history of the building’s construction and use, its inherent environmental features, past and current performance patterns, and the types and causes of deterioration of its specific materials, assemblies and structures. Effective affordable and respectful means of maintaining and repairing important and well-crafted built features should continue to offer years of use – thus sustaining our built heritage, and reducing the impact of new construction on the environment.

References: Through the use of a diverse range of paper and web-based references, students will also become familiar with the extent of Canadian and international resources available for working on historic/ existing buildings. There is no required textbook, but a wide range of critical texts are on reserve at the library.

A list of books on reserve and Internet resources is provided below. In addition, a list of weekly readings on specific topics will be provided at the first class.

Format: The course format will include lectures, site investigation and documentation, discussion of case studies, readings and research, essay and report writing and presentations by the students. The first ten weeks include a 3-hour lecture period and 2-hour lab led by the instructor. The lecture period will include teaching modules, discussion of assigned readings and presentation or review of assignments. Lab time will be used for fieldwork, to work on the four assignments described at the end of the outline and or to meet the instructor. Lectures/ field visits may include guest speakers. Students are encouraged to participate in analytical discussions and make links with other courses, projects and experiences.

Revised – 13 September 2016
Grading: There are 2 class quizzes (10%) and a final exam (20%) dealing with in class readings about building pathology and rehabilitation, topics will be discuss during class. There will be four assignments, worth 60%. The description of each assessment follows the detailed course description below. The grading of the four assignments will be as follows:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Assignment 1</td>
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<td>Assignment 2</td>
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<tr>
<td>Class Quizzes</td>
<td>10%</td>
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<td>Assignment 3</td>
<td>20%</td>
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<tr>
<td>Assignment 4</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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</table>

The remaining 10% of the final mark is discretionary based on attendance, including punctuality, and participation in the weekly discussions of readings. Please show respect for all by allowing enough time to arrive before class begins, only leaving early following a prior explanation. Students will be asked to close laptops or other electronic devices during class discussions, exercises and presentations. There will be a bonus assignment worth 6% in total of additional grades.

Attendance in the first class is required, and there will be no make up time for students who join after the term has begun. There is no lab on the week January 5 to 9, 2015. Attendance at labs is also obligatory unless the instructor designates it otherwise at the time.

A skills assessment questionnaire, which is not graded, will be completed during the first class, in order to help identify the level of understanding of basic building technology and history, conservation and sustainable design principles, and the content and assignments may be adjusted accordingly.

Concise and accurate technical writing is important in professional work; student written and verbal work will be assessed on language (grammar, spelling, structure, style) as well as content.

See also below for more general information.

Emails: Emails will be answered within 24 hours. Except for during the 30 minutes after class, meetings outside class hours will be by appointment only.

OVERVIEW OF COURSE CONTENT

- Introduction
- Characterization of buildings
- Building pathology
- Materials, assemblies and structures:
  - Building Envelope & Introduction
  - Wood
  - Masonry
  - Metals
  - Concrete
## Tentative schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Lab</th>
<th>Class</th>
<th>Lecture</th>
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<tbody>
<tr>
<td>2</td>
<td></td>
<td>Jan 12</td>
<td>L01: Introduction to Building Pathology &amp; Rehabilitation</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>A01: Introduce Assignment 1</td>
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<tr>
<td>3</td>
<td></td>
<td>Jan 19</td>
<td>L02: Characterization of buildings; construction types; functional types; inherent environmental features</td>
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<td>Jan 18 - 22</td>
<td>L03: Building deterioration: Defects, damage and decay</td>
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<td>T01: Preparing Site Reconnaissance</td>
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<td>4</td>
<td></td>
<td>Jan 26</td>
<td>L04: Investigation: Condition &amp; Performance Assessment</td>
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<td></td>
<td>Jan 25 – 29</td>
<td>L05: Values centered assessments</td>
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<td>T02: Introduction to readings and library material at Carleton Library</td>
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<tr>
<td>5</td>
<td></td>
<td>Feb 2</td>
<td>L05: Diagnostics, Criteria &amp; Analysis</td>
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<td></td>
<td>Feb 1 – 5</td>
<td>Oscar Carly Farmer</td>
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<td></td>
<td>T03: Site visits</td>
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<td></td>
<td>Sheets (On Site)</td>
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<tr>
<td>6</td>
<td></td>
<td>Feb 9</td>
<td>L06: Guest lecture by Brian Hierlih</td>
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<td>Feb 8-12</td>
<td>L07: Case Study</td>
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<td>L08: Repairs: Planning the conservation approach</td>
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<td>R01: Review of Building Characterization Sheets with TA</td>
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<td></td>
<td>A02: Introduce Assignment 2</td>
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<td>Assignment 1 due Feb 12</td>
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<tr>
<td>7</td>
<td></td>
<td>Feb 23</td>
<td>L09: Masonry materials, assemblies, and structures</td>
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<td>Feb 22 - 26</td>
<td>L10: Metal materials, assemblies, and structures</td>
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<td>L11: Earthen architecture conservation architecture</td>
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<td>L12: Case Study: Kasbah of Taourirt, Morocco</td>
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<td></td>
<td>A03: Introduce Assignment 3</td>
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<td>T04: Assignment 3</td>
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<tr>
<td>8</td>
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<td>Mar 1</td>
<td>L11: Concrete materials, assemblies, and structures</td>
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<td>Feb 9- Mar 4</td>
<td>L12: Upgrades: addressing performance issues</td>
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<td>Guest Lecture: John Cooke on Assessing Building Conditions</td>
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<td>Working session on Assignment 3</td>
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<tr>
<td>9</td>
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<td>Mar 8</td>
<td>L13 Wood materials, assemblies, and structure (S. Ross)</td>
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<td>Mar 7 - 11</td>
<td>L14: Energy Modelling for Existing Buildings (S. Bucking)</td>
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<td>Working session on Photogrammetry for Assignment 3</td>
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<td>10</td>
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<td>Mar 14</td>
<td>L15: Heritage professionals in Canada (L. Smith)</td>
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<td></td>
<td>Assignment 2 is due</td>
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<td>T05: Assignment 4 and review Assignment 3</td>
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<tr>
<td>11</td>
<td></td>
<td>Mar 22</td>
<td>L17: James Maddigan, Robertson Martin Architects</td>
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<td>L19: Key messages</td>
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<tr>
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<td></td>
<td></td>
<td>L10: Working session on Assignment 4</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Mar 29</td>
<td>Visit to the The Delegation of the Ismaili Imamat Building at Sussex street, appointment at 9am</td>
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<tr>
<td></td>
<td></td>
<td>Mar 28 – Apr 1</td>
<td>Group presentations on Assignment 4</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Apr 5</td>
<td>Final Exam</td>
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<td>Submission of Assignment 3 and 4, but late submissions until April 12 will not be penalized</td>
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<td></td>
<td></td>
<td>Apr 7</td>
<td>Submission of Bonus Assignment</td>
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</tbody>
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ARCC
ARCN

Technology
Techniques

Elective Courses
ARCN 4103 COURSE OUTLINE
Digital Fabrication & Theory
Fall 2015
Instructor: Johan Voordouw

LAB: MONDAY, 8:35 – 11:25am
LECTURE: TUESDAY 2:35 – 5:25pm
Attendance to all labs and lectures is mandatory

LEARNING OUTCOMES
This course will place into context the increased predominance of digital technology into emerging architectural pedagogy. It will connect issues of theory, digital practice with fabrication and assembly. These skills will be developed through discursive lectures, practical seminars and through intensive group projects that promote collaborative peer learning.

Please find below a list of the CACB Student Performance Criteria for this course:
A1 Critical Thinking – Through lectures and discussions in seminars
A2 Research Skills – Through learning and application of computational software
A3 Graphic Skills – Through the final documentation
A4 Verbal and Writing Skills – Discussion and documentation
A9 Precedents – As shown in lectures and used in the design development
B1 Design Skills – Throughout the course in design development and final project articulation
C1 Detailed Design Development – Through the technical drawings required to fabricate the final build and assemble the construction on site

OBJECTIVES
The course aims to teach a critical approach to technology and digital practice through theory and practice. The lectures will give broad theoretical/philosophical background to the emergence of digital technology in relation to culture and architecture, its current use and future speculations. The workshop seminars aim to develop skills in digital software and fabrication techniques available at Carleton.
SCHEDULE

Critical Dates

Wed. Sept. 2nd                Beginning of Fall Term
Mon. Oct. 5th, 2:00 CST       Assignment 1 Due
Fri. Nov. 20th                Assignment 2 Due
Mon. Nov. 23th                Assignment 3

ASSIGNMENTS

Lecture Participation – Discursive Group (5 x 3%)    (15% of total grade)
Each student will be part of a three-person ‘debate’ team. I will periodically ask these groups to participate in the lectures through debate/discussion on particular topics relevant to the lectures.

Lab Tutorial                    (10% of total grade)
Each team will be responsible for teaching one of the last 5 computer labs

Assignment 1 – Winnipeg Warming Huts Competition   (20% of total grade)
Build a schematic 1:5 model of the Assembly project. This will be the starting point to generate a dialogue about how to develop the project as the term progresses

Assignment 2 – Assembly Construction       (30% of total grade)
Fabricate and assemble the project at 1:2 scale within the School of Architecture

Assignment 3 – Documentation            (15% of total grade)
Each individual is responsible for a pamphlet documenting the Assembly project, its process and construction

Discretionary                    (10% of total grade)
Participation in lecture discussions, engagement in the labs learning the various software packages and group participation for the completion of course assignments

- For more information regarding each project please refer to the Project Brief posted on CULearn in due course

EVALUATION

“Workshop projects will be evaluated on the (1) strength of design concept/concepts, (2) development and articulation of the concept according to the objectives set forth in the project assignment, and (3) the clarity, craft and completeness of the work submitted at the hand-in deadline.”
COURSE DESCRIPTION

This course is an introduction to the broad field of color, texture and materiality that defines the human environment in general, and focuses on human response to space inhabitation in particular – as these manifest in various cultures pertaining to the realm of artifact design. The course is given in seminar and hands-on application modes and will promote debate on issues of real and virtual environments in designing within the physical and cyber space. Topics discussed will be adhering to social, cultural, economic and political aspects of human dwelling, and will be advancing sensitive developments of content, concept, context and comprehension in architectural design. Students will be encourage voicing their independent judgment, and will be invited to articulate plausible positions as they become more familiar with the challenges poised by contemporary mind-set in the post-modern age.

COURSE OBJECTIVES

1) Help students to gain critical insights on WHY challenges poised by the incorporation in design of color, texture and materiality for dwelling environments affect the profession of architecture and society as a whole;
2) Advance understanding on HOW the 3-D modeling, interactivity and hybridity that work together change the way we engage in current design of artifacts;
3) Promote awareness on WHAT opportunities the global village advances for promoting a novel architecture;
4) Expose students to relevant and important texts on the W/S issues and challenges.

REQUIRED READINGS

The W/S sessions will be having required readings from references listed below, but will not be limited to the list content; selected articles from journals and papers from conference proceedings will be augmenting the references.

CLASS SCHEDULE

Group seminars and hands-on explorations will be held on Tuesdays 6:00 pm – 9:00 pm in Room # 515 and individual color, texture and materiality based assignments will be carried out in school’s various labs.

All students are required to actively participate in Group Seminars and Hands-on Exploration sessions.
SCHEDULE

Wk 1 Jan 07
Introduction to W/S
Assignment #1: Idea Modeling via Light de-Materialization of the Artifact
Vision as Content / Why? / art as de-Light Dev’t: (Box as Light Fixture PAINTED)

Wk 2 12
Light-ness + Dark-ness re: Shades, Shadows & Depth Perception
Assignment #2: Carving out 2D Surface Material into 3D Dynamics
Mission as Concept / How? / Parti-Marqui Dev’t: (Rotation/Revolution of Colored Rings)

Wk 3 19
Light, Color & Perspectivity in Contextualizing the Experiential
Assignment #3: Transforming Space by Color & Material Texturing
Action as Context/What?/Opportunities Dev’t: (4 Architects Offices: Challenge Realities)

Wk 4 26
Material Expression in Cultural Manifestation
Appreciating “Otherness” – Universal Value Development
Review of the Collage of Assignments #1-2-3 (Grade Value: 30% of Term Mark)

Wk 5 Feb 02
Historic Architecture -- Critical-Analysis: Form, Geometry & Plaza Space
Assignment #4: Sketch bldg details to narrate the story of the place
(Use B&W pen & pencil, on white paper, highlight shades and shadows)

Wk 6 09
Modern Architecture – Site Visit: Reflective-Projectivity
Assignment #5: Draw wall-surface to various lighting-shading conditions
Reveal transient color, texture & materiality, project emotive expression
(Use prisma-color & pastel, on white paper)

Wk 7 16 Winter Break

Wk 8 23
Contemporary/Post-Modern Arch -- Site Visit: Contradiction & Complexity
Assignment #6: Documentation of Exteriority-Interiority landscaping
(Use mixed media in studying Contemporary Materiality)

Wk 9 Mar 01
Light, Color, Texture & Materiality revisited in Architecture
Review of the Collage of Assignments #6-7-8 (Grade Value: 30% of Term Mark)

Wk 10 08
Trans-Modern Architecture: Doors/Walls/Ceiling/Floors as LS -- Color Presencing
Assignment #7: Study of an Architectural Typology – New Content?

Wk 11 15
Trans-Human Architecture: Dresses / Furniture as LS – Color Presencing
Assignment #8: Study of an Architectural Morphology – New Concept?

Wk 12 22
Post-Human Architecture: Anti-Matter, Gravity Free Color, Human Body as LS
Assignment #9: Study of an Architectural Monument – New Context?

Wk 13 29
The Perspectives of Color, Texture, Materiality in Dwelling
Review of the Collage of Assignments #7-8-9 (Grade Value: 30% of Term Mark)
Attendance & Active Participation in Reviews: 10% of Term Mark

Wk 14 Apr 05
Course Discussion & Evaluation

W/S COURSE ASSIGNMENTS & EVALUATION
Collage #1: SYNOPSIS of Assignments #1-2-3 (Grade Value: 30% of Term Mark)
Collage #2: SYNOPSIS of Assignments #4-5-6 (Grade Value: 30% of Term Mark)
Collage #3: SYNOPSIS of Assignments #7-8-9 (Grade Value: 30% of Term Mark)
W/S Class Attendance and Active Participation (Grade Value: 10% of Term Mark)
Techniques
Elective Courses – M.Arch
In Daedalic Exercises 1, we will undertake a close reading of Richard Sennett’s *The Craftsman* and examine his characterizations of ‘craftsmen’, ‘craft’, and ‘craftsmenship’ in the context of contemporary architectural practice. We will discuss the epistemological foundations of the text through weekly readings, a short essay and a project.

**SCHEDULE**

<table>
<thead>
<tr>
<th>Session</th>
<th>Date</th>
<th>Reading Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 01 / 08.09</td>
<td>INTRODUCTION</td>
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<tr>
<td>Session 02 / 15.09</td>
<td>Sennett, Richard. 2008. <em>The Craftsman</em></td>
<td></td>
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<tr>
<td>Session 03 / 22.09</td>
<td>Hesiod. 1988. (trans. M.L. West) <em>Theogeny</em></td>
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<tr>
<td>Session 04 / 29.09</td>
<td>Project Review.</td>
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<tr>
<td>Session 05 / 06.10</td>
<td>Craft. Arendt, Hannah. 1958. <em>The Human Condition</em>. (pp. 79-174).</td>
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<tr>
<td>Session 07 / 20.10</td>
<td>Craftsmanship. Joas, Hans. <em>The Creativity of Action</em>. (pp.70-126)</td>
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<tr>
<td>Reading Week 27.10</td>
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</tbody>
</table>
Agamben, Giorgio. 2009. *What is an apparatus?: and other essays*. (pp.1-24)

**Session 08 / 03.11**

**Session 09 / 10.11** Project Review
**Session 10 / 17.11** Carruthers, Mary. 2000. *The Craft of Thought*.
**Session 12 / 01.12** Final project review and discussion.

**18.12** Final paper (pdf by email and hard copy to Main Office)

**DELIBERABLES**

Project  A finely crafted thing.

Essay (5000 words)  1. Outline Sennett’s understanding of craft, craftsmen, and craftsmanship.
2. How do you understand these terms in the context of contemporary architectural practice?
3. How does your project exemplify / engage with these terms?

**EVALUATION**

Essay  30%
Project:  50%
Weekly readings:  20%

**ACADEMIC ACCOMMODATION**

You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please review the course outline promptly and write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

It takes time to review and consider each request individually, and to arrange for accommodations where appropriate. Please make sure you respect these timelines particularly for in-class tests, mid-terms and final exams, as well as any change in due dates for papers.

You can visit the Equity Service website to view the policies and to obtain more detailed information on academic accommodation at [http://carleton.ca/equity/accommodation](http://carleton.ca/equity/accommodation)

**ACCESSIBILITY**

Students with disabilities requiring academic accommodation in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that I receive your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadlines published on the PMC website: [http://www2.carleton.ca/PMC/new-and-current-students/dates-and-deadlines/](http://www2.carleton.ca/PMC/new-and-current-students/dates-and-deadlines/)
4.3 Current Faculty Resumes
Carleton University
Azrieli School of Architecture and Urbanism
Accreditation Program Report
September 2016

Faculty CVs

Andonian Krikor
Baez Manuel
Bonier Catherine
Boyle Sheryl
Bucking Scott
Cazabon Yvan-pier
Connah Roger
Debanne Janine
Esponda Mariana
Fai Stephen
Fontein Lucie
Gianni Benjamin
Goffi Federica
Kariouk Paul
Mangone Giancarlo
Riar Inderbir
Stoner Jill
Voordouw Johan
ARCHITECTURE  September 2016

CURRICULUM VITAE

ANDONIAN, K.S. (GREG)  Professor, Tenured; Member of the Graduate Faculty

TEACHING
4th Year Fall & Winter Undergraduate Design Studios

AREA
Graduate Thesis Supervision
4th Year Special Topics: Theory of Info Tech & Architecture
Theory of Urbanism -- 4th Year Core Course
Color in Architecture -- 3rd & 4th Year Workshop

EDUCATION
1978  Ph.D., Systems Design, University of Waterloo, Ontario, Canada
1973  M.A.Sc., Systems Design, University of Waterloo, Ontario, Canada
1968  M. Arch., Yerevan Polytechnic, Armenia, USSR
1963  B. Sc., Aleppo, Syria

HONORARY DEGREE
2014  Certificate of Membership, IIAS HALL OF FAME, Systems Research & Cybernetics
2013  Member, The Int'l Academy of Arts, Sciences & Engineering, IIAS, Germany
1996  Dr. H.C. -- Doctor Honoris Causa -- International Institute for Advanced Studies in Systems Research & Cybernetics, Baden-Baden, Germany

SHORT LISTED
1986  Vice-President (Academic), Cal Poly, San Luis Obispo, CA, USA

SPECIAL APPOINTMENT
1984  Head, Federal Centre of Excellence for Architecture, Vancouver, B.C.
      Appointed by the Canadian Federal Cabinet (PWC Minister Andrei Oullette)
      As part of the Federal Liberal Government’s re-election platform

ADMINISTRATIVE EXPERIENCE (Selected)
2004-  ACTA SYSTEMICA -- IIAS International Journal, Member of Editorial Board
2004  UNESCO Paris -- Appointed Chair for Social Sustainability of Historic Districts
2004  UNESCO Canadian Commission -- Member, Sectoral Commission of Science
2003  UNESCO Rep on Jury for the IFLA International Competition, Calgary, AB
2002-  Panel Member, PEQAB (Post-secondary Education Quality Assessment Board), Ministry of Education, Province of Ontario, Canada
1998- 2001  Member, Board of Governors (BOG), Carleton University, Ottawa, Canada
1998- 2001  Member, BOG Personnel/Human Resources Committee, CU
1996- 2001  Member, Senate Executive, CU
1996- 2001  Member, University Senate, CU
1995- 2001  Member, University Promotions Committee, CU

TEACHING EXPERIENCE (Selected)
2002-  Distinguished Professor, International Institute for Advanced Studies, Germany
1991-  Professor, School of Architecture, CU
1991-1996  Director, Apple Design & Modeling Centre, CU

MEMBERSHIP
1999  American Institute of Architects (Associate) U.S.A.
1999  Ottawa Regional Society of Architects
1996  Royal Architectural Institute of Canada, Ottawa

AWARDS
2016  Le Corbusier Award of Excellence in Architectural Design, Research and Teaching, IIAS, Germany
2015  GOLDEN AWARD of Distinguished Leadership in Research & Education, IIAS
2012

PLATINUM AWARD in recognition of Outstanding Scholarly Work, Exemplary Leadership & Distinguished Contribution to the Development of the International Institute for Advanced Studied in Systems Research & Cybernetics, Germany

PUBLICATIONS (Recent)

2016

Advances in ARCHITECTURE, URBANITY and SOCIAL SUSTAINABILITY”

2016

“Architecture of Armageddon”
Keynote Address at the Opening Plenary Session, InterSymp 2016 -- 28th International Conference on Systems Research, Informatics & Cybernetics, Baden-Baden, Germany

2016

9th International Symposium on Architecture of 21st Century: In Search of New Paradigms -- InterSymp 2016 in Baden-Baden, Germany

2015

“Advances in ARCHITECTURE, URBANITY and SOCIAL SUSTAINABILITY”

2015

“Orwellian Psyche on Global Education”
Keynote Address at the Opening Plenary Session, InterSymp 2015 -- 27th International Conference on Systems Research, Informatics & Cybernetics, Baden-Baden, Germany

2015


2015

“Architecture of Delight in Post-9/11 Global Condition”
3rd IIAS Symposium on Human Happiness -- -- InterSymp 2015 Germany

2014

“Advances in ARCHITECTURE, URBANITY and SOCIAL SUSTAINABILITY”

2014

“Trans-Architecture of Trans-Humanism”

2014

“Deconstructing Orwellian Architecture of New World Order”
Proceedings of the 4th Orwellian Symposium, 2014 – 26th Int’l Conf. IAAS

2014

“Multi-Dimensionality and Multi-Directionality in Architecture and Physics”, Delivered at the 7th Int’l Symposium on Architecture of 21st C.

2013

“Advances in ARCHITECTURE, URBANITY and SOCIAL SUSTAINABILITY”

2013

“Phenomenology of Architecture in Trans-modern Age”

2013


RESEARCH INTERESTS


RESEARCH FUNDING -- CAREER TOTAL TO DATE

$1,150,000

2
CURRICULUM VITAE

BÁEZ, Manuel Antonio

Associate Professor of Architecture, Tenured (2006); Member of the Graduate Faculty

DEGREES:
1993 Master of Architecture, Cranbrook Academy of Art
1979 Bachelor of Architecture, The Cooper Union - The Irwin S. Chanin School of Architecture

HONOURS and AWARDS:
2016 - DOORS OPEN OTTAWA 2016, Carleton Aboriginal Centre (Ojigkwanong) “Light Keeper”
2012 - CREATIVELY MORNINGS™ Ottawa, inaugural lecture presenter
2010 - TEDxCarletonU, invited presenter, TEDx

PROFESSIONAL AFFILIATIONS:
Member of the Royal Architectural Institute of Canada (RAIC)
Registered Architect, New York State: independent practice, consultation, research and teaching

EMPLOYMENT HISTORY:

Teaching Positions
2006-Present Associate Professor (Tenured), Carleton University, Azrieli School of Architecture and Urbanism.
2001-2006 Assistant Professor, Carleton University, School of Architecture

Professional Activity
1993-PRESENT Independent practice, consultation, research and teaching

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2001-Present Crossings: De-Formation Research Director, Azrieli School of Architecture and Urbanism.
2009-Present Advisory Committee member of SCIENAR, exploring Science and Art. SCIENAR is an Educational, Audiovisual and Culture Executive Agency (EACEA) CULTURE project, Europe.
2008-Present Symmetry Research Network member, Mechanical Engineering Dept., McGill University, Montreal.

GRADUATE SUPERVISION:
Completed: 11 M. Arch Graduate Thesis (professional)
In Progress: 1 M. Arch Graduate Thesis (professional)

TEACHING ACTIVITY

Fall 2016 Sabbatical
2009-2016 ARCS 1105 Studio 1
ARCS 2105 Studio 2
ARCH 4801 Workshop
2013-2016 ARCC 1202 History of Structures
2009-2013 ARCC 2200 Technology I


SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest lecturer, researcher, and/or Critic
2015 - Guest critic, Polytechnic University of Valencia, School of Architecture, Valencia, Spain.
2015 - Research presentation: University of Granada, School of Civil Engineering, Channels and Ports, Granada, Spain; The Alhambra resident architect, Granada, Spain; Emilio Perez Piñero Foundation, Murcia, Spain.
2012 - Creative Mornings™ Ottawa, Key Invited Presenter, June 27th. Lecture titled: Metaphoric Inter-Weavings: Arts and Technology.
2010 - TEDxCarletonU, invited public lecture, Gladstone Theatre, Ottawa Carleton University Alumni Weekend, invited faculty research presentation.
Research Presentation: Productions Artefact, Montreal, QC; Realisations.net, Montreal, QC
University Administration
2001 – 2016  Undergraduate Admissions/Recruitment Committee
2001 – Present  Technical Curriculum Committee
2002 – Present  Awards Committee
2012 – 2016  Associate Director, Undergraduate Program
2010 – 2016  Design Mayor Coordinator, Faculty Search Committee, Awards Committee, Architecture School
Library Representative, Accreditation Task Force, Curriculum & Accreditation Committee.
2013 – 2014  Director’s Search Committee, Faculty Search Committee
2009 – 2013  University Senate
2009 – 2010  Design Mayor Coordinator, Faculty of Engineering and Design Dept. Rep., Library Representative,

RESEARCH AND FUNDING:

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Type</th>
<th>Amount/yr</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>pHacktory Lab</td>
<td>Crowdfunding</td>
<td>$ 2,500.00</td>
<td>Project funding</td>
</tr>
<tr>
<td>2013-14</td>
<td>HUB Ottawa</td>
<td>Crowdfunding</td>
<td>$ 4,100.00</td>
<td>Project funding</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Type</th>
<th>Amount/yr</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-16</td>
<td>Carleton Univ.</td>
<td>Aboriginal Center Support</td>
<td>$15,000.00</td>
<td>Project funding</td>
</tr>
<tr>
<td>2009-13</td>
<td>SSHRC</td>
<td>Institutional Grant</td>
<td>$ 2,000.00</td>
<td>Research funding</td>
</tr>
</tbody>
</table>

PUBLICATIONS
1) Life-time summary:
   Chapters in a Book   2
   Papers in Refereed Journal   2
   Abstracts and/or Papers Read   2
   Others (workshops presented)   1

2) Details:
   Papers in Refereed Journal
   2013  (i2) Research and Innovation in Architecture and Territory magazine (#1), University of Alicante, Spain. Research paper: *Resonant Matter: Pattern Correlates of Process-In-Formation*.
   Others (Workshops presented)
   2015  Alicante Univ. (Spain) School of Arch., Crossings Workshop/Lecture, *Resonant Currents* installation.

CONFERENCES, SYMPOSIA and SEMINARS:
2016  The 19th International Conference on Generative Art, GA2016, Dec. 15-17, Florence, Italy.
2015  Alicante University (Spain) - Architecture, Crossings Workshop/Lecture, *Resonant Currents* installation.
2012  Creative Mornings™ Ottawa, Key Invited Presenter, June 27th. Lecture titled: *Metaphoric Inter-Weavings*.

REVIEW, ORGANIZING and ADVISORY COMMITTEES:
2009-Present  Advisory Committee member of SCiENAR, Europe: “Exploring the connections between Science and Art.
2008-Present  Member of the Symmetry Research Network, Mechanical Eng. Department, McGill Univ., Montreal.

EXHIBITIONS:
Group Exhibitions
2013  Canadian Mathematical Society Meeting, Ottawa, Research models exhibited.

PROFESSIONAL PROJECTS, INSTALLATIONS, and RESIDENCIES:
2016-2017  Architect/Artist Residency at the Pelling Lab for Biological Manipulation, University of Ottawa.
2016  “Starling’s One”. Byward Market, Ottawa. As a member of the pHacktory research lab and initiative.
2015  “Suspended Animation: Reflection on Gaudí”; Azrieli School of Architecture and Urbanism.
2014-16  “Light Keeper” Installation, Center for Aboriginal Culture and Education (CACE), Carleton University,
2015  “Resonant Currents” Univ. of Alicante School of Architecture Calasparra (Murcia), Spain
2013-14  “Resonant Currents” Installation, HUB Ottawa, permanent installation.

COMPETITIONS:
2015  “*Estrella Del Mar (Star of the Sea)*”, Architecture Workshop in Rome.
2015  *The Foguera Pla de el Bon Repòs - the Goteta of Alicante*, Alicante, Spain.
2014  “*Organic Plasticity,*” International Digital Design to Fabrication Competition, Organized by the Tech-Fab digital fabrication alliance.
CURRICULUM VITAE

BONIER, Catherine  Assistant professor, Tenure-track; Member of the Graduate Faculty

DEGREES:
2015  Ph.D. Architecture, University of Pennsylvania, Philadelphia, PA, USA
2007  M. Arch., University of Pennsylvania, Philadelphia, PA, USA
1994  B.A., Harvard College, Cambridge, MA, USA

HONOURS:
2012  AIAS Annual Outstanding Faculty Award - LSU American Institute of Architecture Students

EMPLOYMENT HISTORY:
Teaching Positions
2016-  Assistant Professor, Azrieli School of Architecture, Carleton University
2013-16 Assistant Professor, College of Art and Design, Louisiana State University
2012-13 Lecturer, Design Instructor, Department of Architecture, University of Pennsylvania

TEACHING ACTIVITY: past 7 years, by year
Studies, Lecture Courses, Workshops and Seminars:
2016-2017  ARCU 3304 - Studio 2 (Urbanism 3rd year) / ARCS 5102- Studio 1 (MArch 1st year)
          ARCU 4408 - Selected Topics in Urbanism, Seminar
2015-16   ARCH 4007 - History and Theory 3 / ARCH 7008 - History and Theory 2 / ARCH 4221 - Seminar
          ARCH 7004 - Studio 4 / ARCH 5002 - Studio 9
2014-15   ARCH 3002 - Studio 6 / ARCH 4001 - Studio 7
          ARCH 7008 - History and Theory 2 / ARCH 7007 - History and Theory 1
2013-2014 ARCH 2002 - Studio 4 / ARCH 5002 - Studio 9
          ARCH 3005 - History and Theory 1
2012-2013 ARCH 5002 - Studio 2

SCHOLARLY AND PROFESSIONAL ACTIVITY
Guest Design Critic
2009-2016 Tulane School of Architecture, Mississippi State, PennDesign, Temple University,
        UNC Charlotte (thesis), Auburn University, Boston Architectural College
2010    Schenk Woodman Competition, University of Pennsylvania School of Design, Juror.

University Administration
2016-    Undergraduate Committee, Azrieli School
        Lectures and Exhibits Committee, Azrieli School
2013-2016 School Diversity Committee (Chair and Founder), LSU
2014-2016 College of Art + Design Curriculum Committee, LSU
        School of Architecture Curriculum Committee, LSU
        College Committee on New DDes/ PhD Programs, LSU
        College Communication Across the Curriculum Advisory Committee, LSU
2013-2014 School Mission Statement Committee (Chair), LSU
        University Committee on Climate Change Certificate, LSU
2010-2013 Chair Search Committee, University of Pennsylvania School of Design

RESEARCH AND FUNDING - Overview

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Type*</th>
<th>Amount per year</th>
<th>Purpose**</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016, PI</td>
<td>Coastal Sustainability Studio</td>
<td>O</td>
<td>$5,000</td>
<td>Travel, Publication</td>
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<tr>
<td>2012-13, PI</td>
<td>Philadelphia Area Center for the History of Science</td>
<td>F</td>
<td>$2,000</td>
<td>Research</td>
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<tr>
<td>2010, PI</td>
<td>TD Bank Group - CCA Collection Research Grant</td>
<td>F</td>
<td>$2,000</td>
<td>Research</td>
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<pre><code>    | Centre Canadien d’Architecture              |       |                 |                    |
</code></pre>
PUBLICATIONS:

1) Life-time summary:
- Papers in refereed conference proceedings 2
- Editor of refereed conference proceedings 1
- Paper in refereed conference (unpublished) 4
- Invited lecture or panelist 4
- Abstracts and/or papers read 3
- Conference organizer or conference chair 3

2) Details:

Papers in Refereed Conference Proceedings

Editor of Refereed Conference Proceedings

Paper in Refereed Conference (unpublished)

Invited Lecture or Invited Panel Discussant

Reviewer for Refereed Book or Journal

Conference Organizer or Chair
BOYLE, Sheryl
Associate Professor, tenured (2008)
Associate Director – Research; Member of the Graduate Faculty

DEGREES:

2011 - present  in progress Ph.D. Humanities (Sensory Studies), Concordia University
1999    M.Arch (Post-Professional), History & Theory of Arch., McGill University.
1990    B. Arch (Professional), Carleton University

EMPLOYMENT HISTORY:

Teaching Positions
2004- present  Professor, Azrieli School of Architecture & Urbanism, Carleton University
1997-2004  Sessional Lecturer, Carleton University School of Architecture.
1997-1998  Teaching Assistant, McGill University, School of Architecture

Professional Employment (self-employed design-build projects)
2008-present  Self-employed design-build projects

GRADUATE SUPERVISION: (last 7 years)
Completed: 8 M.Arch (professional)
In progress: 1 M.Arch (professional)

TEACHING ACTIVITY:

Studios, Lecture Courses, Workshops and Seminars:
2016/17  ARCS 5105 - Gateway Studio (M.Arch)
         ARCH 4206 - Recycling Architecture in Canada and abroad (4000 level & Masters)
         ARCN 5302/ARCN 6002 - Daedalic Exercises (PhD and M.Arch)
         ARCS 4107 - Studio (4th Year)
2014/15  ARCH 4206 - Recycling Architecture in Canada and abroad (4000 level & Masters)
         ARCC 3301/ARCC 4909 - Conservation DSA elective
2013/14  ARCH 4206 - Recycling Architecture in Canada and abroad (4000 level & Masters)
2012/13  ARCH 4206 - Recycling Architecture in Canada and abroad (4000 level & Masters)
         ARCS 3105 - Coordinator only (3rd year studio)
         ARCN 3999 - Coop Studies (2000 to 4000 level)
2010/11  ARCH 4206 - Recycling Architecture in Canada and abroad (4000 level & Masters)

SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest Design Critic
2014 - School of Architecture, McGill University, Graduate thesis reviews.
2011 - Department of Engineering, Carleton University, 4th Year Project Reviews.

ORUs (Organized Research Units)
2011-present  Member, Centre for Sensory Studies, Concordia University
2006-present  Member, Carleton Immersive Media Studio

University Administration
2016  Member, Advisory Committee, Azrieli School of Architecture & Urbanism
2009-15*  Director, Azrieli School of Architecture & Urbanism, Carleton University
2012-14  Member, Carleton University Quality Assurance Committee

Professional Activity
2008  Grant Reviewer for Accelerate Canada Internship project proposals. MITACS.
RESEARCH AND FUNDING

1. External Research Funding:

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Type*</th>
<th>Amount per year</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>2012-15</td>
<td>CFI</td>
<td>C</td>
<td>$582,242</td>
<td>Solar House construction on CU campus</td>
</tr>
<tr>
<td>2012-15</td>
<td>Industry</td>
<td>O</td>
<td>$291,220</td>
<td>Solar House construction on CU campus</td>
</tr>
<tr>
<td>2012-15</td>
<td>ORF</td>
<td>G</td>
<td>$582,242</td>
<td>Solar House construction on CU campus</td>
</tr>
<tr>
<td>2010-11</td>
<td>SSHRC-RDI</td>
<td>C</td>
<td>$79,250</td>
<td>Publication</td>
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2. Internal Research Funding:

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<th>Source</th>
<th>Type*</th>
<th>Amount per year</th>
<th>Purpose**</th>
</tr>
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<tbody>
<tr>
<td>2013</td>
<td>I-CUREUS</td>
<td>O</td>
<td>$720</td>
<td>Solar House research assistant</td>
</tr>
</tbody>
</table>

PUBLICATIONS:

1) Life-time summary (count) according to the following categories:
   - Papers in refereed journals ................................................................. 2
   - Papers in refereed conference proceedings ........................................... 1
   - Technical reports .................................................................................... 14
   - Abstracts and/or papers read ..................................................................... 3
   - Others (workshops presented) ..................................................................... 4
   - Referee/Peer review of books for publishers............................................. 2

2) Details:
   Papers in refereed Journals:
   1. 2009 Paper (co-authored with Marco Frascari): Architectural amnesia and the synesthetic in-
      materiality of architectural smell (4000 words). Architecture & Ideas. Ai (Toronto, ON)

   Technical Reports/Papers Published for Research Centres online
   1. 2014 Author: Sheryl Boyle, “What is the Sixth Sense? - Phantasia (Imagination)” in The Sixth
      sense ABCDERium (the online version of the final chapter of The Sixth Sense Reader
   2. 2013 Author: Sheryl Boyle Blancmange. Concordia- Centre for Sensory Studies website
   3. 2012 Author: Sheryl Boyle, Sensory Readings in Architectural Theory, Concordia ibid.
   4. 2012 Author: Sheryl Boyle. Hypnerotomachia Polyphili: the Five Senses and Aristotle’s
      Philosophy of Phantasia. Concordia University - Centre for Sensory Studies website.

Other
   2. 2010 Conference Co-Chair. Retrofit: sustainability for the future, Carleton & CaGBC, Ottawa
   3. 2009 ACSA Portland. Conference Session co-Chair (with Professor Federica Goffi), Portland

Referee/Peer Review of Books for Publishers:
   1. 2015. Routledge, (book on architectural design Processes)

EXHIBITIONS:
   1. 2016 Verum Ipsum Factum, Concordia University; Exhibition for comprehensive exam.
   2. 2017 Durer’s Nose exhibition/lecture March 2017 @ Open Forum Carleton (upcoming)

PROFESSIONAL PROJECT LIST

2015 Air Shed - Ventilated gunwhale Rainscreen prefabrication prototype for Westmeath, ON
2015 Hybrid Rainscreen - Solar house, Carleton
2013/14 Tiny House - hinged building in Westmeath, ON.
2013 Solar Thermal House - unique rain-screen - Carleton campus, Ottawa, ON.
2013 Inside-Out Shed - cavity wall exploration for rain screen in Chinatown, Ottawa, ON
BUCKING, Scott,  Assistant Professor, Tenure track  
Member of the Graduate Faculty

DEGREES:
2013  Ph.D. Building Engineering, Concordia University, Montreal
2008  MEng. Building Engineering, Concordia University, Montreal
2004  BEng. Microelectronics, Carleton University, Ottawa

EMPLOYMENT HISTORY
Teaching Positions
2015 – present  Assistant Professor, Carleton University, Ottawa  
Cross-appointment Engineering & Architecture

Professional Employment
2013 – 14  Building Engineering Team Lead – S2E Technology
2008 – present  Energy Auditor, Owner Numbered Federal Co., Ottawa ON
2007 – 08  Member of Software Development Group/ MRI Technical Expert; 
NeuroRx Research Montreal, QC June 2007 – November 2008
2003  Junior Engineer - Detector Operator, Sudbury Neutrino Observatory

TEACHING ACTIVITY:
2015 – 16  ARCC 2202 & ARCC 5096 – Architectural Technology 1 (BAS, M.Arch1)
2002 – 04  Physics/Math Teaching Assistant

PUBLICATIONS:
1) Life-time summary:
   - Chapters in books...........................................................................................................1
   - Papers in refereed journal .......................................................................................... 4
   - Papers in refereed conference proceedings ............................................ 4
   - Abstracts and/or papers read ................................................................................. 7

2) Details:

JOURNAL PUBLICATIONS
• Bucking, S., Zmeureanu, R., Athienitis, A. An information driven hybrid evolutionary algorithm for optimal design of a Net Zero Energy House. Solar Energy, Vol. 96 (0), October 2013, pp. 128-139

• Bucking, S., Athienitis, A., Zmeureanu, R. Multi-objective optimal design of a near net-zero energy solar house. ASHRAE Transactions. Vol. 120 (1), January 2014


• Bucking, S., Cotton, J.. Methodology for energy and economic modelling of net-zero energy communities. ASHRAE Transactions. 2015 [submitted]

REFEREED CONFERENCE PUBLICATIONS

• Bucking, S., Athienitis, A., Zmeureanu, R., O’Brien, W., Doiron, M., Design optimization methodology for a near net zero energy demonstration home. In: Proceedings of EuroSun
International Conference on Solar Heating, Cooling and Buildings, 2010, Graz, Austria.


NON-REFEREED CONFERENCE PUBLICATIONS


BOOK CHAPTER


SELECTED TALKS AND LECTURES

- Building Energy Optimization (BEOpt) Training Session, IEA SHC Task 40/ECBCS Annex 52 PhD Workshop, July 2011
- Optimization strategies for Building Simulation: Evolutionary Algorithms and Sequential Searches, Undergraduate Lecture for BLDG 341, November 2011

VOLUNTEER WORK EXPERIENCE

- Participated in an eight-person engineering and architectural team to design a mixed-use low-energy office and residence for the Concordia Volunteer Abroad Program. Project was built in July 2011. Focus of a CBC Daybreak interview: Design process of Uganda building and facility design, aired in mid-2011.

MEMBERSHIPS AND CERTIFICATES

- Eligible for PEng accreditation in Ontario
- LEED-AP Building Design and Construction, certified since October 2008
- Natural Resources Canada Certified Energy Advisor (ecoENERGY homes), certified ‘09
ARCHITECTURE September 2016

CURRICULUM VITAE

CAZABON, Yvan-pièr, Associate Professor – Tenured (2002)
Associate Director – Professional Programs
Member of the Graduate Faculty

DEGREES AND DIPLOMAS
1995 M. Arch., with distinction, McGill University, Montréal, Québec
1988 B. Arch., with distinction – University Senate Medal, Carleton University, Ottawa, Ontario
1980 Dipl. A.T., Algonquin College, Ottawa, Ontario

PROFESSIONAL AFFILIATIONS
Member of the Royal Architectural Institute of Canada (RAIC)

EMPLOYMENT HISTORY
Teaching Positions
2005 – present Associate Professor, Architecture, Carleton University.
2003 – 2005 Assistant Professor – Tenured (July 2002), Architecture, Carleton University
1998 – 2002 Assistant Professor - Tenure Track, Architecture, Carleton University
1993 Teaching Assistant, McGill University, Graduate Studio

Professional Employment
2003 – present Principal of Dwell-O; Residential Project Designer and Administrator
1994 – present Designer, technical consultant with Martin Conboy Lighting Design

SCHOLARLY AND PROFESSIONAL ACTIVITIES
External
1995 to 2011 Member of the Board of Directors – Arts Court Foundation

Guest Design Critic
2010-present Univ. of Minnesota, Minneapolis, McGill University Undergraduate and Graduate Programs, Carleton Univ. English Dept.: Theatre Studies.

Program Administration & Accreditation Supervisor
2015-16 Preparation of APR for 2016 Accreditation
2013 - present Associate Director of Professional Programs
2013 Preparation of Focused Report for Accreditation of the M.Arch (13.0 cr.) Program
2012-14 Graduate Calendar Review for changes and implementation of M.Arch (13.0 cr.) Program
2011 - present Coordinator of Professional Programs - BAS & M.Arch
2011 Preparation of APR for 2010-11 Accreditation
2010 Preparation of 7-term M.Arch (13.0 cr.) Graduate Program Proposal
2009 Preparation of BAS Program Report
2008-09 Proposal of New BAS Program Majors in Urbanism and Conservation & Sustainability
2003 - 2010 Associate Director – Undergraduate BAS

Committee Membership
2015 - present Chair: Committee on Standing & Promotion; Chair: Curriculum Committee Graduate Committee, Undergraduate Committee Member & Liaison
Co-operative Work-term Faculty Advisor
2014 - present Member of Thesis Review Committee
2013-14 Faculty Search Committee
Research
Theatre and Performance: set-design and construction; lighting design; artistic direction. History/theory of architectural technology; critical review of building practice and material application. Recording of Historical architecture and urban districts (Trinidad & Tobago). International development; high-density housing in urban squatter neighbourhoods; affordable house prototypes; and international aid relating to architecture, housing and community infrastructure.

Graduate Supervision (M.Arch Professional)
History 35
Current 1

Career Total Research Funding $ 128,000

Research Details
2016 Production of Stage Design for “Soliloquies, Sonnets & Selfies - Part 1: Water into Wine” CIMS Big Room Theatre - Carleton University
2015-16 Set Design – Associate Designer for “Red”, Theatre Aquarius, Hamilton ON.
2015 Production of Stage Design for “You Will Be Mine” - Carleton University
2014 Production of Stage Design for “A Midsummer Night’s Dream” - Carleton University
2014 Set Design – Associate Designer for “Burden” (GCTC)
2013 Design Charette contributor for “The World Remembers” an international presentation of Canada’s contributions in World Wars, in partnership with the NAC and Veterans Affairs
2013 Production of Stage Design for “As You Like It” - Carleton University
2012 Extant recording of Civic Architecture - National Library - Trinidad & Tobago
2011 Extant recording of historical domestic residences; Trinidad & Tobago
2010 GCTC Set Design – Associate Designer for “Facts” (GCTC).

Awards, Honours and Recognition

Academic and Professional Honours
2013 Guest Lecturer for the Book Launch of “A Tale from the Old Library” at a presentation to the National Library, Ministries of Education and Culture, Trinidad & Tobago
2011 Guest Lecturer for the Book Launch of “A Tale of Two Houses” at a presentation to Citizens For Conservation, Ministry of Culture, Trinidad & Tobago

PUBLICATIONS
Papers in Professional and Other Journals

Research and Technical Reports
2012 “A Tale from the Old Library" - Vol 2: An Historical Record of the Public Library on Knox Street”. Carleton University, 2012.
2011 “A Tale of Two Houses – Vol 1: An Historical Record of the Boissiere & Piccadilly Houses, Port of Spain, Trinidad & Tobago”, Carleton University, 2011

In the News
2009 “Why does my house make loud cracking sounds in very cold weather”; All in a Day, CBC Radio

Personal Interests
2015-16 Associate Designer (Sets) for Theatre Aquarius’ production of “Red”. Hamilton ON. Directed by Bradley Moss
2014 Associate Designer (Sets) for GCTC production of “Burden” - Directed by A. Milner
2010 Associate Designer (Sets) for GCTC premier production of “Facts” by A. Milner
ARCHITECTURE  September 2016

CURRICULUM VITAE

CONNAH, Roger William,  Associate Professor, Tenured

DEGREES:  
BA (Hons) Architecture, First Class Bristol, UK 1971.

Honours/Awards

2016  Ottawa You’re So Vanier Studio-Education Award ARCHITECT Journal Washington US
2015  Honorary Mention Fairy Tale International Competition, Blank Space New York
       How to Rhino the Jingo out of Everything and Architecture gets a New Skin.

SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest Lecturer/Critic:
2016  Invited Lecture Academy of Arts & Architecture, Vienna
2014  Studio Reviews Academy of Arts & Architecture, Vienna
2014  Invited Lecture - Readings from the Anti-Library, Idaho school of Architecture
2013  Visiting Workshop - Strelka Institute Moscow - Change Communication Change Architecture
       Lecture/Performance : Aalto Ego
2013  Visiting Rapid Workshop – The Gonzo Studio, Alicante School of Architecture, Spain
       Invited Lecture, Alicante
2013  ICERI (International Conference of Education, Research and Innovation) Seville, The
       Closing of the Architectural Mind, and Session Chair
2013  Gonzo Theory, (The Place of Theory, Conference) Bangkok Thailand, Silpakorn University
2013  Nuance Galore (Text), catalogue AWP Exhibition Cornell University
2013  Curator - Steel-Lives, Still Life (Photographs of N Kasper) Venice Biennale of Art
2011  Filming Architecture, Lecture/Workshop - Film and Architecture, LAU Lebanon American University
2010  Don’t go So Fast You’ll Crash into Roland Barthes, (Sydney University of New South Wales)
       Education Conference on Design Strategies

TEACHING ACTIVITY:

2008 – 15  Carleton University, Azrieli School of Architecture & Urbanism
2013  Coordination, Organisation, Moderator: (inaugural) Frascari Symposium
2009 – 12  Introduction to Architecture & Urbanism
2010 -- 12  Development of the Azrieli Visiting International Critic program.
2009 -- 11  Development of the Master Research Cell: Architecture Agency & Activism
       Development of Book/Pamphlet Publications of thesis studio and students’ work
2009  The Azrieli School of Architecture & Urbanism Graduate Symposium :
       War & Architecture (2009); Shadowlands – The Arctic Issue (2010);
       Music & Architecture (2011); Spaces Speak (2012),
2011  The Azrieli Graduate Show; the inaugural graduate event.
2011 -- 2012  Coordinator/Event Moderator of the Forum Lecture Series
       Design & Research Studios (Graduate): The Greenbelt Studio (2008); The OperRatics
       Studio (2009); The Aids Studio (2009; Architecture Post-Conflict Studio (2010); The
       Unspace Studio (2010)
2011 -- 14  The Directed Research Studio
2014 -- 16  Third City (Urbanism Studio) - Dirty Realism 4th Yr Housing Studio - Ottawa;
       You’re So Vanier( Hyperbolic Urbanism Studio) – Psycho Urbanism Studio
2008  Architecture Degree Zero - Carleton 40th Anniversary Lecture (invited)
       Azrieli School of Architecture & Urbanism, Carleton University
SCHOLARLY AND PROFESSIONAL ACTIVITY

2010-2016 Heron-Mazy Studio: Alternative Practice in Architecture
(with John Maruszczak) established in Fort Worth, Texas 2002.

Projects:
2016 Secret Life of Buildings
2015 Fairy Tale 3
2013 Fairy Tale 2 (Story telling in Architecture) Honorary Mention
2012 The McArctic, Fairy Tale 1 (Blank Space New York)
2012 Concordia Competition, Italy
2011 Pruitt Igloo, Pruitt Ego, Pruitt Igoe, US.
2011 The Black Walrus, Tromso (Norway)
2010 Dutch Mirror, Amsterdam Bridge Competition

The Cuban Island of the Mind, Miami. Published: Fairy Tales 1, 2 & 3 (New York, 2014, 2015, 2016); Sick City in Imaging the City (Intellect London, 2016)

PUBLICATIONS:

2017 I TAKE BACK EVERYTHING I'VE WRITTEN Scriptomania & Thomas Merton (Forthcoming)
2016 WHAT'S WRONG WITH THIS PICTURE, Life or Architecture - an anti-memoir (forthcoming)
2015 THE SCHOOL OF EXILE Timo Penttila- For or Against Architectural Theory, Datutop, Tampere.
2013 BEING: AN ARCHITECT (Vol 1 Practice/Vol 2 Theory) Ian Ritchie: Commentary Roger Connah (Royal Academy, London).
2013 A Carefully Folded Ham Sandwich: Towards a Critical Phenomenology. FadDesignhouse, Montreal
2013 An Evening with Mister F - Towards a Resistant Form of Practice, FadDesignHouse Montreal.
2011 THE REST IS SILENCE - ZAHOOR UL AKHLAQ art & society in Pakistan; OXFORD Univ Press

2010 – 16 THE ANTI-LIBRARY (Pamphlets & Pedagogy - Vertigo Press, Ottawa)
2010 - Aalto Ego
2010 - The Irresponsible Self
2010 - The Brautigan
2011 - Life After Architecture
2011 - Deschooling Architecture
2012 - Headless
2012 - iDeath
2012 - The Phoney Island of the Mind vol 1/vol 2/vol 3 (2013/2014/2016)

Editor
2015 LEONID PAVLOV Collected Works Project Meganom Moscow & Eelcta Milan, (English editor)
2014 ARCHEOLOGY OF THE PERIPHERY (English editor) Project Meganom, Moscow

Roger Connah © 2016
CURRICULUM VITAE

DEBANNÉ, Janine Marie,  Associate Professor, tenured
  Associate Director – Undergrad; Member of the Graduate Faculty

DEGREES:
  M Arch, McGill University, Montreal, 1996
  B Arch, Carleton University, Ottawa, 1988

HONOURS:
  Maureen Anderson Prize for Writing, McGill University, 1995
  Lieutenant Governor’s Medal for Architecture, Province of Ontario, 1988

EMPLOYMENT HISTORY:
  Teaching Positions
    2001 to present:  Associate Professor, Azrieli School of Architecture and Urbanism, Carleton U
    1999 - 2000      Associate Professor, School of Architecture, University of Detroit Mercy.
    1995 - 1998      Assistant Professor, School of Architecture, University of Detroit Mercy.

  Professional Employment
    2008 – 2011      Private Practice, Debanné Shemiot Design, Ottawa ON
    2001 – 2008      Private Practice, Debanné Design, Ottawa ON

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
  01/2016      Associate Director Undergraduate, Azrieli School of Architecture and Urbanism
  01/2015      “External expert” – grant evaluator – for the SSHRC – CRSH, Canada.

GRADUATE SUPERVISIONS:
  Completed: 27 M.Arch (professional)  In Progress: 3 M.Arch (professional)

TEACHING ACTIVITY:
  2016-17      Studio 2 (ARCS 2105); Studio 3 (ARCS 2106)
  2015-16      Studio 5 (ARCS 3105); MArch 1 Drawing (ARCS 5005); DRS Thesis ARCS 5909; Canadian Architecture (ARCH 4002 ARCH 3002)
  2014-15      Studio 4 (ARCS 3105); Studio 3 (ARCS 2106); Graduate Seminar (ARCH 5200); Canadian Architecture ARCH 4002 and ARTH 3002
  2013-14      Studio 6 (ARCS 4105 Housing Studio); Studio 5 (ARCS 3106 DSA China); History Theory (Architecture of the Postwar Period ARCH 4301)
  2011-12      Architectural History (History of Modern Architecture ARCH 2300, BAS 2d year core course); Studio Studio 5 (ARCS 3106 DSA Cuba); History Theory (Architecture of the Postwar Period ARCH 4301)
  2010-11      Architectural History (ARCH 2300, BAS 2d year core course); Studio 3 (ARCS 2106, BAS 2d year); Architectural History and Theory (ARCH 4301, BAS 3rd & 4th year elective)

SCHOLARLY AND PROFESSIONAL ACTIVITY
  2013-2015    Guest Lecturer PhD Seminar, on Guarino Guarini. Invited by Dr. Alberto Pérez-Gómez, Saidye Rosner Bronfman Professor of the History of Architecture, McGill
  2011        Invited Guest Critic, Atelier Maîtrise I, Faculté d’Aménagement de l’Université de Montréal. QC

University Administration
  2016-17      Associate Director Undergraduate
                Curriculum Committee
  2013 – 2017  University Senate
2015 – 2017  Senate Executive Committee
2010 – 2016  Undergraduate Admissions / Recruitment Committee
2010 – 2016  ORSA Liaison (Ottawa Regional Society of Architects)
2013, 2016  Faculty Search Committee
Coordinator, Student Affairs (Y. Cazabon / J. Debanné)
2013 – 2015  Charles Gordon Lecture Committee
2013 - 2015  Tenure and Promotions
2013-14  Coordinator, Urbanism (B. Gianni / J. Debanné); ACSA Representative
2011 – 2012  Acting Director (November 2011 – July 1, 2012); Executive Committee -- Associate Director Undergraduate
Curriculum And Accreditation Committee; CUCQA Carleton University Committee on Quality Assurance
School Renewal Task Force; Tenure & Promotion Committee
2010 – 2011  Associate Director Undergraduate
Member ex officio: Curriculum and Accreditation Committee, Executive Committee,

RESEARCH AND FUNDING – Overview
Career Total Research Funding $37,000.00

PUBLICATIONS:
1) Life-time summary (count) according to the following categories:
- Books edited ............................................................ ........................ 1
- Chapters in books ......................................................... 2
- Papers in refereed journal ...................................... .......................... 2
- Papers in refereed conference proceedings ......................... 6
- Technical reports ................................................................. 2
- Abstracts and/or papers read .......................................... 20
- Others (workshops presented, newspapers, etc.) ..................... 11

Technical Reports – Articles in Professional Journals
1. Debanné, J. “Hintonburg Heroes,” – on an increased density residential development in Ottawa, by Colizza Bruni
2. Debanné, J. “Glass Menagerie” – an article on the renovation and seismic upgrades to the VMMB (Victoria Memorial
Museum Building), Canadian Architect, Sep 2011

Other: Publications In Non-Refereed Journals
2. Debanné, J. “Remembered Dimensions - Mental Mapping Mies van der Rohe dwellings at Lafayette Park, Detroit”
POST Magazine (Melbourne AU), Issue 02, Volume 01, 2012 p. 20 – 24.

Other: Book Reviews
2013 Shannon Ricketts: Werner Ernst Noffke; Ottawa’s Architect. (OSCAR newspaper, Ottawa, June 2013).

Other: Newspaper articles
2015 “An Example of Sensitive Infill,” The Oscar, July 2015
2015 “In My Backyard: To Addition or Not To Addition?” The Oscar, June 2015
2014 “House Conversions, Planning and the Meaning of the City: An Interview with City of Ottawa Planner Tim J.
Moerman,” The Oscar, January 2013.

PROFESSIONAL PROJECT LIST
2010 Residential, 1998 Alta Vista Drive, Ottawa, On; Debanné Shemiot Design.

SERVICE
2011 – 2012 Advisory Counsel for OsWatch – planning committee for the Ottawa South Community Association
2012 - present Community education on urban and architectural issues: zoning and infill dossiers, City of Ottawa.
2013 Workshop organizer on the topic of densification policy: with City of Ottawa planner Steve Gauthier, City
2012 Scholarly contribution to the dossier for the Briarcliffe Heritage Conservation District, Ottawa: the first
modernist neighbourhood in Canada to receive a heritage designation.

INTERVIEWS – public understanding of architecture
CURRICULUM VITAE

ESPONDA, Mariana  Associate Professor, Tenured (2013)
Coordinator of the Conservation & Sustainability Program; Member of Graduate Faculty

DEGREES:
2004  Ph.D. in Architectural Construction & Rehabilitation. Universidad Politécnica de Cataluña, Spain
1999  Professional degree as an architect. Mexico
1998  UNAM, School of Architecture. Mexico City, Mexico

HONOURS:
2013  Finalist, Capital Educators Award for excellence in teaching and mentorship. Ontario, Canada

EMPLOYMENT HISTORY:

Teaching Positions
2013 –present  Associate Professor, Azrieli School of Architecture & Urbanism, Carleton University
2008-13  Assistant Professor, Azrieli School of Architecture & Urbanism
2010, 2013 Visiting Professor: Advanced Masters in Structural Analysis of Monuments and Historical Constructions (SAHC), University of Minho, Portugal & Technical University of Catalonia, Spain.
2005-2006 Visiting Professor: Master of Architectonic Restoration. Universidad Politecnica de Cataluna, Barcelona, Spain

TEACHING ACTIVITY:
2008-16  Undergraduate studios including: ARCS 2105, ARCS 2106, ARCC 3301, ARCC 4909
Lecture course in the technology stream: philosophy, ethics & tectonics in conservation and adaptive reuse projects (ARCH 3100, ARCH 4200, ARCC 4801A & ARCC 3501)
Workshops in the technical, architectural, ecological properties & aging of materials: ARCC 1305; ARCC 4300. Directed Study Abroad to Barcelona and Myanmar (ARCC 5401)

GRADUATE SUPERVISION:
Completed: 19 M.Arch (professional)
In progress: 4 M.Arch (professional); 2 PhD

SCHOLARLY AND PROFESSIONAL ACTIVITY

Memberships In Professional Societies:
- Member of Scientific Committee of the Latin American Congress of Historical Construction.
- ICOMOS Canada Sustainability Scientific Committee & ICOMOS Canada ISCARSAH Scientific Committee
- SAH (Society of Architectural Historians)
- APT (Association for Preservation Technology International)
- DO.CO.MO.MO (Documentation Conservation Modern Movement)

Guest Design Critic
2016 – Carleton University HODI Award Built Heritage Conservation- Competition reviews.
2015 – Universidad Nacional Autónoma de México, School of Architecture. Undergraduate final reviews.
2014 – Delft University, Graduate reviews.
2013 – University of Minho, Portugal & Technical University of Catalonia, Spain. Graduate thesis reviews

UNIVERSITY ADMINISTRATION
2008 – 16  Coordinator, Conservation & Sustainability
2012 – 16  Member, PhD Committee
2012 – 13  Director Search Committee
2009, 2013  Faculty Search Committee
2009, ’13, ’15  Undergraduate Admissions/Recruitment Committee
2012 – 13  Curriculum and Accreditation Committee (2010 - 09).
2008 – 10  Chair, Facilities/Health & Safety
2010, 2015  ACSA Representative
2008  Graduate Admissions/Recruitment

RESEARCH AND FUNDING

1. External Research Funding:
<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Type*</th>
<th>Amount per year</th>
<th>Purpose</th>
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<td>2015-21</td>
<td>NSERC C</td>
<td>$1,500,000 (tot)</td>
<td>CREATE Program; M. Santana (Principle)</td>
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<td>SSHRC C</td>
<td>$2,500,000 (tot)</td>
<td>New Paradigm, New Tools; S Fai (Principle)</td>
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<td>2015</td>
<td>MITAC SC</td>
<td>n/a</td>
<td>Student travel &amp; Accommodation</td>
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2. Internal Research Funding:

<table>
<thead>
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<th>Year</th>
<th>Source</th>
<th>Type*</th>
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<th>Purpose**</th>
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<tr>
<td>2008</td>
<td>Carleton Univ. O</td>
<td></td>
<td>$25,000</td>
<td>Start-up Research Grant</td>
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</table>

*Type: C-Granting councils; G-Government; F-Foundations; O-Other

**PUBLICATIONS:

Books authored:


Chapters in Books:

3. “Il Vasto a Napoli y el Ensanche de Barcelona, due realita a confronto”. In: De Sivo, B. and Diaz, C. “Schede di rilevamento dell’isolato n.1” (Uplifting of the square no. 1) and “Schede di rilevamento degli edifici degli isolati n.1 e 2”. (Uplifting of the building no. 1&2). Cunha, P., Esponda, M., CITTAM. Universita degli Studi di Napoli Federico II, (2001) pg. 113-146. and 331-358.

Papers in refereed Journals:


Papers in Refereed Conference Proceedings


Editorship

- Journal of Society of Architectural Historian, Australia and New Zealand
- INT/AR Vol 5
- Journal of Cultural Heritage Management & Sustainable Development

Newspapers


Other Evidence of Impact and Contribution

PUBLIC LECTURE

2016 Jan. "Sustainability through traditional knowledge". Carleton University

Conference as a speaker
2014 Nov ICOMOS18th Conference, Florence, Italy “Natural, social and technical: “savoir-faire” in the Laurentians”
2014 Oct Association Preservation of Technology APT, Quebec City. “Misconception: Traditional Materials vs New Materials”
2014 March Round table “Exploring the Culture value of Nature in World Heritage context”

Organizing Conference
2014 Session Chair in the conference Association of Preservation and Technology (APT) Métissage. CS06 Session-Earth, Stone & Water. Quebec City. Oct

Organizing Student Charrette
2013 Heritage & Technology. Student Charrette: Rethinking Victoria Island on Chaudière Falls. Carleton Univ.

Organizing Workshop
2016 Canadian Mortar Group, Carleton University. CREATE Heritage Engineering. 55 people. Jan 21
2014 Canadian Mortar Group, APT Conference. 45 people. Quebec City. October 30
2013 Canadian Mortar Group, Carleton University. Aug 29

EXHIBITIONS:
2013 – (May) Young Architects of Spain, Azrieli School of Architecture, Carleton University, Ottawa; Jesus Aparicio Curator. Spanish Embassy
2013 – (July) Student Charrette in Heritage & Sustainability, City Hall of Ottawa, ON.

EXTRA-UNIVERSITY ACTIVITIES
2016-2015 Ontario Association of Architects, Sustainability Building Environment Committee (SBEC)
2016-2013 APT Education and Research focus group, North America
2016-2010 Martin Weaver Memorial Fund, ICOMOS Canada.
2016 - 2010 National Roundtables on Heritage Education, Canada.
2015 Conserving the Modern- Urban Lab event NCC. May 7
2012 Coordinator for the “Conditional Assessment and Renovation for the Historical Building Alliance Francaise”, In Ottawa. Honours Project 4th year C&S students.
CURRICULUM VITAE

FAI, Stephen,  Associate Professor, Tenured (2002)
Director – Carleton Immersive Media Studio (CIMS), Member of the Graduate Faculty

DEGREES:
1996  M.A. Religious Studies, University of Ottawa
1990  B.Arch. (with distinction), Carleton University (professional degree)

HONOURS: Cross appointments (current)
2015  Civil and Environmental Engineering (Carleton).
2014  Ottawa Institute of Systems Biology – Associate Member (Ottawa)
2011  Human-Computer Interaction Graduate Program (Carleton)
2011  Institute for Comparative Studies in Literature, Art, and Culture (Carleton).

EMPLOYMENT HISTORY:
Teaching Positions
2001–16 Associate Professor, Azrieli School of Architecture and Urbanism
2007–16 Director, Carleton Immersive Media Studio (CIMS)

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2016  Scientific Committee, ARQUEOLÓGICA 2.0 - 8th International Congress
on Archaeology, Computer Graphics, Cultural Heritage and Innovation (Valencia)
2015–17  Conference Organizing Committee, CIPA International Conference (Ottawa).
2015–16  Editorial Board, Virtual Archaeology Review
2015  Program Committee, Digital Heritage (Granada)
2015  Scientific Committee, CIPA International Conference (Taipei)
2015  Awards Committee, Allied Arts Award, Royal Architectural Institute of Canada.
2013  Program Committee, Digital Heritage (Marseille).
2013  Scientific Committee, Ornament, Université de Montréal
2011–16  Chair, Senate Library Committee, Carleton University.
2010–16  Steering Committee, National Round Table on Heritage Education, National Trust.

GRADUATE SUPERVISIONS:
Completed: 61 M.Arch. (professional); 11 M.Arch. (post-professional); 2 MAS; 2 M.A.;
In progress: 3 M.Arch. (professional); 2 MAS (post-professional); 10 PhD (Architecture)

TEACHING ACTIVITY
2012-2016  ARCH 6001 Vitruvian Exercises 1 (PhD core)
          ARCN 6001 Daedalic Exercises 1 (PhD core)
2016  ARCC 3301 Conservation in Practice 1 (Conservation/Sustainability)
2016  ARCH 5102 Colloquium (MAS core)
       ARCH 6102 Colloquium (PhD core)
2015  ARCH 5105 Gateway Studio (MArch)
2012, 2015  ARCH 4909 Honours Project (Conservation/Sustainability)
2015  ARCH 5402 Evaluating Heritage Properties
2012-2014  ARCH 3105 Studio 4 (BAS)
2009-2011  ARCS 1005 Drawing (BAS)
2011  ARCH 5002 Graduate Seminar 2 (MArch)
       ARCC 4801 Design Build Workshop (elective)
2011-2012  ARCN 5909 Directed Research Studio (MArch)
RESEARCH AND FUNDING - Overview

1. External Research Funding (current):
   Principal investigator

<table>
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<th>Year</th>
<th>Source</th>
<th>Type*</th>
<th>Amount per year</th>
<th>Purpose</th>
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<td>research</td>
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<tr>
<td>2015–17</td>
<td>PSPC/PPB</td>
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<td>research</td>
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<td>C</td>
<td>$360,000</td>
<td>training</td>
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<td>2015–16</td>
<td>Mitacs</td>
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<td>$45,000</td>
<td>research</td>
</tr>
</tbody>
</table>

Co-applicant. Principal investigator: Mario Santana

2. Internal Research Funding (current):

<table>
<thead>
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<th>Year</th>
<th>Source</th>
<th>Type</th>
<th>Amount per year</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>2013–16</td>
<td>Carleton Univ.</td>
<td>C</td>
<td>$20,000</td>
<td>research</td>
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</table>

PUBLICATIONS:

1) Life-time summary:
- Chapters in books ................................................................. 01
- Papers in refereed journal .................................................... 09
- Papers in refereed conference proceedings ............................ 12
- Technical reports ................................................................. 04
- Abstracts and/or papers read .................................................. 14
- Others (workshops presented) ............................................... 02

2) Details:
Papers in refereed Journals:

Refereed Papers

Papers in Refereed Conference Proceedings
• Fai, S, Todd Duckworth, Katie Graham, Nevil Wood (September 2011) "Building Information Modelling and the Conservation of Modern Heritage," The 24th World Congress of Architecture, Union International des Architects (UIA). Tokyo, Japan.
CURRICULUM VITAE

FONTEIN Lucie,  Associate Professor, Tenured (2000)
Member of the Graduate Faculty

DEGREES:
1979  M. Arch. (History and Theory), McGill University, Montreal, Canada
1991  B. Arch. (Professional), University of Toronto, Canada.

PROFESSIONAL REGISTRATION:
Order of Architects of Quebec
NCARB Certified

EMPLOYMENT HISTORY:

Teaching Positions
2001- Associate Professor, Azrieli School of Architecture and Urban Planning, Carleton University
1996-2001 Assistant Professor, Azrieli School of Architecture and Urban Planning, Carleton Univ.
2009- Associate Adjunct Professor, School of Architecture and Interior Design, Univ. of Cincinnati

Professional Employment
1986- Private Practice, Lucie FONTEIN, Architect, Ottawa, ON

GRADUATE SUPERVISIONS:
Completed: 12 M.Arch (professional)

TEACHING ACTIVITY:

 Studios, Lecture Courses, Workshops and Seminars:
2016-17  ARCS 5105 – Gateway Studio, ARCC 5200 – Professional Practice
2015-16  Sabbatical leave
2014-15  ARCS 5104 – M Arch 1 Studio 3, ARCC 2202 – Architectural Technology 1
2013-14  ARCS 5104 – M Arch 1 Studio 3, ARCC 2202 – Architectural Technology 1
    ARCC 5200 – Professional Practice (VOD)
2012-13  ARCS 5104 – M Arch 1 Studio 3, ARCC 5200 – Professional Practice
2011-12  ARCC 3105 – Studio 4 (Undergrad), ARCC 5200 – Professional Practice
2010-11  ARCC 3105 – Studio 4 (Undergrad), ARCC 5200 – Professional Practice
2009-10  ARCC 3105 – Studio 4 (Undergrad), ARCC 5200 – Professional Practice

Teaching at the University of Cincinnati:
2015-16  ARCH 7002 – M Arch 1 Studio 2, ARCH 4002 Capstone Studio (4th Year UG)
2014-15  ARCH 7002 – M Arch 1 Studio 2, ARCH 7036 – Elective Theory Seminar: Designing
     with Light, INTD 4081 – Interior Lighting
2013-14  ARCH 7002 – M Arch 1 Studio 2
2012-13  ARCH 4002 – Capstone Studio (4th Year Undergrad)
2011-12  ARCH 713-001 – Graduate Elective Studio
2010-11  ARCH 713-001 – Graduate Elective Studio
2009-10  ARCH 601 Structures Environment Construction Studio (4th Year Undergrad)

SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest Design Critic
2016  Ext. Thesis Critic, School of Architecture, University of Manitoba
2010-15  Thesis Critic, SAID, University of Cincinnati
University Administration
2014 Azrieli School of Architecture representative at CACB symposium 2001-02
2010-15 Co-Op/Professional Coordinator, ORSA representative
2009 Chair, Tenure and Promotions Committee, Co-Op/Professional Coordinator

PUBLICATIONS:
Life-time summary (count) according to the following categories:
- Books edited ........................................................................................................ 1
- Papers in refereed journal .................................................................................. 1
- Papers in refereed conference proceedings .................................................. 12
- Abstracts and/or papers read ............................................................................. 2

Details:
Books edited:

Papers in refereed Journals:

Papers in Refereed Conference Proceedings
1. Fontein, L., A Tale of Two Schools. ACSA Annual Meeting Proceedings, Montreal, 2011
2. Fontein, L., Light as an architectural matter: Student work from 5 years of Lighting Design Workshops, Designing Designers 2007 International Convention of University Courses in Design, Milan, Italy, 2007

PROFESSIONAL PROJECT LIST - Details (last 7 years)
2015 Bain Guest House, Biddeford Pool, ME; Project Cost: $420,000
2014 Freedman/Ohayon Kitchen Renovation, Montreal, QC; Project Cost: $80,000
2013 Williams House, Biddeford Pool, ME; (on hold) Est. Project Cost: $1,000,000
2012 Bouthillette House, Saint Irenée, QC; Project Cost: $1,300,000
2012 Honeywell House, Indian Lake, ON; Project Cost: $700,000
2011 Fontein House, Biddeford Pool, ME; Project Cost: $550,000
2008 Livingood House, La Malbaie, QC; Project Cost: $980,000
GIANNI, Benjamin, Associate Professor, Tenured

EDUCATION

1984 M. Arch., Yale University School of Architecture, New Haven, CT
1980 B.A., University of Pennsylvania, Philadelphia, P.A.
1979 Columbia University, Reid Hall Program in Paris

TEACHING AND ADMINISTRATIVE EXPERIENCE

Teaching Area: Housing, Urbanism, Design

2006-pres. Associate Professor, School of Architecture, Carleton University
2002-2006 School of Information Technology, Carleton University
1992-pres. Associate Professor, School of Architecture, Carleton University
1991-1992 Associate Professor, Department of Architecture, Ohio State University, Columbus, OH
1985-1991 Assistant Professor, Department of Architecture, Ohio State University, Columbus, OH

Administrative

2009-pres. Coordinator, Urbanism Major, Azrieli School of Arch. & Urbanism, Carleton University
2003-2005 Director, School of Information Technology, Carleton University
1992-2000 Director, School of Architecture, Carleton University

ACADEMIC AND PROFESSIONAL HONORS

1998 Skidmore, Owings and Merrill Foundation Scholarship/Residency
1990 Young Architects Award, Architectural League of New York City
1990 ACSA Design Award for Theoretically Based Work, ACSA
1988 Excellence in Teaching Award, Architects Society of Ohio

TEACHING ACTIVITY (last 6 years)

2010-16:

• ARCS 4105, 4th-Year Studio (Comprehensive Studio, Housing)
• ARCS 3106, 3rd Year Studio
• ARCU 3100, Morphology of the City
• ARCH 1000, Introduction to Architecture
• ARCH 4201R, History of Modern Housing

2014-15:

• ARCH 1000, Introduction to Architecture

2010-15:

• ARCU 4600, Post-WWII Urbanism
• ARCU 3303-4909, Urbanism in Practice (Oblate Lands)

2010-13:

• ARCU 3405, Introduction to Urbanism

GRADUATE SUPERVISIONS

Completed: 18 M.Arch (professional)
In progress: 2 M.Arch (professional)
RECENT RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITY

Publication, Papers Accepted/Presented, Conferences organized


2015 Hormann, S and Gianni, B., The Vernacular of Migration, the Shanghai Lilong, Vernacular Architecture Forum 2015, Chicago, IL, June, 2015

2014 Co-organizer, 2nd annual Confucius Forum on China Studies at Carleton, October 1-2, 2014


2014 Urban Planning and the Challenge of Sustainable Cities in China, Canada-China Friendship Society, National Library and Archives, Ottawa, March 2014

2014 Presenter and panelist, DEEP GREEN FORUM Options for Sustainable Development in the Old Ottawa East Neighborhood, Carleton University, March 14, 2014

2014 Presenter and panelist, Affordable Housing: A Federal Role, Carleton Initiative for Parliamentary and Diplomatic Engagement, Conference Centre, Ottawa, ON, February, 2014


2012 Architectural Photography at the Margins: the Work of Lynne Cohen

Additional Creative Activity
Ongoing work on a book on entitled Settlement and Subdivision that traces patterns of subdivisions in Pittsburgh’s South Hills from 1870 to 1945. Sabbatical project, 2009-10.

RECENT PUBLICATIONS


CURRICULUM VITAE

GOFFI, Federica, Associate professor, tenured (2011)
Associate Director – Graduate Programs
Member of the Graduate Faculty (July 2013- present)

DEGREES:
2010 Ph.D. Architecture, Virginia Polytechnic Institute and State University, U.S.
1996 Architectural License (Italy) 1995 Dottore in Architettura (cum laude), University of Genoa, Italy

HONOURS:
2016 Alice Hitchkock Award (Soc. of Architectural historians - Nomination for Time Matters, Ashgate 2013)

EMPLOYMENT HISTORY:
Teaching Positions
2007-present Associate Professor, Azrieli School of Architecture and Urbanism, Carleton
2005-2007 Assistant Professor, Interior Architecture Department, Rhode Island School of Design
2004 Lecturer, Architecture School, Catholic University
2001-02 Instructor, Graduate History and Theory Courses, Virginia Polytechnic Institute

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2016 Assessor for a Canada Research Chair position in Architecture
2016-2013 Peer Reviewer for Ashgate (3), Routledge (2) and McGill University Press (1) on forth coming books on architectural representation and imagination, and architectural theory.
2015 Book reviews for the Journal of Architectural Education:
May 2013 Peer review for the Atmosphere Symposium, University of Manitoba
May 2010 Peer Reviewer & Session Chair. Green Building Ottawa Conference.
2010 Peer Reviewer for INT.Ar (Intervention in Adaptive Reuse Journal).

GRADUATE SUPERVISIONS:
Completed: 40 M.Arch (professional), 1 M.A.S. (post-professional) 3 PhD
In progress: 5 M.Arch (professional), 1 M.A.S. (post-professional) 8 PhD

TEACHING ACTIVITY:
2011 – 16 ARCS 1005 - Drawing Course
2015 ARCH 6101 Colloquium (PhD)
ARCS 2105 Studio
2013 – 14 ARCN 5909 Directed Thesis Studio (MArch)
2014 ARCH 6002 Vitruvian Exercises (PhD)
ARCH 6002 Daedalic Exercises (PhD)
2009 – 13 ARCC 1202 History of Structures
2010 – 13 ARCS 5103 Studio (MArch)
ARCS 5105 Studio (MArch)
2009 – 10 ARCC 5100 Advanced Building System (MArch)
2009 – 10 ARCS 4106 Studio
ARCS 4105 Studio
ARCS 2106 Studio

SCHOLARLY AND PROFESSIONAL ACTIVITY
Guest Design Critic
2015 RISD, INTAR. Master Program, Studio Critic (Adaptive Reuse)
2013 McGill, Architecture, Master Program, Studio Reviews; Univ. of Manitoba. External Thesis Reviewer
University Administration
2013-present  Associate Director Graduate Programs
2013-present  Graduate Admissions and Recruitment Committee, Chair
2013-2015  Chair, Directorship Search Committee: Faculty Search Committee
2011-2013  Associate Director of Professional Graduate Studies; Graduate Admissions and recruitment
2007-2012  Co-organizer/Coordinator Forum Lecture Series
2010-2015  Member University Senate
2010-2011  Graduate Supervisor
2009-2011  Member, Facilities/H&S/Events & LPR
2008-2015  Faculty Representative, Association of Collegiate Schools of Architecture

RESEARCH AND FUNDING – Overview
1. Internal Research Funding:

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<td>Carleton Univ.</td>
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PUBLICATIONS
1) Life-time summary:
- Books authored ................................................................. 1
- Books edited ........................................................................ 1
- Chapters in books .............................................................. 5
- Papers in refereed journal ................................................. 5
- Papers in refereed conference proceedings ........................... 7
- Technical reports .................................................................. 6
- Papers read .......................................................................... 25
- Others (workshops presented) .............................................. 1

2) Details – 7 years:
Books authored:

Books edited:

Chapters in Books:

Papers in refereed Journals:

Papers in refereed Conference Proceedings:
1. Drawing Thinking: A Lost Currency? (paper co-authored with David Lepage) Published online by the Association of Architectural Educators Conference, Nottingham, England, April 3-5 2013.

Papers Presented to learned societies:


EXHIBITIONS:

PROFESSIONAL PROJECT LIST
2011- Shortlisted by the Australian Canada Council of the Arts for the design of the Australian Pavilion at the Venice Biennale (Design team: Bud Brannigan, Federica Goffi)
DuBELLET KARIOUK, Paul  Associate Professor, tenured (2005) - Member of the Graduate Faculty

DEGREES:
1995  M.Arch., Architecture, Columbia University, U.S.A.
1985  B.A., University of Virginia, U.S.A.

HONOURS:
2013  National American Institute of Architects, Small Project Awards; "Cemetery Marker"
2013  Architizer A+ Awards; First Place for the Memorial Category "Cemetery Marker"

EMPLOYMENT HISTORY:

Teaching Positions
2001 - Present - Associate Professor, Carleton University; (Half Time 2009 - Present)
1997- 2000 - Assistant Professor, University of Florida
1995-1996 - Visiting Assistant Professor, Arizona State University

Professional Employment
2003 - Present - Kariouk Associates, Paul Kariouk, Architect, Ottawa, ON

GRADUATE SUPERVISIONS:
Completed: 8 M.Arch Thesis Supervision (professional)

TEACHING ACTIVITY:
Studios, Lecture Courses, Workshops and Seminars:
2010 - 2015 ARCH 4105A - Theories of Landscape Design
2014-15    ARCS 5103W - Studio 2 (M.Arch 1)
2014    ARCS 3105D - Studio 4 (BAS 3rd year)
2010-12    ARCS 3106 - Studio 5 (BAS 3rd year)

SCHOLARLY ACTIVITY
University Administration
2015-16 Graduate Committee
2014 - Director Search Committee – Member
2010 - Faculty Search Committee – Member
2001 - Present - Curriculum Committee – Member

PROFESSIONAL ACTIVITIES
2014 HGTV; “Stacey-Turley Home”
2014 PioneerTV; “Extreme Homes—Hill-Maheux Cottage”
2011 CasaTV: Spaces and Ideas; “Small Spaces”

PROFESSIONAL SOCIETY
2014 - Ontario Association of Architects
2014 - State of Virginia Board of Architects
2010 - American Institute of Architects
2002 - Royal Architectural Institute of Canada

PUBLICATIONS
1) Life-time Summary
- Chapters in books........................................... 6
- Papers in refereed journal................................ 73
- Papers in refereed conference proceedings........... 12
- Exhibitions.................................................. 14
- Radio and television interviews....................... 15
2) Details:

Chapters in Books:
- Top Office 2, “verval Ltee” Conference Facility, Huazhong Univ. of Sci.&Tech Press, 05/14
- Masonry Material and Structure, “Chelsea Hill House”, Tianjin Ifengspace Media Co. 05/13
- 100 Dream Houses, “Echo House, Hill-Maheux Cottage and Hurteau-Miller Cottage”, JTar Publishing & Media Group, 01/13

Projects in Professional Journals:
1. Landscape World, “Cross-Laminated-Timber Cottage”, 04/15
2. DŮM&ZAHRADA (Czech Republic), “24 Stop”, 09/14
3. id+c, “Excellent Design, Westboro Home In Ontario, Canada”, 05/14
4. Globe And Mail, “Thinking Small”, 02/14; “Natural Wonders”, 05/13
5. DŮM&ZAHRADA (Czech Republic), “Vyzva v Centru Ottawy”, 02/14
6. City Home, “Full Colour”, 01/14
9. Ottawa Citizen, “Taming a Difficult Site: Quietly modern home meets the challenge of a narrow sloping lot”, 09/13; “Modern Approach”, 03/14; “Tucked in a Pocket”, 02/13; “Chewing away the interior”, 12/12; “Getting steamy: Building a hammam into a 100-year-old attic…”, 05/13; “Changing hands”, 02/12
10. Style Architecture and Design: “La Maison Echo House”, 01/13
11. Canadian Interiors: “Off the Wall in Ottawa”, 01/13
13. Ottawa At Home, “Surprise And Delight”, 09/14

Projects in Professional Digital Media:
1. AASArchitecture, “Cross-Laminated-Timber Cottage”, 03/15
2. The Plus, “Verval”, 01/15
5. HOUZZ, “Cross-Laminated-Timber Cottage”, 01/15
7. Casa Vogue (Brazil), “Apartamento é cheio de soluções criativas”, 09/13
12. Casa Viva (Spain), “Panorama Entre Columnas”, 08/12
13. Domus (Israel), “Family Album”, 02/12
14. Space (Malaysia), “Home Away from Home”, 01/12
15. Living&Design (Taiwan), “Building Echoed in the Past and Present”, 01/12
17. Style, “The House a Party Built”, 03/11
19. Centras (Estonia) “Echo House”, 01/11
CURRICULUM VITAE

MANGONE, Giancarlo  Assistant Professor (Tenure Track); Member of the Graduate Faculty

DEGREES:
- 2015  Ph.D. Architecture, Delft University of Technology, The Netherlands
- 2009  M. Arch, Architecture, University of Virginia, U.S.
- 2007  Bachelors, Architecture, University of Florida, U.S.

EMPLOYMENT HISTORY:

Teaching Positions
- 2014- Assistant Professor, Azrieli School of Architecture + Urbanism, Carleton University
- 2011-14 Instructor, Faculty of Architecture, Delft University of Technology
- 2010 Instructor, Architecture, Florida Atlantic University

Professional Employment
- 2009- Principal, Symbiosis:Sustainable Design+Consulting, West Palm Beach, FL, US
- 2011 Associate, Except, Rotterdam, The Netherlands
- 2010 Senior Designer, Sustainable Design Consultant, Fielding Nair International, Tampa Bay, FL,
- 2003-2012 Project Manager, Mangone Architect, West Palm Beach, FL, US
- 2009-2010 Research Consultant, William McDonough + Partners Architecture, Charlottesville, VA,

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
- 2016 Scientific Committee Member, Windsor Conference on Thermal Comfort
- 2015 Scientific Advisory Committee Member, Urban Ecologies 2015
- 2014 Scientific Committee Member, Windsor Conference on Thermal Comfort
- 2013 International Technical Committee Member, Sustainable Buildings 2013 Dubai
- 2012-13 Chair, TU Delft Faculty of Architecture PhD Research Council

GRADUATE SUPERVISIONS:
- Completed: 1 M.Arch (professional)
- In progress: 1 M.Arch (professional)

TEACHING ACTIVITY:

Studios, Lecture Courses, Workshops and Seminars:
- 2011-12 XXL Building Technology Workshop (Delft)
- 2013 Design Studio MsC 4 (Delft)
- 2014-15 ARCS 5105 – Gateway Studio 7; ARCS 4106 – Studio 4B
  ARCC 5100 – Advanced Building Systems
- 2015-17 ARCS 3105 - Studio 3A; ARCS 2106 - Studio 2B
  ARCC 5100 – Advanced Building Systems
  ARCC 3004 - Workshop – Energy & Form

Directed or Independent Studies: Albara Darwish, M. Eng, 2015

SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest Design Critic
- 2013, Umea University, Architecture, Design Studio 2

University Administration
- 2016- present Undergraduate Committee – Member
- 2015- present Technology Committee – Member
- 2015-16 Curriculum Committee – Member
- 2015- 16 PhD + MAS Admissions Committee – Member
- 2014- 15 Health + Safety Committee – Member
RESEARCH AND FUNDING - Overview

1. External Research Funding:

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<td>2012</td>
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<td>O</td>
<td>$20,000</td>
<td>research</td>
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<td>ETH Zurich</td>
<td>O</td>
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*Type: C-Granting councils; G-Government; F-Foundations; O-Other

PUBLICATIONS:

1) Life-time summary (count) according to the following categories:

- Books authored ................................................................. 1
- Chapters in books .............................................................. 1
- Papers in refereed journal .................................................. 4
- Papers in refereed conference proceedings .............................. 11

2) Details:

Books authored:


Chapters in Books:


Papers in refereed Journals:


Papers in Refereed Conference Proceedings


PROFESSIONAL PROJECT LIST (last 7 years)

2015    Dormitory, Penas Blancas, Nicaragua, SD
2014    48 story mixed use tower, Kuala Lumpur, Malaysia, Sustainable Design Consulting
2013    Office Renovation, Frankenheerd, NL, Sustainable Design Consulting
2013    Elementary Play Space Design, Dordrecht, NL, SD
2011    Office, Accra, Ghana, Sustainable Design Consulting
CURRICULUM VITAE

RIAR, Inderbir Singh, Associate Professor (tenured 2016); Member of the Graduate Faculty

DEGREES:
2014 Doctor of Philosophy, Columbia University
Graduate School of Architecture, Planning and Preservation
1996 Master of Architecture, Columbia University
Graduate School of Architecture, Planning and Preservation,
1993 Bachelor of Arts, First-Class Honours, McGill University
Department of English, Program in Film and Communications

HONOURS:
2011 Kenneth M. Roemer Innovative Course Design Award. The Society for Utopian Studies Awarded to my Carleton seminar ARCU 4700 Urban Utopias for “the best proposal for an undergraduate or graduate course on utopia, dystopia, utopianism, or a related subject”

EMPLOYMENT HISTORY:

Teaching Positions
2010- present Associate Professor, Architecture, Carleton University

SCHOLARLY ACTIVITIES:
2010 – present Member of Graduate Committee
2010 – present Forum Lecture Series Coordinator

GRADUATE SUPERVISIONS:
Completed: 14 M.Arch (professional) In progress: 3 M.Arch (professional)

TEACHING ACTIVITY:
ARCS 4105 Studio 6, fall 2011
ARCH 4009/ARCH 5201 History and Theory of the Avant-Garde, winter 2016
ARCH 6102 PhD Colloquium, winter 2014
ARCH 4502 Research and Criticism, winter 2012
ARCU 4700 Urban Utopias, winter 2011, 2013, and 2015

PUBLICATIONS
1) Life-time summary:
- Books authored ................................................................. 1
- Chapters in books............................................................... 5
- Papers in refereed journal ................................................ 3
- Papers in refereed conference proceedings ........................... 2
- Invited Lectures & Symposia ............................................. 7

2) Details:
Books authored:
1. Expo 67, or the Architecture of Late Modernity (McGill-Queens University Press, 2018).
   Manuscript preparation and grant writing is scheduled for 2017. Publication by McGill-Queens University Press, with whom I hold a contract, is planned for 2018.

Chapters in Books:

Papers in refereed Journals:
1. “Shadrach Woods. The City, the Everyday, the Seventies”, Piano Progetto Città 29-30 (Department of Architecture, University G. d’Annunzio Chieti-Pescara, 2015).

Articles in Magazines:

Papers Read at Refereed Academic Conferences:
1. “Habitat 67 versus Team 10; or, What Goes Around, Comes Around” Architectural Elective Affinities: Correspondences, Transfers, Inter/Multidisciplinary conference, European Architectural History Network and Faculdade de Arquitetura e Urbanismo da Universidade de São Paulo São Paolo, Brazil, March 2013

Invited Lectures and Academic Symposia:
1. “Expo 67: Some Notes on Environment, Modernity, and Everyday Life” Department of Art History, Concordia University, March 2016 Invited lecture - Graduate research seminar on world’s fairs
2. 20th Inter-university Charrette Canadian Centre for Architecture, Montreal, November 12, 2015 Keynote lecture launching the Canadian Centre for Architecture Inter-university Charrette, which will include Azrieli School students in this annual competition
5. “Banlieue Revisited” Curation as Risk-Taking symposium Department of Architecture, University of Tokyo, Tokyo, Japan October 22, 2013
6. “Going Underground” Identity in Architecture and Urban Design symposium Nagoya University and Nagoya Institute of Technology, Nagoya, Japan October 18, 2013

Fellowships
The Japan Foundation Invitation Program for Curators The Japan Foundation, Toronto and Tokyo October 13-27, 2013 Invited to this highly selective program on advancing architectural research through study tours, lectures, symposia, and workshops with Japanese architects, academics, and curators
CURRICULUM VITAE

STONER, Jill Lahn, Professor of Architecture
Director, Azrieli School of Architecture and Urbanism
Member of the Graduate Faculty

DEGREES
1980 Master of Arts in Architecture, University of Pennsylvania
1975 Bachelor of Arts in Literature, New College

UNIVERSITY ADMINISTRATION
Director, Azrieli School of Architecture and Urbanism, Carleton University, July 2015 – present
Associate Dean, Graduate Division, UC Berkeley, 2014-15
Chair, Master of Architecture Program, UC Berkeley, 2008 – 2013

TEACHING
Carleton University, Ottawa CA, Professor of Architecture, since July 2015
University of California, Berkeley, Department of Architecture, 1987 – 2015, Promoted to Full Professor July 2010

DESIGN AWARDS
2. Imagining Recovery” International Competition, WINNER, “The Ears and Hands of Recovery” (with Marie Sorensen), 2009.
4. San Francisco AIA, AWARD OF MERIT, East Oakland School of the Arts, 2007
6. Dead Malls” 2-stage national design competition, 1st and 2nd stage WINNER, Visionary proposal for the mall in Vallejo California, 2002-2003.

ACADEMIC GRANTS AND FELLOWSHIPS
2. Sabbatical Fellowship at US Department of Housing and Urban Design, Fall 2012
3. Faculty Research Grant, Committee on Research, UCB. Research on Urban Vacancy 2012 – 13.
5. Graham Foundation for Advanced Studies in the Fine Arts Fellowship, Grant to work on Toward a Minor Architecture manuscript. 2008

TEACHING AWARDS
ACSA New Faculty Teaching Award, National award in recognition of teaching excellence, 1991.
PUBLICATIONS

Books


Reviews of Toward a Minor Architecture
Manu Fernandex, Review of Toward a Minor Architecture, Ciudades a escala Humana, September 2013
Parman, John, Review of Toward a Minor Architecture in Arcade, September 2012
Editor’s Selection, RIBA Journal, Summer 2012.

Peer Reviewed Publications

Non-Peer Reviewed Publications

CONFERENCES, SYMPOSIA, WORKSHOPS
2. Seminar Leader, “Carceral Coordinates,” American Comparative Literature Association Conference (with Brett Story), Toronto, 2013

SELECTED EXHIBITIONS
ii. OWA (Organization of Women Architects) San Francisco. Included in exhibition at the SF AIA 2010.
iii. “Imagining Recovery” Competition Winning Entry, 2009. Exhibit at the Berlage Institute, Netherlands
CURRICULUM VITAE

VOORDOUW, Johan, Assistant Professor, Tenure track (2012)

DEGREES:
- 2009 M.Arch, Bartlett School of Architecture, UCL, U.K.
- 2003 B.Env. University of Manitoba, Canada

HONOURS:
- 2016 Nominated, Carleton Leader
- 2012 Nominated, DMU Vice Chancellor’s Teaching Excellence Award

EMPLOYMENT HISTORY:

Teaching Positions
- 2012- Assistant Professor, Azrieli School of Architecture, Carleton University
- 2010-12 Senior Lecturer, Leicester School of Architecture, DMU, U.K.
- 2007-09 Lecturer (Part-time) London Southbank University, U.K.

Professional Employment

GRADUATE SUPERVISIONS:
- Completed: 10 M.Arch (professional), 9 M.Arch (professional, co-supervised)
- In progress: 5 M.Arch (professional),

TEACHING ACTIVITY:

- 2016-17 ARCS 5102 – M.Arch Studio
  ARCH 5002 – Thesis Seminar: Methods of Making
- 2012-17 ARCN 2105/5000 – Digital Modeling & Form Finding
- 2014-16 ARCS 5105 – Gateway Studio
- 2012-16 ARCN 4103 – Digital Fabrication & Theory
- 2014-15 ARCS 5105 – Gateway Studio
- 2012-16 ARCS 4105 – Fourth year BAS Studio
- 2012-14 ARCS 3105 – Third year BAS Studio
- 2012-14 ARCN 4102 – Problems in Computing
- 2012 ARCS 2106 – Second year BAS Studio

SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest Design Critic
- 2016 University of Manitoba, Trans-Plan: Water+ Competition Jury Member
- 2012 Bartlett School of Architecture: Royal College of Art, Unit AD5; Oxford Brookes Univ.
- 2011 Oxford Brookes University; Architectural Association
- 2010 Bartlett School of Architecture, Unit 20 Review
- 2009 Oxford Brookes University; Ecole Speciale d’Architecture, Paris,
  Architectural Association; University of Brighton, Undergraduate Review
RESEARCH AND FUNDING - Overview

1. External Research Funding:

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2. Internal Research Funding:

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PUBLICATIONS:

Chapters in Books:

Papers in refereed Journals:

Papers in Refereed Conference Proceedings
2. Voordouw, J., as “Digital Etching: An Alternative to Drawing”. eCAADe Conference. Northumbria University, 2014

EXHIBITIONS:

2011 – Royal Academy Summer Show, Royal Academy, Piers Gough & Alan Stanton, Curator
2010 – Venice Biennale, Austria Pavilion, Marjan Colletti, Curator
2010 – Royal Academy Summer Show, Royal Academy, David Chipperfield, Curator
2010 – Sublime Flesh, Christ Church Spitfields, Marcos Cruz & Marjan Colletti, Curator
2009 – Perdidos, Colegio Oficial de Arquitectos, Madrid.

PROFESSIONAL PROJECT LIST

2010 Foster + Partners Office, Beijing; Foster + Partners
2009 Ilham Baru Tower, Kuala Lumpur; Foster + Partners
2009 Royal Horseguards Hotel, London; HKR Architects LLP
2009 The Kensington Hotel, Doyle Collection, London; HKR Architects LLP
Carleton University
Azrieli School of Architecture and Urbanism
Accreditation Program Report
September 2016

Contract Instructors & Cross-appointed Instructors CVs

Archambault Eric
Brillant Louis
Campos Roberto
Conty Karen
Cook John
Cooke John
Denegri Maria
Desrochers Brigitte
Fortin Lyette
Fright Sean
Gagnon Kristen
Hately Larry
Holmquist Paul
Hoyt Christopher
Huot Richard
Knight Christopher
Kramer Clarice
Leung Thomas
Lim Jay Sze-Leon
MacGuigan Mark
Mansfield Peter
Pienkowska Honorata
Ross Adriana
Salmon Jeffrey
Santana Quintero Mario
Sgarbi Claudio
Swaranjali Pallavi
Taj Masud
Vandenberg Jack
Wood Robert
ARCHITECTURE September 2016

CURRICULUM VITAE

ARCHAMBAULT, Eric Sessional Lecturer / Adjunct Professor

DEGREES:
1994 M.Arch., Cranbrook Academy of Art, U.S.A.
1988 B.Arch., Carleton University, Canada

EMPLOYMENT HISTORY:

Teaching Positions
2004-16 Contract Instructor, Azrieli School of Architecture & Urbanism, Canada
1996-97 Visiting Lecturer, University of Oulu Dept. of Architecture, Finland
1995-96 Guest Lecturer, Visiting Critic, Lahti Polytechnic Institute of Technology, Finland
1996 Guest Lecturer, Visiting Critic for International Summer School on Finnish Architecture, Lahti Polytechnic Institute of Technology, Finland
1996 Guest Lecturer, University of Toronto Finnish Studies Programme, Canada

Professional Employment
2003-05 Designer, Project Manager, Proposal Writer, Griffiths Rankin Cook Architects, Ottawa
2000-02 Designer, Project Manager, Proposal Writer, Lemay Dorval Fortin Doyle Architects
1990-91 Designer, Project Manager, Shulim Rubin architecte, Montreal, Quebec,
1989-90 Designer, Project Manager, Gary Stunden Architect, Ottawa, Ontario,

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2013-16 Member, Board of Directors, SAW Video Media Art Centre, Ottawa, ON
2013-16 Chair, Facilities Committee / Arts Court Redevelopment Project, SAW Ottawa, ON
2013-16 Chair, Programming Committee, SAW Video Media Art Centre, Ottawa, ON
2014-16 Member, Centre de production DAÎMÔN, Gatineau, Quebec
2012-14 Member, Documentary Organization of Canada, Toronto, ON
2004-16 Member, Royal Architectural Institute of Canada, Ottawa, ON

TEACHING ACTIVITY:

Studios, Lecture Courses, Workshops and Seminars:
2005-16 ARCS 3105 - Studio 4 (BAS 4th year)
2011-16 ARCS 2106 - Studio 3 (BAS 3rd year)
2010 Vertical Summer Studio ARCS 2105/3105/4106 (co-taught with H. Masud Taj)
2010 ARCS 4106 - Studio 5 (DSA Paris Coordinator)

SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest Lecturer
2013-16 Carleton University Dept. of Geography and Environmental Studies, GEOG 4021A
Seminar in Culture, Identity and Place, Imagining the City
External Observer
2011 CACB Accreditation Visit, Azrieli School of Architecture and Urbanism
Guest Thesis Adviser, External Critic
2004-05 Thesis Defences, Graduate Programme

LIST OF MEDIA ART EXHIBITIONS / LIVE CINEMA PERFORMANCES:

Group Exhibitions / Performances
2016 – Cultural Engineering, SAW Video Media Art Centre, Ottawa, ON; Michael Davidge Curator.
2016 – Resolution 2016, SAW Video Media Art Centre, Ottawa, ON, Penny McCann Curator.
2015 – Anomaly Vol. 5, House of Common, Ottawa, ON
2015 – Autopia, Gatineau Electronic Music Festival, Gatineau, Quebec
2016 – Where is Mawt Trood? Vernissage + Exhibition, Daïmôn, Centre de production et diffusion en arts médiatiques, Gatineau, Quebec
2016 – Drone Day, House of Common, Ottawa, ON
2013 – Resolution 2013, SAW Video Media Art Centre, Ottawa, ON, Penny McCann Curator.

ARCHITECTURAL / ENVIRONMENTAL DOCUMENTARY PROJECTS:
Videographer/Video Editor/Documentary Filmmaker
2016 – Microplastics and the Ottawa River, for Ottawa Riverkeeper/Sentinelle de l'Outaouais,
2016 – American Eel Tag and Release Program, for Ottawa Riverkeeper/Sentinelle de l'Outaouais
2016 – 4K River Swim, for Ottawa Riverkeeper/Sentinelle de l'Outaouais, Videographer/Video Editor
2013 – Fields of LeBreton Part I Playing Field, Documentary Filmmaker
2013 – Fields of LeBreton Part II Battle Field, Documentary Filmmaker
2013 – Fields of LeBreton Part III Brown Field, Documentary Filmmaker
2012 – Of Concrete and Other Secrets, Documentary Filmmaker

CONTINUING EDUCATION - MEDIA ART WORKSHOPS AND SEMINARS
2014  Experimental Smartphone Video by Izabel Barsive, SAW Video Media Art Centre, Ottawa,
2014  Moving Collages: art video, experimental cinema and animation cinema symposium curated by Guillaume Lafleur, Daïmôn, Centre de production et diffusion en arts médiatiques, Gatineau, Quebec
2014  Facets of independent documentary film by Philippe Lesage and Jean-François Lesage, Daïmôn, Centre de production et diffusion en arts médiatiques, Gatineau, Quebec
2014  Documentary cinematography and direction by Philippe Lesage and Jean-François Lesage, Daïmôn, Centre de production et diffusion en arts médiatiques, Gatineau, Quebec
2013  Logline, Synopsis, Demo and Pitch: How to Make Your Documentary Fundraising Demo by Fernanda Rossi, SAW Video Media Art Centre, Ottawa, ON
2013  Introduction to VJ’ing, by Kerry Campbell, SAW Video Media Art Centre, Ottawa, ON
2013  Introduction to Architectural Mapping / MadMapper by Joseph Lefèvre, SAT Société des art technologiques, Montreal, Quebec
2013  Grant Writing for Media Artists by Penny McCann, SAW Video Media Art Centre, Ottawa, ON
2013  Digital Video Formats by Christopher Payne, SAW Video Media Art Centre, Ottawa, ON
2011-12 Documentary Production Program (full-time)
Course listings: Videography I and II; Editing I and II; Documentary Form; Documentary Storytelling; Interactive Documentary I and II; New Documentary; Directing the Documentary; Documentary Business I and II, Algonquin College, Ottawa, ON
2011  History of Documentaries by Julia Elliott, Algonquin College, Ottawa, ON

CONTINUING EDUCATION - FABRICATION WORKSHOPS AND SEMINARS
2014  3D models for 3D printing with Blender by Mike Belanger, Artengine M70 Lab, Ottawa, ON
2014  Introduction to Laser Cutting by Britta Evans-Fenton, Artengine M70 Lab, Ottawa, ON
2014  3D Printer and Laser Cutter Certification, ImagineSpace (OPL Nepean branch), Ottawa, ON
2013  Introduction to Cinder Frameworks by Anthony Scavarelli, Artengine M70 Lab, Ottawa, ON

A selection of media work is available online at www.vimeo.com/archamba
CURRICULUM VITAE

BRILLANT, Louis  Contract Instructor

DEGREES :
1992  M.Arch. McGill University, Montreal, Canada
1989  B.Arch. Carleton University, Ottawa, Canada

HONOURS :
2007  Meritas Award of Excellence from the Association of Master Roofers Of Quebec for the Restoration of the Sisters of St-Anne’ Great Dome at their Convent in Lachine
2006  Award of Excellence (Institutions) form the Association of Masons of Quebec for the Outremont Chapel in the Mount-Royal Cemetary, Outremont
1989  Alpha Rho Chi Medalist from the American Institute of Architects
1989  Magna cum Laude B.Arch from Carleton University

EMPLOYMENT HISTORY:
2013-2016  Contract Instructor Azrieli School of Architecture & Urbanism, PhD Program
2007-2008  Contract Instructor Azrieli School of Architecture & Urbanism, M.Arch Program
1997  Contract Instructor, McGill University School of Architecture, B.Arch Thesis
1991  Contract Instructor, McGill University, M. Arch Workshops

PROFESSIONAL EMPLOYMENT
1994-2016  Owner, L’étude Louis Brillant, architecte
2006-2016  Owner, Anamnèse – Recherche et documentation du patrimoine

GRADUATE SUPERVISIONS :
Completed :  3 PhD
In Progress :  1 PhD

TEACHING ACTIVITY :
2013-2016  ARCN 5302/ARCN 6002

SCHOLARLY AND PROFESSIONAL ACTIVITY
1991-2013  Guest Design Critic, McGill University, Carleton University, Montreal University, Université du Québec à Montréal (UQAM)
2000-2013  Guest Critic, McGill University PhD Seminars in History and Theory of Architecture
2005-2013  PhD Thesis Committee Member, McGill University

PUBLICATIONS:
Heritage Assessment Reports  28

Louis Brillant, Collège Dawson, Montréal, 2015, 73 pp. (11 x 17)
Louis Brillant, Westmount Square, Montreal, 2014, 158 pp. (11 x 17)
Louis Brillant, Eglise Anglicane st-George, Montréal, 2014, 110 pp. (11 x 17)
Louis Brillant, Maison Louis Hyppolite LaFontaine, Montréal, 2013, 82pp. (11 x 17)
Louis Brillant, 3518-3530 de la rue Durocher, Montréal, 2013, 59pp. (11 x 17)
Louis Brillant, Central Korean United Church, Montréal, 2012, 34pp. (11 x 17)
Louis Brillant, 3300-3310 Avenue Troie, Montréal, 2011, 34pp. (11 x 17)
Louis Brillant, 3830 avenue Lacombe, 3777 rue Jean-Brillant, Montréal, 2011, 58pp. (11 x 17)

2 Workshops presented to the Quebec Order of Urbanists on Heritage Assessment Reports


EXHIBITIONS:
2007 70 Architects on Love, Centre de Design de l’UQAM
2004 St-Jean de Matha Abbey Competition, Finalist with TAG
2001 Portails/Portals, Centre Canadien d’Architecture
1992 M.Arch History and theory Final Exhibition, McGill University
1989 Old Port of Montreal Competition Exhibition, with Peter Rose Architect
1986 Atelier international d’habitation, Montréal, avec Jean Nouvel et Blouin & Associés

PROFESSIONAL PROJECT LIST:
2014-2016 Generalate Headquarters,Sisters of St-Anne, Lachine, Qc
2010-2016 Restoration of Entrance Portal, Mount Royal Cemetery
2002-2016 Restoration of Church and Presbytery, St-Joachim, Pointe-Claire
1995-2016 Restoration of St-Pierre-Apôtre Historic Site, Montréal
2010-2016 Restoration of Bon-Secours Chapel, Old Montréal
2010-2016 Restoration of Church and Presbytery, St-Léon de Westmount, Westmount
2009-2016 Restoration of Notre-Dame de la Défense Historic Site, Montréal
2002-2016 Restoration of Church and Presbytery, Sts-Anges historic Site, Lachine
1995-2016 Restoration of Historic Site, Gesù Church, Montreal
2008-2016 Restoration of Church and Presbytery, St-Jean-Baptiste historic Site, Montréal
2009-2016 Restoration of Church and Presbytery, St-Ambroise Historic Site, Montreal
1989-2016 Architectural Follow-Up, Centre Canadien d’Architecture, Montréal
1996-2014 Restoration of College and Convent, Sisters of St-Anne, Lachine

This list is indicative only; I have overseen over 300 projects in my firm since 1994.
Roberto Campos is Director of our Ottawa studio and a Partner at Rubin & Rotman. He has worked extensively in the design of recreation facilities, schools, institutional, large scale residential and commercial projects. Before joining Rubin & Rotman Architects, he was a Senior Project Manager with acclaimed architect Douglas Cardinal, where he was responsible for the completion of several of the firm’s recent projects. These included the Wabano Centre for Aboriginal Health in Ottawa, and the Aanischaukamikw - Cree Cultural Institute (in collaboration with Rubin & Rotman Architects) in Oujé-Bougoumou, Quebec. He is currently lead architect for first two mixed use buildings for the high profile Zibi Development project along the Ottawa River. Roberto not only continues to lead the firm’s Ottawa projects but is intimately involved in the firms’ national and international projects.

**curriculum vitae**

**Aanischaukamikw Cree Cultural Institute, Oujé-Bougoumou, QC**

**Project Director / Design Architect**(at Douglas Cardinal Architect)

New 2-storey museum designed to provide exposition halls and multi-purpose rooms. Centre also houses specialized rooms, research lab and administrative offices.

*Pending LEED-NC Certification:* **WINNER - GRAND PRIX DU DESIGN 2012**

(Joint Venture: Douglas Cardinal, Architect)

30,000 sq.ft. (2,787 sm) $10M

**CEPEO Cité Jeunesse School,**

Quinte West, ON - CB Forces Trenton

**Project Director / Design Architect**

Phase 1 of the addition includes a daycare space designed for toddlers and pre-school age children, staff kitchen and office space, washrooms, and a multi-purpose room designed for community off-hours use.

Phase 2 includes an additional 6 classrooms and is designed to accommodate a second storey future expansion. Phase 1 : 7,115 sq.ft. (661 sm) $3M

Phase 2 : 7,072 sq.ft. (657 sm) Budget TBD

**Zibi Mid-River Condo Project,**

Gatineau, QC

**Project Director / Design Architect**

Residential and retail complex: the ground floor retail provides convenience and supports the project’s urban goals. The 6-stories of residential cater to a wide variety of lifestyles and budgets, offering floor plans ranging from small studios to 2-storey loft units with oversized balconies, private terraces and shared rooftop patios.

Phase 1 : 125,000 sq.ft. (11,613 sm) $20M **In Progress**

**Sanmina Broccolini - March Rd,**

Kanata, ON

**Project Director / Design Architect**

New 2-storey research and development facility for Sanmina. Project required administrative offices, laboratory facilities, a Class 1000 clean room, and large multi-use meeting spaces to house world wide company town hall meetings. Project also includes a 150 seat cafeteria and commercial kitchen.

120,000 sq.ft. (11,148 sm) $22M

**EDUCATION**

2005
Master of Architecture
Azrieli School of Architecture and Urbanism
Carleton University
Ottawa, Ontario

2002
Bachelor of Architectural Studies
Azrieli School of Architecture and Urbanism
Carleton University
Ottawa, Ontario

1998
Architectural Technology Diploma
Algonquin College
Ottawa, Ontario

**PROFESSIONAL ASSOCIATIONS**

Registered Architect Ontario
Association of Architects (OAA)

Member of the Royal Architecture Institute of Canada

Chair of the Ottawa Regional Society of Architects

**PROFESSIONAL EXPERIENCE**

2011 - present
**Director - Ottawa Studio**
Rubin & Rotman Architects
Ottawa, Ontario

2002 - 2011
Senior Project Manager
Douglas Cardinal Architect Inc
Ottawa, Ontario

1997 - 2001
Intern Architect
Richard Chmiel Architect & Associates
Ottawa, Ontario

2005 - 2009
Visiting Instructor- Design Studio
Azrieli School of Architecture and Urbanism
Carleton University
Ottawa, Ontario
Air Canada, aéroport d’Ottawa
Katana, ON
Production Team Manager
New industrial warehouse facility with administrative office space on the second floor.

28,700 sq. ft. (2,665 sm) $N/A

Wabano Centre for Aboriginal Health
Ottawa, ON
Senior Project Manager
(at Douglas Cardinal Architect)
The project is an urban health centre providing clinical, social, economic and cultural initiatives that promote the health of all Aboriginal people in Ottawa. The building’s programs will promote community-building through education and advocacy.
25,000 sq.ft. (2,322 sm) $15M

Driver House | Dawson Creek Native Housing
Dawson Creek, BC
Project Manager
(at Douglas Cardinal Architect)
Design Development and Construction Administration Manager of this BC Housing funded, 25 unit multi-unit residential housing project in Northern BC.
30,000 sq.ft. (2,787 sm) $8M

The Sioux Lookout Meno-Ya-Win Health Centre
Sioux Lookout, ON
Senior Project Manager for Masterplanning & Public Spaces (at Douglas Cardinal Architect)
The hospital serves over 30,000 patients a year from Sioux Lookout and 28 remote aboriginal communities in northern Ontario. A state of the art health facility that works with the traditional healing methods of the aboriginal communities (Joint Venture: Stantec - Murphy Hilgers Architects)
145,000 sq.ft. (13,470 sm) $90M

Gordon Oakes-Red Bear Student Centre
University of Saskatchewan, Saskatoon, SK
Design & Construction Documents Manager (at Douglas Cardinal Architect)
Due to the increase in Native enrolment, the U of S took the opportunity to revitalize the future of their institution. While providing the necessary amenities and resources for aboriginal students, the building will reflect Aboriginal culture to the University community.
27,000 sq.ft. (2,508 sm) $15M

Kelowna Waterfront Competition WINNER
Kelowna, BC
Project Director - Design Lead
Revitalization of existing marina and Stewart Park. Included relocation of yacht club over water allowing broader public waterfront access. Also included adaptive re use of old warehouse for urban shops, restaurants, 2 water parks, small concert grounds, and series of public parks connected through bike and pedestrian pathways.
CURRICULUM VITAE

CONTY, KAREN ELEANOR

8 Lipstan Avenue
Nepean, Ontario K2E 5Z3
613.889.1751
karen.conty@carleton.ca
karenconty.com

EDUCATION

Ph.D. (Architecture), Carleton University (in progress)
M.Arch., Carleton University, 2009
B.A.S. (High Distinction), Carleton University, 2006
B.Sc. (Biology), University of Ottawa, 1983

SCHOLARSHIPS

Departmental Scholarship, Carleton University, 2013-14, 2012-2013 and 2011-2012
Azrieli PhD Entrance Scholarship, Carleton University, 2011-12
John Adjelian Graduate Scholarship, Carleton University, 2007
Ontario Graduate Scholarship, Ontario Ministry of Training, Colleges and Universities, 2007-2008
Domestic Tuition Scholarship, Carleton University, 2007-2008
Maxwell Taylor Scholarship, Carleton University, 2007
Ontario Graduate Scholarship, Ontario Ministry of Training, Colleges and Universities, 2006-2007
John Ruddy Architecture Scholarship, Carleton University, 2006
Domestic Tuition Scholarship, Carleton University, 2006
Graduate Studies and Research Scholarship, Carleton University, 2006
William E. Beckel Scholarship, Carleton University, 2005
Ontario Association of Architects Award, 2005
Gerhard Herzberg Scholarship, Carleton University, 2004
Ontario Association of Architects Award, 2004
David A. Golden Scholarship, Carleton University, 2003
University of Ottawa Entrance Scholarship, 1979

AWARDS and HONOURS

Winner, Royal Architectural Institute of Canada National Urban Design Competition 2006
AIA Henry Adams Medal, American Institute of Architects, 2006
University Medal in Architecture, Carleton University, 2006
Award of Excellence in Drawing (Book Prize), Carleton University, 2006
Murray and Murray Award, Recipient, (Book Prize), Carleton University 2003

TEACHING EXPERIENCE

2009-present  Sessional Instructor, Azrieli School of Architecture and Urbanism, Carleton University
Courses taught:
ARCS 2105 Studio 2: Development of Cultural Imagination within the Field of Architecture, 2013, 2014
ARCH 5200 Graduate Seminar 1: Introduction to Critical Thought in Architecture, 2015

2014-present  Part-time Faculty, Architecture, Civil and Building Science, Algonquin College
Courses taught:
DSN8441 Design I: 2014F, 2015W
TEACHING EXPERIENCE (Cont’d)

2003-8 and 2011-2013 Teaching Assistant, Azrieli School of Architecture and Urbanism, Carleton University

Teaching responsibilities:
- ARCS 5102  MArch1 Studio 1 (2012)
- ARCH 1000  Introduction to Architecture (2007)
- ARCH 4105  Theories of Landscape Architecture (2012)
- ARCH 4200  Architectural Conservation Philosophy and Ethics (2011)
- ARCH 4206  Recycling Architecture in Canada and Abroad (2011)
- ARCH 4808  Conservation and Sustainability Independent Study Group Supervisor (2011)
- ARCH 4201  History of Modern Housing (2013)
- ARCH 4301  Post-War Period Architecture (2012)
- ARCH 5201  Graduate Seminar II: Contemporary Theory (2008)

PRACTICAL EXPERIENCE

2004-present Partner and Architectural Designer, Symbiosis Construction and Design
Design/build residential construction and renovation

OTHER RELEVANT WORK EXPERIENCE

2012, 2013 Research Intern, Carleton Immersive Media Studio (CIMS), Carleton University
2009 Interviewer, Oral History of Ottawa Project, RAIC College of Fellows
2001-2003 Research Technician, ECORC, Agriculture Canada
2000 Project Co-Leader, Political Infrastructure Project Team, Ottawa Transition Board
1984-1990 General Manager, Conference/Aide Convention Services Ltd., Ottawa
COOK, John,  Principal, GRC Architects

**DEGREES:**
- Bachelor of Arts, Cambridge University, 1976
- Master of Arts, Cambridge University, 1979
- Diploma in Architecture, Cambridge University, 1980

**HONOURS AND PROFESSIONAL AFFILIATIONS:**
- Fellow of the Royal Architectural Institute of Canada, FRAIC
- Member of the Royal Canadian Academy of Arts, RCA
- Member of the Ontario Association of Architects, OAA
- Member of the Order of Architects of Quebec, OAQ
- Member of the Alberta Association of Architects, AAA
- Member of the Nova Scotia Association of Architects, NSAA
- Member of the Architects’ Association of New Brunswick, AANB
- Member of the Manitoba Association of Architects, MAA
- LEED Accredited Professional

**EMPLOYMENT HISTORY:**

**Teaching Positions**
- 1983-2016 (present), Sessional Lecturer, Carleton University School of Architecture;
  Design Studio - assignments in all programme years;
- 1998-2006, Coordinator, Professional Practice Programme
- 1987, Assistant Professor, Carleton University (directed studies abroad)

**Professional Employment**
- Principal, GRC Architects Inc., 1985-present

**SCHOLARLY AND PROFESSIONAL ACTIVITIES:**
- Canadian Architectural Certification Board Review Committee
- Carleton University Art Gallery Advisory Committee
- Heritage and Site Plan Committee, Rockcliffe Park
- Adjunct Research Professor, Carleton University

**GRADUATE SUPERVISIONS:**
- None in the past 6 years (20+ in prior years)

**TEACHING ACTIVITY:** past 6 years, by year

- Spring 2017  Second Year Design Studio
- Fall 2016  Third Year Design Studio
- Spring 2016  First Year Design Studio
- Fall 2015  Graduate Design Studio
- Spring 2015  First Year Design Studio
- Fall 2009-14  Fourth Year Design Studio
- Spring 2014  First Year Design Studio
- Spring 2012-13 Second Year Design Studio
- Spring 2010-11  Fourth Year Design Studio
- Spring 2009  Second Year Design Studio
SCHOLARLY AND PROFESSIONAL ACTIVITY:

Public Lectures
- Open Forum – October 2015 - Carleton University School of Architecture
- Heritage Ottawa
- Urban Infill – October 2015
- Building 94 – October 2014
- Plant Bath Recreation Centre – October 2012

PUBLICATIONS:
- Heritage Canada Newsletter – Plant Baths
- National Trust Newsletter – Building 94

EXHIBITIONS:
- Group Exhibitions: OAA Juried Exhibition - Reclaiming the City
- ORSA Annual Exhibitions
- City of Ottawa Awards of Excellence Exhibitions

REPRESENTATIVE PROFESSIONAL PROJECT LIST

2014-current  Place la Cité, Multi Purpose Theatre, La Cité Collégiale

2015-current  Les Terrasses de la Chaudière (LTDLC) Refit  
Involvement: Architect

2012-current  Algonquin College Campus Development Plan and Health Sciences Programme Development

2011-13  Building 94  
Canada Agriculture and Food Museum

2010-11  Rideau Hall, West Wing Rehabilitation  
National Capital Commision

2010-12  Algonquin College Student Centre

2008-09  Algonquin College Campus Expansion, Centre for Construction Trades and Building Science
JOHN G. COOKE, B.E., P. Eng., FCSC, RSW, CAHP
President

John Cooke became a Partner and President of John G. Cooke & Associates Ltd. in 1992. Prior to that, his career has taken him from Ireland to Calgary and later to Toronto. He has extensive experience with building envelope conservation, heritage renovations and educational facilities. His organizational and managerial competency can be demonstrated by his ability to keep past projects within budget, complete them on time and to the satisfaction of the client. His career has been distinguished by numerous awards and honorary appointments including the presidency of Construction Specifications Canada in 2006/07.

Mr. Cooke is currently working with CSA A179 sub-committee to expand Annex A and D to better address the issue of Historic Mortars.

He is a Past President of Construction Specifications Canada, and has been conferred with a Fellowship in 2008. He is currently on the faculty of the Azrieli School of Architecture at Carleton University, Ottawa, where he teaches a post graduate course on Historic Masonry Conservation.

In 2008, he was the private sector engineer chosen to carry out a review of the Standards and Guidelines for the Conservation of Historic Places in Canada, 2nd ed., as published by Parks Canada.

Achievements/Awards:
2014 CAHP Award of Excellence for Bank of Montreal Rehabilitation
2014 City of Ottawa Conservation Award of Merit for Restoration to St. Alban’s Church, Ottawa
2011 City of Ottawa Conservation Award of Merit for Restoration and Renovation of the Irish Ambassador’s Residence
2006/2007 Construction Specifications Canada: President
2006 CSC Quality Documents Competition Honourable Mention
2006 Algonquin College Heritage Institute Award for support of students and programs
2006 City of Ottawa Certificate of Merit for Restoration and Renovation of the Glebe Community Centre, Ottawa
2005 City of Ottawa Certificate of Merit for Restoration and Renovation of Plant Bath, Ottawa
2005 Frontenac Heritage Foundation Award of Excellence for Restoration of Gordon Hall, Queens University, Kingston
1999 City of Ottawa Award of Excellence for Restoration of William Saunders Building on the Experimental Farm
1997 City of Ottawa Award of Excellence for Restoration of Cartier Square Drill Hall, Ottawa

Education:
Bachelor Degree in Civil Engineering
University College, Galway, Ireland, 1977

Years Experience: 39
Years with Firm: 24

Associations:
Association of Professional Engineers of Ontario, Designated Consulting Engineer
Association of Professional Engineers of Alberta
Institute of Engineers of Ireland, Chartered Engineer
American Concrete Institute
Construction Specifications Canada – Past President and Fellow
Construction Specifications Institute
Canadian Association of Heritage Professionals
NRC Heritage Mortars Working Group
CSA Technical Committee for CSA A179 Mortars and Grout/Historic Mortars
CSA A371 Masonry Construction for Buildings
Association of Preservation Technology

Publications:
Masonry Wall Conservation, Sainte-Anne D’Ottawa Church: ICOMOS Canada, June 1993
Presented with F. Ross Browne Award for editorial excellence.
Conservation of the Building Envelope: Construction Canada, November 2008

John G. Cooke & Associates Ltd.
Representative Relevant Experience:

**West Block Rehabilitation, Parliament Hill, Ottawa (2009-Present): Senior Structural/Conservation Engineer**
Structural rehabilitation to heritage structure. Four storey structure and attic floor, no basement. Project includes rehabilitation of exterior heritage fabric of building; removal of selected existing load bearing walls; structural upgrading to meet seismic requirement of NBC 2010; reinforcement of existing floors; design of diaphragm floor connection with walls; strengthening of the existing shear walls; reinstatement of original structure altered during previous renovations; new elevators and stairs.

**Hotel Vancouver, Vancouver, British Columbia (2008-Present): Prime Consultant**
Historic Vancouver landmark. Feasibility study carried out to examine various options with regard to masonry and copper roof rehabilitation. Project phased as budgeting allowed. Repair details prepared balancing the conservation objectives with budget constraints and project objectives. Identification of strategies and principals to minimize impact on the heritage fabric. Site review was transitioned to a Vancouver team while providing direct assistance and leadership throughout the project.

**Fairmont Royal York Hotel, Toronto (2007-Present): Prime Consultant**
This project involves on-going masonry rehabilitation to a heritage building, including copper flashing replacement. Repairs to the anchors to the structural steel backup have been required. The scope of work included a condition survey, preparation of bid documents and construction administration for each phase of work. Contract Administration must be timely and efficient to accommodate the highly sensitive nature of the project in a very public environment.

**Fairmont Chateau Laurier Hotel, Ottawa (1999-2011): Prime Consultant**
This heritage building has been the subject of a multi-phase masonry rehabilitation and copper roofing replacement project. Repair and replacement of the anchors to the structural steel backup have been completed as work proceeds. Re-waterproofing of several flat roofs within the courtyard has also been completed. The scope of work included a condition survey, preparation of bid documents and contract administration for each phase of the project. The constraints of a continuously occupied hotel provided for a challenging construction schedule and demand excellence in project management.
DENEGRI, MARIA  Contract Instructor  
Principal, Denegri Bessai Studio Architecture Principal, DBS Fabrication, MRAIC, MOAA, LEED AP

EDUCATION
1998  Universidad Politecnica de Barcelona / CCCB Master of Architecture
1994  University of British Columbia School of Architecture Bachelor of Architecture
1990  University of British Columbia Bachelor of Arts, Art History Major

ACADEMIC APPOINTMENTS
2014-2015  Part Time Appointment: Ryerson University RSID, Faculty of Communication & Design
2013-2016  Part Time Appointment: Ryerson University, Department of Architectural Science
2013-14  2014 Canadian Scholar-in-Residence Carleton University ASAU
2015- Present  Lecturer – Core Faculty: Univ. of Toronto, John H. Daniels Faculty of AL&D
2009-2015  Sessional Instructor II Univ. of Toronto, John H. Daniels Faculty of AL&D
2002-2009  Sessional Instructor I Univ. of Toronto, John H. Daniels Faculty of AL&D

ACADEMIC COMMITTEES
2008-2009  Advisory Committee, John H. Daniels Faculty of Architecture, Landscape and Design Decanal Search Committee, faculty member

TEACHING DOSSIER
2015-16  Ryerson University, Faculty of Engineering and Architectural Science
ASC421, Design Studio IV
2010-11-12-15  Univ. of Toronto, John H Daniels Faculty ALD
Global Architecture; Summer Studies Abroad- Buenos Aires, Argentina; Program Coordinator;
2011/13-16  ARC313 Architectural Design 2 Studio Coordinator;
ARC314 Architectural Design 3, Instructor
2014-15  Ryerson University, School of Interior Design
IRD300, Design Dynamics Studio III, Studio Instructor
IRD400, Design Dynamics Studio IV, Winter Term Studio Instructor
2013-14  Ryerson University, Faculty of Engineering and Architectural Science
ASC520, Integration Studio 1, Bachelor of Arch. Science Program, Fall Term Studio Instructor
University of Toronto, John H Daniels Faculty of Architecture, Landscape & Design
ARC2014 Architectural Design Studio 4; Comprehensive Building Project, Studio Instructor
2013-14  ARC101 How to Design Anything, Winter Term Studio Instructor
2013-14  Ryerson University, Faculty of Engineering and Architectural Science
AR8101 Studio in Critical Practice, Fall Term Co-Studio Instructor w/ Dr. Ian McBurnie
Carleton University, Azrieli School of Architecture and Urbanism
ARCS 5105, Gateway Studio: Comprehensive Design, Fall Term Studio Instructor
University of Toronto, John H Daniels Faculty of Architecture, Landscape & Design
ARC2014 Architectural Design Studio 4; Comprehensive Building Project, Studio Instructor
2011-12-13  University of Toronto, John H Daniels Faculty of Architecture, Landscape & Design
ARC313 Architectural Design 2, Fall Term Studio Coordinator
ARC2014 Architectural Design Studio 4; Comprehensive Building Project, Winter Studio Instructor
ARC213 How to Design Anything, Winter term Studio Instructor
ARC321, Architectural Representation 2, Summer Term: Fall Studio Coordinator
2010-12  University of Toronto, John H Daniels Faculty of Architecture, Landscape & Design
ARC1011 Architectural Design Studio 1: Introductory Design, Fall Term Studio Instructor
ARC2014 Architectural Design Studio 4; Comprehensive Building Project, Winter Term
PROFESSIONAL EXPERIENCE
2013- Present  DBS Design and Fabrication, Toronto, ON Principal
2013- Present  Denegri Bessai Studio, Toronto, ON Partner
2008- 2013  Maria Denegri Architect, Toronto, ON Principal

HONOURS & AWARDS
2016  OAA Emerging Practice Award  Denegri Bessai Studio
2015  OAA Concept Award  Dancing Cubbies; Huron Street Public School
2011  Ambient Shroud Pavilion, Borden Park Edmonton Pavilion Competition, with KIMIIS Design

LECTURES, WORKSHOPS AND SYMPOSIA
June 2016  Leaside Matters; Panel Discussion, Leaside, Toronto, ON, panelist
2013  TSA Ideas Forum: Emerging Voices; Harbourfront Centre, Toronto
2013  Denegri Bessai Studio Current Work, Lecture Azrieli School of Architecture and Urbanism

PROFESSIONAL PROJECTS
2016  NXNE 2016, Temporary Installation – June 2016, Toronto, ON
2015  PanaMaze, Temporary Installation in the Athletes Village - July-Aug, 2015, Toronto, ON
Mangrove Structure, 3DXL Exhibition at the Design Exchange – May-Aug 2015, Toronto ON
Mangrove Structure 2, B3D; Conference Installation, Elgin Theatre, Oct. 2015 - Toronto, ON
2014  Cottingham Residence and Wall Screen, Toronto; ON Denegri Bessai Studio
Canada Day Picnic Table, Gatineau, PQ, National Capital Commission/ Heritage Canada
TSA Ideas Forum: Emerging Voices
Brunswick Avenue Renovation, Toronto ON Denegri Bessai Studio
Red Eye Expresso, Toronto ON Denegri Bessai Studio
2013  Brock Avenue renovation, Toronto ON Denegri Bessai Studio
Durie Street Addition, Toronto ON Denegri Bessai Studio
Huron Cubbies, Huron Street Public School, Toronto, ON  Denegri Bessai Studio
2012  Delaware Avenue Renovation & Light Box, Toronto ON Denegri Bessai Studio
Indian Crescent Road Renovation, Toronto, ON Denegri Bessai Studio
Wallace Ave Café, Toronto ON Denegri Bessai Studio
2011  Rural House, Ottawa/ Carleton, ON Denegri Bessai Studio
Vermont Street Renovation, Toronto, ON Denegri Bessai Studio
Indian Crescent Renovation, Toronto, ON Denegri Bessai Studio
117 Street Residence and Studio, Edmonton, AB Denegri Bessai Studio
Gatineau House, Aylmer, PQ  Denegri Bessai Studio

COMPETITIONS / RESEARCH PROJECTS
2011  Ambient Shroud Pavilion for Borden Park, Edmonton, AB Denegri Bessai Studio w/ KIMIIS
Edmonton Park Pavilion Design Competition, City of Edmonton
Victoria Park Amenity Building, Edmonton, AB  Denegri Bessai Studio w/ KIMIIS
Edmonton Park Pavilion Design Competition, City of Edmonton

PROJECTS PUBLISHED, EXHIBITED; CITATIONS
2014  Delaware Avenue, Toronto ON. Denegri Bessai Studio  Globe and Mail, March, 2014,
PROFILE: DENEGRI BESSAI STUDIO ARCHITECTURE | DBS DESIGN AND FABRICATION
Designlines, Summer 2014 Issue  The Mighty Morphers by Mike Dohety Article by LeeAnn Pallett;
[E]MERGING REALMS Canadian Architect, March 2014,
2013  Hepbourne Avenue, Toronto ON. Denegri Bessai Studio >Globe & Mail, April 18, 2013.
“A Concrete Solution to a Shady backyard” by Alex Bozikovic
2012  Kendal Avenue Residence, Toronto, ON. Denegri Bessai Studio >Publication, City Home,
Toronto Life April 2012, Extreme Make-Over by Meaghan Binstock
Gatineau Residence, Aylmer PQ. Denegri Bessai Studio >Publication, Ottawa Citizen,
March 31, 2012; Homes Section; Showing their Metal, by Paula McCokey >Publication,
Globe and Mail, Matthew Hague, Modern Design turns Organic, June 2014

CURATED EXHIBITIONS: 2009-13 Global Architecture Program, Student Work, John H. Daniels Faculty
CURRICULUM VITAE

DESROCHERS, Brigitte Contract Instructor

EDUCATION

Harvard Graduate School of Design
- Doctor of Design, 1992-95

Swiss Federal Polytechnic Institute, Student exchange, doctoral level, 1995

University of Montreal, Bachelor in Architecture, 1982-86

CEGEP of Valleyfield, Collegiate degree in Physical Sciences, 1980-82

EMPLOYMENT

Canada Council for the Arts: contract employee, 2000; Architecture Officer, Visual Arts Section, 2002-6 and 2008-present; Finance Officer, 2006-7; Liaison Officer, Arts Disciplines Division, 2007-8; Prizes Officer, 2014-15.

Ontario Association of Architects, 2016: Consultant.

Jackpine Digital, 2014

Canadian Centre for Architecture, 1999-2001

ACADEMIC ENGAGEMENTS

Studio instructor

- Azrieli School of Architecture at Carleton University, studios in architecture and urban design, 2011-present. I teach students to engage stakeholders as part of their design exercises, in projects such as:
  - Aboriginal Studio: Consultation of the First Nation and Inuit student communities at Carleton, to design a dedicated lobby and a new University building. Canadian Studies professors, the Equity Office, Building Services and the Development Office were brought into the conversation. Douglas Cardinal played a mentorship role.
  - Tower remediation studio: Redevelopment of a group of 1970s residential towers into a mixed-use, pedestrian-friendly neighbourhood. Contributors include the Ottawa Neighbourhood Survey, the Centertown Citizens Ottawa Corporation, the City Councillor, a private developer, a green engineer and City of Ottawa urbanists.
  - Pine Creek restauration and Eco-Development studio: This studio engages student with potential, real-life stakeholders from City Hall to activist groups. We use the Senior Boom as a development driver to let this two-mile-long urban creek regain its original character as a convener of life. Participants include employees from the City of Ottawa, the National Capital Commission, the Ottawa Council on Aging, Ottawa Biosphere Eco-City and a hairdressing salon.

- University of Montreal, Urban design studio, 1990

Teaching fellow and research assistant

- Harvard Graduate School of Design, 1993-94
  - Polemical Debates in 20th Century Architecture and Urbanism, by George Baird
  - Buildings, Texts and Contexts, by Michael Hays and Wilfried Wang
  - Introduction to Architectural Theory by Michael Hays
  - Urban Life, Urban Form, Urban Theory by Edward Robbins
22 Fellowships and Awards, including:
- Canadian Center for Architecture, Research Fellowship, 2001-2002
- National Gallery of Canada, Lisette Model/Joseph G. Blum Fellowship, 2000
- British School at Rome, Rome Scholarship in the Fine Arts, 1996
- Rockefeller Foundation Fellowship, 1995

25 lectures, including:
- Milan Polytechnical University, 2004
- University of Mendrisio School of Architecture, Switzerland, 2002
- Classical Archaeology towards the third millennium conference, Amsterdam, 1998

35 publications, including:
- Canadian Architect, Grantmakers for Architecture, writer for the interview, 2013
- RACAR, the Canadian Journal of Art History, Images de Pompéi, 2000

27 critiques of student work, including:
- Pratt Institute School of Architecture 1996, 1998
- Architectural Association 1996

ASSOCIATIONS
- Adirondack Mountain Club, member
- Ottawa New Edinburgh Club, rowing member
- Harvard Club of Ottawa, Arts Director
- Ottawa Council on Aging, member
CURRICULUM VITAE

FORTIN, Lyette  Contract Instructor

DEGREES:
1982    Bachelor of Architecture, School of Architecture, Carleton University, Ottawa, Ontario, Canada

DIPLOMAS:
1986    Architectural Conservation, International Center for the Study of the Preservation and Restoration of Cultural Property (ICCROM) Rome, Italy

HONOURS:
1982    Heritage Canada Research Medal

EMPLOYMENT HISTORY:
Teaching Positions
2014-16  Contract Instructor Azrieli School of Architecture and Urbanism

Professional Employment
2012-          Consultant in Architectural Conservation, Lyette Fortin, L’Ange-Gardien, Québec
1996-2012  Director, Architecture and Program Strategic Planning, House of Commons, Parliament of Canada, Ottawa, Ontario

PROFESSIONAL ACTIVITIES:
2014-16 Board Member Commission Culturelle des Municipalités Régionales de Comté (MRC) des Collines de l’Outaouais
2016    Jury Member, Public Art Competition, MRC des Collines de l’Outaouais
2015    Jury Member, Cultural and Heritage Projects, MRC des Collines de l’Outaouais
2015    Urban Forum Public Lecture Guest Speakers, Robert Allsopp (DTAH) and Lyette Fortin “Heart of the Nation” Long Term Vision and Plan Parliamentary and Judicial Precincts of Canada
2015    Heritage Ottawa Public Lecture Guest Speakers, Robert Allsopp (DTAH) and Lyette Fortin “A Monumental Issue”
2014    Jury Member, Cultural and Heritage Projects, MRC des Collines de l’Outaouais
2014    The Association for the Preservation of Technology International (APT) abstract reviewer for Conference, Québec City
1990-16  Member, Comité Consultatif d’Urbanisme, L’Ange-Gardien, Québec

THESIS MENTOR:
2014-16 Completed: 1 Master of Architecture

TEACHING ACTIVITY:
2014-15 Fall   ARCH 4200 – Lecture Course
2015-16 Fall   ARCH 4200 – Lecture Course
2016-17 Fall   ARCH 4200 – Lecture Course
2016-17 Winter ARCC 3302 – Conservation in Practice II Studio
SCHOLARLY ACTIVITIES:
2016 Azrieli School of Architecture and Urbanism, Master thesis guest reviewer
2016 Azrieli School of Architecture and Urbanism, ARCC 4909 Guest Design Critic
2014 Azrieli School of Architecture and Urbanism, ARCC 3301 Guest Design Critic
2013 Guest Speaker Azrieli School of Architecture and Urbanism ARCH 4200
2013 Jury Member Heritage and Technology Charette, Azrieli School of Architecture and Urbanism

PUBLICATIONS:
- Books co-authored ........................................................................................................ 1
  Our Architectural Ancestry co-authored by John Leaning and Lyette Fortin (Haig and Haig
  Publishing Co. Ottawa, Ontario 1982), 129 pages
- Books co-edited ........................................................................................................... 1
  Federal Heritage Buildings Review Office Code of Practice co-edited by Lyette Fortin and
  Jean-Pierre Landry (Production coordinated by Communications Branch, Public Works
  and Government Services Canada,1996), 50 pages English, 52 pages French
- Papers in refereed conference proceedings ......................................................... 1
  2008 International Council on Monuments and Sites (ICOMOS) Conference Québec City,
  La Cité Parlementaire du Canada L’esprit du lieu: passé, présent, future, Lyette Fortin
- Abstracts and/or papers read .................................................................................. 4
  1987 The Association for the Preservation of Technology International (APT) Conference Victoria
  B.C. Dawson City Dyke, Preservation Under Climatic Extremes co-prepared by Linda
  Fardin and Lyette Fortin
  1987 Society for Industrial Archaeology, Klondike Industrial Archaeology™ co-prepared with Alex
  Barbour and Lyette Fortin
  1994 Tokyo Japan National Research Institute of Cultural Properties Guest Speaker Principles
  and Practices of Heritage Conservation in Canada
  1995 Treasury Board Real Property Conference, Quality Control and Cost Control for
  Heritage Projects

PROFESSIONAL PROJECT LIST
2012-2016 – Strategic advice on conservation projects
1996-2012 – Oversee, on behalf of the House of Canada, Parliament of Canada:
  - development of the Parliamentary Precinct Long Term Vision and Plan (LTVP)
  - planning and implementation of LTVP related projects i.e.:
    - Centre Block Underground Services Building (new construction)
    - Justice Building, Wellington Street (rehabilitation/adaptive re-use)
    - Bank of Nova Scotia, Sparks Street (rehabilitation/adaptive re-use)
    - Library of Parliament (restoration/rehabilitation)
    - 130 Sparks Street (rehabilitation)
    - 1 Wellington Street (rehabilitation/adaptive re-use)
    - Former Bank of Montreal, Wellington Street (rehabilitation/adaptive re-use)
    - 180 Wellington Street (rehabilitation/adaptive re-use)
    - West Block (restoration/rehabilitation/adaptive re-use)
    - Center Block (restoration of South Façade and emergency stabilization)
    - Center Block (rehabilitation planning)
CURRICULUM VITAE

Fright, Sean  Contract Instructor

DEGREES:
  2016  M.Arch, Architecture, Carleton University, Canada.
  2008  B.A.S., Architecture, Carleton University, Canada

HONOURS:
  2016  Royal Architectural Institute of Canada Honour Roll Certificate
  2015  Steel Structures Education Foundation Scholarship

EMPLOYMENT HISTORY:
Teaching Positions
  2016  Contract Instructor Azrieli School of Architecture & Urbanism
  2016  Digital Media Instructor, Studio F1rst Summer Studio, Carleton University
  2014-2016  Teaching Assistant, Azrieli School of Architecture & Urbanism

Professional Employment
  2014-  Manager, Students’ Design Clinic, Ottawa, ON.
  2009-2013  Designer, FAD Architects Inc., Parry Sound, ON.

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
  2014-2015  Graduate Student Representative, Azrieli Architecture Student Association

TEACHING ACTIVITY:
  F2016  ARCN 5005 – Theory & Practice of Architectural Representation
         (M.Arch1 – 1st year) – Contract Instructor

SCHOLARLY AND PROFESSIONAL ACTIVITY
  Guest Design Critic
  2014-2016  Azrieli School of Architecture & Urbanism, 1st & 2nd year design studio

EXHIBITIONS:
  Group Exhibitions
  2016 – Graduate Work Exhibition, The Pit, Carleton U; Riar, I, Curator.
  2015 – Graduate Work Exhibition, Azrieli Gallery, Carleton U; Riar, I, Curator.

PROFESSIONAL PROJECT LIST
  2016  Residential Project, 38 Fulton Ave., Ottawa ON; SDC
  2016  Residential Project, 1027 Hindley St. Ottawa, ON; SDC
  2016  Residential Project, 830 Fisher Ave. Ottawa, ON; We Are Craftsmen
  2015  Residential Project, 26 Paul Rd. Seeley’s Cove, NB; SDC
ARCHITECTURE

CURRICULUM VITAE

GAGNON, Kristen  Contract Instructor

DEGREES:

2012-present  Ph.D. Architecture, Carleton University, Canada (Current)
2012  M.Arch, Architecture, Carleton University, Canada
2009  B.A.S., Architecture, Carleton University, Canada

HONOURS:

2016  Ontario Graduate Scholarship (OGS), Carleton University.
2015  John Ruddy Scholarship, Carleton University
2014  Ontario Graduate Scholarship (OGS), Carleton University

EMPLOYMENT HISTORY:

Teaching / Research Positions
2014-16  Contract Instructor, Azrieli School of Architecture & Urbanism (Contract)
2012-16  Teaching Assistant, Azrieli School of Architecture & Urbanism
2014-16  Research Assistant, Carleton Immersive Media Studio, Carleton University

Professional Employment
2009  Student Intern, Urban Design, National Capital Commission, Ottawa, ON

SCHOLARLY AND PROFESSIONAL ACTIVITIES:

2014-16  Member, Doors Open Ottawa Advisory Committee to the City, Ottawa, ON
2013-16  Editor and Columnist, Spacing Magazine, Toronto, ON
2013-14  Graduate Student Representative, Directorship Search Committee, Azrieli School of Architecture & Urbanism
2012  Team Advisory, Alternative Spring Break, Student Experience Office, Carleton University

TEACHING ACTIVITY:

W 2016  ARCS 1105 – Studio 1 (BAS 1st year) – Contract Instructor
F 2015  ARCH 4205 – Recycling Architecture (BAS 3rd-4th year) – Contract Instructor
S 2015  Enriched Mini Course Program (EMCP), High School Student Summer Program
W 2015  ARCU 3100 – Morphology of the City (BAS 3rd year) – Teaching Assistant
F 2014  ARCH 4206 – Recycling Architecture (BAS 3rd-4th year) – Teaching Assistant
W 2014  ARCS 2106 – Studio 3 (BAS 2nd year) – Contract Instructor
F 2013  ARCH 4206 – Recycling Architecture (BAS 3rd-4th year) – Teaching Assistant
W 2013  ARCS 2106 – Studio 3 (BAS 2nd year) – Teaching Assistant
F 2012  ARCH 4206 – Recycling Architecture (BAS 3rd-4th year) – Teaching Assistant

SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest Design Critic
2012-15 – Graduate colloquium, 1st & 2nd year undergraduate reviews, Azrieli School of Architecture & Urbanism

Symposium Organizer
2015-16 – POP CAN CRIT: Current Conditions in Popular Architecture Criticism, Azrieli School of Architecture & Urbanism, SSHRC funded through Connection Grant
PUBLICATIONS: papers in refereed journals, papers in refereed conference proceedings, abstracts and/or papers read, and others. Each title must show the names of the author and inclusive page numbers.

1) Life-time summary according to the following categories:
   - Chapters in books .............................................................. 1
   - Papers in conference proceedings (referred abstract submission) .............................................................. 1
   - Abstracts and/or papers read .............................................................. 4
   - Other (editorials / columns / articles) .............................................................. 4 (listed)

2) Details for past six years same categories as above

Chapters in Books:

Papers in Conference Proceedings (referred abstract submission):

Abstracts and/or Papers Read:
2. Gagnon, Kristen. “How the globalization of architectural practice has resulted in the popularization of architecture and the proliferation of the ‘star architect’: Mirvish + Gehry Toronto – A Case Study”. ICRH Interdisciplinary Post Graduate Conference: Reconfiguring Urban Spaces: Cultural Exchange through the City, Queen’s University, Belfast, Northern Ireland, 2014. Paper read.

Other (Editorials / Columns / Articles):
2. Gagnon, Kristen. “Star Architects + the City: Toronto adds a BIG bead to its ‘starchitect charm bracelet’”, Spacing, January 2016, p. 12.
HATELY, Larry  Contract Instructor

EDUCATION:  
Architectural Technology Diploma, 1968
Ryerson Polytechnical Institute, Toronto

Bachelor of Architecture, 1974
Carleton University, Ottawa

Teaching Certificate, 1990
Eastern Region College Development Program, Kingston

EMPLOYMENT:  
Architectural Offices:
Robert Simpson Company Architects, 1968
A.J. Diamond and Associates, 1975 to 1976
Murray and Murray and Associates, 1976 to 1978
Ogilvie and Hogg Architects, 1978 to 1982

Private Practice:
Larry William Hately Architect, 1982 to 1992

Teaching Experience:
Professor, Department of Architectural Technology
Algonquin College, Ottawa, 1988 to 2005

Contract Instructor, Azrieli School of Architecture and Urbanism
Carleton University, Ottawa, 2000 to Present

Courses taught:
- ARCC 3202  Architectural Technology 4  2007 to 2016
- ARCC 5099  Building Technology IV  2014 to 2015
- ARCC 5100  Advanced Building Systems  2003 to 2006
- ARCC 2202  Architectural Technology 2  2000

Consultant Work:
Building Envelope Design and Building Science consultant, Ottawa, 2004 to present
Technical editor, wood-frame handbook for CMHC, 2006 to 2009

PUBLICATIONS:
“Durable Wood-Frame Construction for All Climates”, CMHC, 2011

MEMBERSHIPS:
Ontario Association of Architects, 1979 to Present (Retired 2003)
Royal Architectural Institute of Canada, 1979 to 2003
Ottawa Regional Society of Architects, 1986 to 2006
Ottawa Valley Bid Depository, Board of Directors, 1990 to 1991
Building Envelope Council Ottawa Region, Member since 1990
Building Envelope Council Ottawa Region Board of Directors, 1992 to 1993
CURRICULUM VITAE

HOLMQUIST, Paul  Contract Instructor

DEGREES:
2016  Ph.D., Architecture, McGill University, Canada
2009  M.Arch., Architecture, McGill University, Canada
1999  M.Arch., Architecture, Southern California Institute of Architecture, USA
1990  B.A., Art, University of California at Los Angeles, USA

HONOURS:
2016  Finalist, Gardiner Museum Ceramic Sculpture Competition, with Linda Swanson
2014  Graduate Research Mobility Award, School of Architecture, McGill University
2012  Artist in Residence, Cité Internationale des Arts, Paris
2010  Collection Research Grant, Canadian Centre for Architecture
2010  Schulich Graduate Scholarship, McGill University

EMPLOYMENT HISTORY:
Teaching Positions
2012-16  Contract Instructor, Azrieli School of Architecture & Urbanism, Carleton University
2014  Contract Instructor, School of Architecture, McGill University
2011-12  Contract Studio Instructor, School of Architecture, McGill University
2009-13  Graduate Teaching Assistant, School of Architecture, McGill University
2007-08  Visiting Assistant Professor, College of Architecture, Planning and Design, Kansas State University
2004-07  Lecturer, Assistant Professor, Computer Imaging and Architectural Technology, SUNY College of Technology at Alfred

TEACHING ACTIVITY:
Studies, Lecture Courses, Workshops and Seminars:
2015-16  ARCH 5201 – Graduate Seminar 2 (MARCH)
2015  ARCS 2105 – Studio 2 (BAS 2nd year)
2014  ARCS 4106 – Studio 7 (BAS 4th year)
2012-13  ARCH 5200 – Graduate Seminar 1 (MARCH)

SCHOLARLY AND PROFESSIONAL ACTIVITY
Invited Design Critic/Reviewer/Reader:
2016  McGill University School of Architecture, external reader, graduate research projects in architectural history and theory
2016  Journal of Architectural Education, referee
2014-16  Azrieli School of Architecture and Urbanism, Carleton University, undergraduate and graduate studio reviews, external graduate thesis critic, scholarship competition juror
2014-15  McGill University School of Architecture, undergraduate and graduate studio reviews
2011,15  Concordia University, Department of Studio Arts, MFA sculpture reviews

Membership in Academic Societies:
Association of Collegiate Schools of Architecture; College Art Association; American Society for Eighteenth-Century Studies; University Art Association of Canada; Historians of Eighteenth-Century Art and Architecture

PUBLICATIONS:
Life-time summary:
- Books authored.................................................................................................................................................. 0
- Books edited ................................................................................................................................................... 0
Chapters in Books:

Papers in Refereed Journal:

Papers in Refereed Conference Proceedings:

Abstracts and/or Papers Read:
8. Accepted: “Elle fonde les Villes:” The Physiognomy of Reconnaissance in Claude-Nicolas Ledoux’s Ideal City of Chaux.” Universities Art Association of Canada Annual Conference, Montréal, October 2016.

Public Lecture
CURRICULUM VITAE

HOYT Christopher, AIA, OAA, MRAIC, Contract Instructor

DEGREES:
1998 B. Arch, Andrews University, Minor: French language

REGISTRATIONS:
Licensed Architect, Ontario and Washington D.C.
2009 - Present OAA member number 6862.
2005 - Present Washington D.C. License number ARC1000731

EMPLOYMENT HISTORY:
Teaching Positions
2016 Contract Instructor, Azrieli School of Architecture & Urbanism, Carleton University, Ottawa, ON

Professional Employment
2012- Present Senior Architect, National Capital Commission (NCC), Ottawa, ON
2011-2012 Architect and Senior Designer, Kuwabara Payne McKenna Blumberg, Toronto, ON
2009-2011 Architect, Diamond and Schmitt Architects, Toronto, ON

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2015 – Present Co-Chair, Internal Design Review Committee (IDRC), NCC, Ottawa, ON
2015 Selection Committee, NCC, LeBreton Flats Redevelopment, Request for Qualifications (First Stage)
2015 Subject Matter Expert, Sustainability – Review of LeBreton Flats Redevelopment Proposals, Request for Proposals (Second Stage)
2014 Member, Stakeholder Committee, Blocks 1,2,3 Master Plan, Ottawa Ontario
2010-Present Editor, www.see-change.net, a blog about sustainability and cities (9,000 views)

TEACHING ACTIVITY:
2016 ARCU 3303A – Urbanism Studio (3rd year); ASAU

SCHOLARLY AND PROFESSIONAL ACTIVITY
Guest Design Critic
2014- University of Waterloo School of Architecture, Graduate thesis reviews.
PUBLICATIONS:

1) Life-time summary (count):
   - Books edited ............................................................................................   1
   - Technical reports ....................................................................................... 2
   - Interviews Given ......................................................................................... 1
   - Conference Presentations ........................................................................... 1
   - Conference Presentations Submitted .................................................... 1

2) Details:

Books edited:
1. EHDD: Building Beyond the Bay ed. by Raul Barraneche, Marc L’Italien, Edizioni Press 2010, 143 pp. (served as editorial assistant)

Technical Reports:

Interviews Given:

Conference Presentations Given:

Conference Presentations Submitted:
1. “A Vision for the Capital at Night”, a presentation proposed to the joint conference of the Royal Architectural Institute of Canada (RAIC) and the Ontario Association of Architects to be held in Ottawa in spring 2017.

PROFESSIONAL PROJECT LIST:

2012 Bay Adelaide Centre, East Tower, 22 Adelaide St. West, Toronto, ON. With KPMB Architects.
2012 Arts Court Redevelopment, 2 Daly Ave., Ottawa, ON. With KPMB Architects
2012 Residential renovation, 455 Northcliffe Blvd, Toronto, ON. Christopher Hoyt Designer.
2011 Bridgepoint Active Healthcare Redevelopment, 1 Bridgepoint Drive, Toronto, ON. With Diamond and Schmitt Architects.
HUOT, Richard,  
Contract Instructor

DEGREES:
2012  M.Arch. Architecture, Carleton University, Canada
2009  B.A.S, Architecture, Carleton University, Canada

HONOURS:
2015  Architectural License, Member of the Ontario Association of Architects. (OAA)
2015  Member of Royal Institute of Architects of Canada (MRAIC)
2015  Member of BuildSMART Canada
2010  Green Roof Professional, Green Roofs for Healthy Cities (GRP+ GRHC)

EMPLOYMENT HISTORY: dates, rank/position, department, institution/firm

Teaching Positions
2012- 2011 Teaching Assistant, Tech 4, Azrieli School of Architecture & Urbanism, Carleton

Professional Employment
2016- Present  Project Architect/ Project Manager/ Contract Administrator, Parkin Architects Limited (PAL), Ottawa, ON
2008- 2015  Architect / Project Manager/ Team Lead /Intern/ Student, Farrow Dreessen Architects Limited(FDAI), Ottawa, ON
2007  Architectural Designer, Student's Design Clinic, Ottawa, ON

PROFESSIONAL PROJECT LIST
- CHEO, Redevelopment of PACU & SDS, Ottawa, Ontario 2016-[2018], Value $7M.(Parkin Architects Limited)
- CHEO, CT Scan, Ottawa, Ontario 2016-[2018], Value $2M.(PAL)
- Igloolik High School, Igloolik, Nunavut 2016-[2018], Value $25M. (PAL)
- Hydro Ottawa Limited Design Build Competition, Ottawa, Ontario 2016, Value $60M. (PAL)
- Leitrim Generator Addition, Ottawa, Ontario 2011-2015, Value $4.5M.: DND/DCC (Bouthillette Parizeau A. w/FDAI)
- Car Dealerships, Ontario, 2010-2015, Value $200,000-15M. each (FDAI)
- Chiller Replacement, Ontario 2013-[2015], Value $1.4M: PWGSC/ Transport Can (BPA w/ FDAI)
- RCMP Turbine Replacement, Ontario 2012-2015, Value $3M.: PWGSC/RCMP- (BPA w/ FDAI)
- Osgood Nursery School, Osgood, Ontario, 2015(FDAI)
- Steeple Replacement & Repair, St. Patrick’s Parish, Ottawa, Ontario, 2015, Value $300,000 (John G Cooke & Associates LTD. w/ FDAI)
- 197 Trainyards Drive, 2014-2015, Value +/-$5M: Bulk Barn and Other Tenants (FDAI)
- 145 Trainyards Drive, 2014-2015, Value +/-$300,000, David’s Bridal Addition: (FDAI)
- Breakscape Entertainment, 1860 Bank street, 2015 Value +/- $200,000: Private Client (FDAI)
2015 to Present
- McLeod Optometry Clinic, 323 McLeod Street, Ottawa 2011-2014, Value $1.3M.: (FDAI)
- 175 Trainyards Drive Addition, 2013-2014, Value +/- $5M: Old Navy and Artimano Furniture (FDAI)
- 575 Industrial Avenue, 2012-2014, Value +/- $6M: Banana Republic, Sketchers and Mexx (FDAI)
- Partners in Parenting, Change of Use, Ottawa, Ontario 2014, Value $1M (FDAI)
- Dymon Storage Carling Avenue, 1554 Carling Avenue, Ottawa 2008-2014, Value $10M (FDAI)

2014
- 665 Industrial Avenue, 2011-2013, Value +/- $6M: Stores LCBO and Farm Boy (FDAI)
- Embassy of Japan, Ottawa, Ontario, 2011-2013, Value $1.5M (FDAI)
- Ismaili Jamatkhana, Conroy Road, Ottawa, Ontario, 2012-2013, Value $4M (FDAI)

2013
- The Farm Generator Replacement, Ottawa, Ontario, 2013, Value 2M. (BPA w/FDAI)
- Star Gymnastics, 520 Lacolle Way, Ottawa, 2009-2012 Value 1.4M (FDAI)
- TDCT Westboro Station, 412 Richmond Road, Ottawa, 2012 Value $450,000 (FDAI)
- Ottawa Train Yards Stores, Bldg L Addition, 2011-2012, Value 3M., Marshalls (FDAI)

2012
- Gatineau Preservation Centre, Concrete Floors, Gatineau, Quebec, 2009-2011 (FDAI)
- 1777 Tenth Line Road, Orleans-Good Life Fitness Tenant Fit Up, 2011 (FDAI)
- Mercedes Benz, 1110 St. Laurent Blvd., Ottawa ON 2009-2011, Value 1.8M (FDAI)
- Ottawa Train Yards Phase 2 Micheals and SAIL, Ottawa, ON, 2009-2011, Value +/- 9M (FDAI)

2011
- Banting Building Ceiling - Ottawa, Ontario, 2008-2010 Value 3.4M (BPA w/ FDAI)
- 67 TD Branches, Accessibility Audits, Ontario, 2010 & 2009 (FDAI)
- 58 Bayshore Drive and 41 Woodridge Drive Entrance Canopies, Ottawa, Ontario, 2009-2010 Value $150,000 (FDAI)
- National Archives Building Wellington Street, NE Stair, Ottawa, Ontario, 2009-2010, Value $275,000 (FDAI)

2010
- Supreme Court of Canada, 301 Wellington Street, Ottawa 2009-2015, Value $5,000-$300,000 (FDAl)
- Site Planning and Concept Development Design, Various Locations, 2008-2015 (FDAI)
- Area Certificates, Various locations in Ottawa area, 2008-2015 (FDAI)
- Jackson Building 9 storeys, Accessibility Audit, Ottawa, Ontario, 2009 (FDAI)
- Steps St. Peter Celestine Church Pakenham, Ontario, 2008-2009, Value $200,000 (FDAI)
- CC-125, CFB Petawawa, ON, 2009, Value $15M.: DCC/DND- Design-Build - (FDAI)
- 460 King Edward Development, Ottawa, Ontario, 2008-2009 (Morris Melamed Architects w/ FDAI)
- CJIRU, Trenton Ont., ON, 2008, Value $20M: DCC/DND- Design-Build - (FDAI)
PROFESSIONAL PROFILE

Licensed Architect in Ontario. Project experience includes a diverse range of project size ($500,000 to $100M) and types with focus on quality design and project delivery. Project Architect experience from Schematic Design through Contract Administration and project closeout. Strong technical skills with experience coordinating tender packages and Construction Documents. Client-facing, consultant coordination and construction experience, with practice leadership responsibilities including business development and design visioning.

PROFESSIONAL EXPERIENCE

HOK Architects  Ottawa, Ontario  2013 to present
- Brunswick Street Rehabilitation - Halifax, NS
- Westin Hotel Ballroom - Ottawa, ON

Erskine Dredge & Associates  Ottawa, Ontario  2012 - 2013
- Almonte General Hospital; Concept Site Masterplan
- The Albion Rooms; Novotel Ottawa Bar and Lounge
- McArthur Condominiums; Ottawa, Ontario

- Caxton House; 10 storey, 25,000 sqm office building

Allies and Morrison Architects  London, England  2010
- 100 Bishopsgate - 40 storey office building
- Marina Zayed Yacht Club
- South Place Hotel - 80 room boutique hotel

- Battersea Powerstation Master Plan
- Birmingham New Street Station Competition
- Van Andel Institute Laboratory - Grand Rapids, Michigan
- University of Arizona Science Center

Williamson and Williamson  (now Williamson Chong) Toronto, Ontario  2004
- 2004 Burnam Prize - Water Taxi Stations on the Chicago River
- Narrow Lot House Competition - Portland, Oregon

EDUCATION

Master of Architecture  (University of Toronto)  2005
B.A. with Honours  (Carleton University)  2000
HONOURS

Birmingham New Street Rail Station competition with Rafael Vinoly Architects 2008
Burnham Prize Finalist with Williamson and Williamson 2004
Quadrangle Architects Innovative Design Award 2004
Portfolio Award Finalist 2003 and 2004

TEACHING

Carleton University  Ottawa, Ontario  Winter 2015 and 2016
  Sessional lecturer for Graduate Level Introduction to Professional Practice (ARCC 5200 R & W).

University of Toronto  Toronto, Ontario  Summer 2010
  Guest critic for study abroad undergraduate course in England.

STUDY ABROAD AND TRAVEL INTERNSHIPS

Switzerland  University of Toronto  Fall 2003
  2 week intensive tour of modern and contemporary Swiss architecture.

The Netherlands  University of Toronto and the Berlage Institute  Summer 2003
  5 week intensive tour of modern and contemporary Dutch architecture. 2 week design studio at the Berlage Institute.

Paris, France  Conseil des Communes et Régions d’Europe  Summer 1997
  4 month internship performing translation and administrative services for organization promoting role of municipal and regional governments in the European Union.

SKILLS

Excellent communication, design and graphic skills. Ability to work independently, self-starter and team-player.
CAD Software; AutoCAD, Bentley Microstation
3D Modeling; Rhino, 3DS Max, Google Sketch-up
BIM Software; Autodesk Revit
Graphic and Office Software; Adobe Creative Suite, Microsoft Office.

PROFESSIONAL MEMBERSHIPS

Ontario Association of Architects, License No. 7748
LEED Green Associate
Clarice Kramer

contact info
* 73A Second Avenue, Ottawa, ON K1S 2H4
phone/fax #(613) 680-2889, claricekw@rogers.com

professional credentials
* Ontario Association of Architects, 2013 - present
  • AIA Intl. Assoc. Member, Grand Valley, Michigan Chapter, 2003 - present
  • Licensed Architect in the State of Michigan 2010 - present
  • US National Council of Architectural Registration Boards, Certified 2010
  • Canadian Architectural Certification Board, Academic Certification 2004

education
* PRINCETON UNIVERSITY SCHOOL OF ARCHITECTURE
  Princeton, New Jersey, 3-year Graduate Fellowship, Master of Architecture 1993
* UNIVERSITY OF MICHIGAN SCHOOL OF ARCHITECTURE
  Ann Arbor, Michigan, Bachelor of Science in Architecture 1990
* CALVIN COLLEGE, Grand Rapids, Michigan,
  Bachelor of Arts; Major in Art History, Minor in Spanish 1988

professional practice
* CHRISTOPHER SIMMONDS ARCHITECT, Ottawa, ON. 2013-present.
  Project Architect, Full-time. Full architectural services for custom residential,
  multi-unit housing, condominiums, commercial and institutional buildings.
  Residential Projects, Renovations and Additions, Design Consulting.
* CORBETT-CIBINEL ARCHITECTS, Winnipeg, MB. Red River College Renovation & Addition,
  I organized the salvage, documentation and restoration of significant artifacts from a
  19th-century, commercial block. This included exterior commercial façade restoration,
  interior built-ins, ceramic tile, moldings and finishes.
  • GBR ARCHITECTS LTD. Winnipeg, MB. Architecture and Interior Design.
    Project management, design leadership, client facilitation, consultant coordination and technical details.
    Notable projects include the C.A.S.T. building research facility and Dafoe Library addition for the rare books of the University of Manitoba’s “Icelandic Collection”.
* WAYNE SWADRON ARCHITECT, Toronto, ON. High-End Residential. Full-time, Intern Architect,
  and project management of homes and cottages in Toronto and Muskoka.
* THE ART GALLERY OF ONTARIO, Toronto, ON. Full-time, Exhibition Designer, Intern Architect
  January 1996-March 1998. I proposed and executed the design of many, significant
  Canadian exhibitions including: Edward Munch, Keith Herring, J J. Tissot, and The Courtauld Collection.
  This required detailed collaboration with the Director, the Curator in Charge,
  the conservation department, lighting technicians, educational specialists and the
  construction crew to create exhibition environments that were interactive, inviting and
  educational for the public and also preserved and protected valuable artwork.
* THE HILLIER GROUP Princeton, NJ. Architecture, Urban Planning, Interior Design,
  International R&D, Healthcare, Civic and Institutional projects.
  Full-time, Intern Architect, December 1993-August 1995. I worked in the USA, UK and in Belgium on very large
  corporate and institutional projects. These projects included the Yale University Science
  Hill Master Plan, L4 Virology Lab for SmithKline Beecham, USA IRS headquarters,
  an Atlantic City Casino and Cornell University’s Business School renovation, a renovation of
  the historically significant Cornell Women’s College.
UNIVERSITY OF MANITOBA, Faculty of Architecture, Environmental Design Program,
Tenure-Track appointment; October 1, 2005. Resigned Aug 7, 2007/moved to Ottawa

UNIVERSITY OF MANITOBA, Faculty of Architecture, Environmental Design Program,
Three-year term appointment, August 1, 2002 to September 30, 2005

UNIVERSITY OF MANITOBA, Faculty of Architecture, Environmental Design Program,
Sessional Instructor, September-May 2000-01 and September-May 2001-02

UNIVERSITY OF TORONTO, School of Architecture and Landscape Architecture,
Adjunct Assistant Professor. September 1997-June 1999

Manitoba Home Builders Association, Renovation of the Year Awards, Exterior:
2nd storey addition and Exterior Renovation, Silver Medal 2003

Manitoba Home Builders Association, Renovation of the Year Awards, Exterior:
Front Façade and 2nd storey addition, Gold Medal 2001

Princeton University Fellowship for Graduate Studies, Full Scholarship, 1990-1993

Princeton Association of Graduate Alumni, Travel Grant, 1991

Kamianets-Podilski Foundation, Grant for Research Assistance, 1991

Guido Binda Architectural Scholarship, University of Michigan, Merit Award, 1988-90

ARCH/ED 79.371 Special Topics Elective “The Green Guide Project” Sustainable Design
Studio, Public Outreach Initiative & Magazine Publication. University of Manitoba,
Spring Term 2005

ARCH 166.707 LEED NC Certification Pilot Project. A collaboration with The Canada Green
Building Council, Mr. Richard Kula, CGBA Education Committee. University of Manitoba,
Summer 2005. Offered again at students' request, Summer 2006.

ARCH 50.757 Studio Seven/ED 79.368 Studio Five Design-Build Studio “International
Program for Mobility in Higher Education”, Exchange Program between Canada, USA and
Mexico, Dean Syverson, Coordinator, University of Manitoba, Fall Term 2004-05

ARCH 50.644 Cultural Theory/ ED 79.348 Process Method & Theory 2, Lecture-Seminar,
University of Manitoba, Spring Term 2002-03, 2004-05

TRENTON-ROEBLING COMMUNITY DEVELOPMENT CORP, Trenton, NJ . Video Documentary.
Non-profit, inner-city re-development project. Exec. Dir: Cliff Zink, May-August 1993

URBAN SURVEY/PHOTO-DOCUMENTARY, Kamianets-Podilski, Ukraine.

UNIVERSITY OF MICHIGAN MUSEUM OF ART, Curatorial and Research Assistant
Hillarie Faberman, Curator of Western Art, September 1988-October 1989

VOLUNTEER at First Avenue Public School, Ottawa, Parent volunteer, School Board committees,
reading to children, coordinating school and community events and fundraising, 2007-present.

VOLUNTEER, Good Morning Creative Arts Centre, Ottawa, Board Member 2010, Fundraising,
supply teacher, help with art and drama projects, 2007-2012.

DIGITAL MEDIA SKILLS
Macintosh and PC platform fluency.
Wide range of software experience including:
AutoCad, & Sketchup, Revit
MOS Office Suite: Excel, MS Word, Powerpoint
Adobe CS: Photoshop, InDesign, Illustrator
iPhoto, iMovie

CITIZENSHIP: Canadian Citizen, US Citizen
LEUNG, Thomas, Contract Instructor

DEGREES: designation, institution, department, year
1996 Masters of Architecture with Distinction, Dalhousie University
1993 Bachelor of Environmental Design Studies, Dalhousie University
1990 Bachelor of Science, McGill University

HONOURS:
1996 Nova Scotia Association of Architects Prize, graduating project at Dalhousie University

EMPLOYMENT HISTORY: dates, rank/position, department, institution/firm
Teaching Positions
2012-16 Contract Instructor Azrieli School of Architecture & Urbanism

Professional Employment (past 6 years)
2012- Private Practice, thomas h. Leung architect inc., Ottawa, ON
2004-2012 Senior Associate, bbb architects Ottawa Inc., Ottawa, ON

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2004- Member, OAA

TEACHING ACTIVITY: (past 6 years)
Studios, Lecture Courses, Workshops and Seminars:
2012-13 ARCS 1105 - Studio 1 (BAS 1st year)
2012-13 ARCS 2105 - Studio 2 (BAS 1st year)
2013-14 ARCS 1105 - Studio 1 (BAS 1st year)
2014-15 ARCS 1105 - Studio 1 (BAS 1st year)
2015-16 ARCS 3106 - Studio 5 (BAS 3rd year)

SCHOLARLY AND PROFESSIONAL ACTIVITY
Guest Design Critic
2012- Carleton University Azrieli School of Architecture and Urbanism, Graduate thesis reviews.
2012- Carleton University Azrieli School of Architecture and Urbanism, Guest critic various (BAS 1st – 4th year, M. Arch 1st – 2nd year)

PUBLICATIONS:
1) Life-time summary (7) according to the following categories:
   - Articles in professional publication................................................. 7
2) Details:

**Articles in professional publication:**


**PROFESSIONAL PROJECT LIST** (last 6 years)

- **2015-** Residential Project, 316 Beechgrove Ave. Ottawa, ON; Thomas Leung Architect
- **2012-** Stage 1 Ottawa LRT 10 Above Grade Stations, Confederation Line, Ottawa, ON; with bbb architects Ottawa Inc.
- **2009** 911 Institute; Emergency Services Training Centre, La Cité Collégiale 801 Aviation Pkwy. Ottawa, ON; with bbb architects Ottawa Inc.
CURRICULUM VITAE

LIM, Jay S., AIA, MRAIC, LEED AP, B.Tech, M.Arch, MSAUD; Contract Instructor

Degrees:

Master of Science in Architecture + Urban Design
Recipient: Columbia University GSAPP Lowenfish Prize for Best Final Term Project

Syracuse University: School of Architecture [Syracuse, NY] 2004
Master of Architecture
Thesis: Mediation of Barriers: Hybridization of the Highway
Recipient: Syracuse University Thesis Grant for Barrier Mediation: Hybridization of the Highway

Ryerson University: [Toronto, ON] 2001
Bachelor of Technology in Architectural Science

Teaching + Academic Experience

Carleton University: Azrieli School of Architecture and Urbanism 2010–present
Instructor
Architecture Studio 7: (2010)

Awards


Professional Experience

Perkins + Will Architects, [Ottawa] 2015-Present
ema Architects, [Ottawa, ON] 2009- 2010

Affiliations:

Ontario Association of Architects Since 2011
American Institute of Architects Since 2009
New York State Registered Architect Since 2009
Massachusetts State Registered Architect Since 2011
Royal Architectural Institute of Canada Since 2009
LEED Accredited Professional: The U.S. Green Building Council Since 2004
Ottawa Regional Society of Architects: Executive Board 2010-2012
Habitat for Humanity Since 2009
PUBLICATIONS:


Web Press

http://www.yatzer.com/857_what_if_new_york_city
http://www.whatifnyc.net/WhatIfNYC_JURY_REPORT.pdf
http://www.arkitera.com/y639-post-disaster-housing-design-competition.html
http://www.deathbyarchitecture.com/viewFeature.html?id=45

Exhibitions/Conferences

Pecha Kucha [Ottawa]: “Big things to Small Rings” [January 27] 2010
Curriculum Vitae

Mark MacGuigan
317 Ste. Cecile St.
Ottawa, On.
K1L 5K5
613 252 2475

Education:

B.A. History Concordia University 1988
BFA Studio Cum Laude University of Ottawa 1992

Employment:

1995- present: Workshop Chief Technician
Azrieli School of Architecture and Urbanism
Carleton University

Teaching Experience:

ARCC 3902
Chair Prototyping Workshop
6 times 2000- 2015
CURRICULUM VITAE

MANSFIELD, Peter,  Contract Instructor

DEGREES:
1991  Master of Architecture, University of Manitoba, Winnipeg, Manitoba
1989  Demark International Study Program (Architecture and Design Studies), University of Copenhagen, Copenhagen, Denmark
1988  Bachelor of Technology (Architectural Science), Ryerson Polytechnical Institute, Toronto, Ontario

HONOURS:
- Recipient of the 2011 Mississippi Mills Cultural Achievement Award.
- Awarded 1st place in a 1988 University of Manitoba inter-studio design competition for a new German Canadian Centre / Senior’s Housing.
- Recipient of an Award for Technical Achievement by Ryerson Polytechnical Institute in 1987.
- Architectural studio work selected as subject of proposed interior mural for the St. Boniface General Hospital expansion in Winnipeg, Manitoba.
- Architectural and promotional renderings selected for the McMaster Health Centre, Niagara College by the Upper Canada College & Canadian Cancer Society.

EMPLOYMENT HISTORY:
1999 – Present: Principal of Peter Mansfield Architect

TEACHING ACTIVITY:
2016 Winter Term  ARCS 2106 - Studio 3 (BAS 2nd year), Azrieli School of Architecture & Urbanism, Carleton University
2015 Fall Term     ARCU 3902 – ARCU5402 – Workshop in Urban Studies, Azrieli School of Architecture & Urbanism, Carleton University
2015 Winter Term   ARCC 3301 - Studio 3 (Conservation in Practice, 3rd year Studio), Azrieli School of Architecture & Urbanism, Carleton University
2014 Winter Term   ARCC 3301 - Studio 3 (Conservation in Practice, 3rd & 4th year Studio), Azrieli School of Architecture & Urbanism, Carleton University
2013 Winter Term   ARCS 3105 - Studio 3 (Studio 4, BAS 3rd year) Azrieli School of Architecture & Urbanism, Carleton University

SCHOLARLY AND PROFESSIONAL ACTIVITY
- Licensed Member: Ontario Association of Architects, September 1999 to present
- Guest Critic: Algonquin College Architectural Technology, 2013
- Member: Advisory Committee for Carleton University Almonte Satellite Campus Expansion Initiative, 2011
- Advisor: Almonte Downtown Riverwalk, Town of Mississippi Mills, ON
• Advisor & Judge: Mississippi Mills Community Conservation Awards Program
• Member: Local Architectural Conservation Advisory Committee, 1993 – 1994

PROFESSIONAL PROJECT (SAMPLE) LIST (last 6 years)
• Orchard View by the Mississippi, Almonte, ON – 130,000 ft² 121-suite retirement centre (under construction)
• Clothier Street Apartment Building, Kemptville, ON – 7,000 ft² 6-unit apartment building (under construction)
• Mills Community Support Corp., Almonte, ON – 5,000 ft² Country Street community centre (in development)
• Garden Villa Retirement Residence, Chesterville, ON – 7,500 ft² 12-unit addition (2015)
• St. Andrews United Church, Arnprior, ON – 18 to 24-unit affordable housing apartment (2014 study)
• Mills Community Support Corp., Carleton Place, ON – 40 to 54-unit affordable senior’s housing (2014 study)
• Orville Street Apartment Building, Stittsville, ON – 16,500 ft² 20-unit apartment building (2013)
• Action Ottawa Affordable Housing Competition, Ottawa, ON – 60-unit residential development (2012)
• Loeb Centre, Ottawa Association for Persons with Developmental Disabilities, Ottawa, ON – Addition (2012)
• Mills Community Support Corp., Almonte ON – 18,000 ft² 20-unit affordable senior’s apartments (2011)
• Invista Centre, Kingston, ON – 2,300 ft² City of Kingston track & field washroom & maintenance building (2011)
• Heritage Court, Almonte, ON – 12,000 ft² mixed-use commercial & office development (2010)
• Old Flour Mill, Almonte, ON – 20,000 ft² 6-storey residential adaptive re-use & addition (2010)
• Thoburn Mill, Almonte, ON – 31,000 ft² 4-storey residential & commercial adaptive re-use & addition (2009)
• Mills Community Support Corp., Almonte, ON – 5,000 ft² office building (completed 2008)
• Canadian Hydro Components, Almonte, ON – 15,000 ft² manufacturing facility & offices (2008)
• Various Custom Residences
HONORATA PIEN’KOWSKA
ARCHITECT
M. Sc (Arch), OAA, MRAIC, ORSA

EDUCATION AND REGISTRATION
1974  M.Sc.(Arch) Architecture and Urban Design, Warsaw Polytechnical University, Poland
1977  Certificat d’Etudes Pratiques en Francais, Université de Genève, Switzerland
1977-78  Ecole des Beaux Arts, Université de Genève, Switzerland
2009  Verona, Italy, International Architectural ‘Designing with Natural Stone’ Scholarship recipient
2011  University of Ferrara, Department of Architecture ‘Recovering the Past to Create a Sustainable Future’ Summer Course
Carleton University, Certificate in Fundamentals of University Teaching

1978  RAIC Certification
1983  OAA Professional Licence
1986  OAA Certificate of Practice

PROFESSIONAL MEMBERSHIPS
1978  RAIC Royal Architectural Institute of Canada
1983  OAA Ontario Association of Architects
1992  ORSA Ontario Regional Society of Architects

TEACHING EXPERIENCE
1995 –2007  Sessional Lecturer
School of Architecture, Carleton University,
3d year Studio Fall term
3d year Studio Winter term
4th year Thesis Supervisor;
ARCS 2106 Studio 4 Winter term
ARCS 3105 Studio 3 Fall term
2007 – current  Adjunct Professor
Azrieli School of Architecture & Urbanism,
Carleton University, Ottawa, Canada
ARCS 2106 Studio 3 Winter term
ARCS 3105 Studio 4 Fall term
ARCU 3106 Studio 5 Winter term
ARCU 4105 Studio 6 Fall term
ARCU 4106 Studio 7 Winter term
Master Thesis Faculty Review Committee Member

PROFESSIONAL EXPERIENCE
1974-1976  K. Strom & O. Tuomisto, Arkkitehtti, Helsinki, Finland
1978-1979  Rysavy & Rysavy, Architects, Ottawa, Canada
1980-1985  Ogilvie and Hogg, Architects, Ottawa, Canada
1987-1992  KDE Architects, Ottawa - Associate
1993 - current  Honorata P. Roseman Architect, Ottawa, Sole Proprietor
ACADEMIC, PROFESSIONAL AND PUBLIC SERVICE

1998 – current
OAA Intern Architect Programme Mentor

2005
LEED Green Building Design Workshop

2005
City of Ottawa Design Pilot Project – Consultant

2006
Ontario Association of Architects Conference – Niagara on the Lake

2007
Ministry of Municipal Affairs and Housing BCDS Programme Examination and Re-registration

2008
Union Internationale d’Architects (UIA) Conference Torino, Italy – Participant

2009
RAIC International Architectural Scholarship – Verona, Italy

2010
Ontario Association of Architects Conference – Windsor, Ontario

2011
University of Ferrara, Department of Architecture Summer Training Course ‘Recovering the Past to Create a Sustainable Future’

2012
Urban Design and Architecture Studio Study in Havana, Cuba

Ontario Association of Architects Conference – Ottawa, Ontario

Research Study: Shanghai, China

2013
Research Study: Morocco and Spain

2015
Directed Studies Abroad 2015
Berlin + Rotterdam + Amsterdam + Bruges

2016
Directed Studies Abroad 2016
Berlin + Rotterdam + Amsterdam + Delft

Ontario Association of Architects Conference – Toronto, Ontario

OTHER PAST

OAA Experience Requirements Committee - Member
OAA Experience Requirements Committee - Chair
OAA Regulatory Affairs Committee (RAC) – Member
Ontario Association of Architects – Recognition Certificate
Royal Institute of Architects (RAIC) – Appreciation Certificate
RAIC International Ideas Competition, Time Place and Symbol, Architecture and Urban Design Professional Advisor
National Capital Commission (NCC) Ottawa Centre Core Master Plan, Urban Study Workshop Invited Consultant
City of Ottawa Design Pilot Projects Consultant
Ottawa Design Review Committee - Member
CURRICULUM VITAE

Ross, Adriana  Contract Instructor

DEGREES:
- 2011-present Ph.D. Candidate, Architecture, Carleton University, Canada
- 2009  B.A., Architecture, Carleton University, Canada

HONOURS:
- 2010  RAIC Student medal
- 2010  John Adjeleian Scholarship, Carleton University, Canada
- 2008  RAIC Ernst Wilby Memorial Scholarship, Canada
- 2007  Nicholas Scolozzi Scholarship, Canada

EMPLOYMENT HISTORY

Teaching Positions
- 2009-16  Contract Instructor, Azrieli School of Architecture & Urbanism
- 2014-16  Contract Instructor, Algonquin College, Ottawa, ON
- 2007-09  Teaching Assistant, Azrieli School of Architecture & Urbanism

Professional Employment (past 6 years suffice)
- 2003- Private Practice, ADesign, Designer, Ottawa, ON
- 1998-2003 Senior Designer, Susan Firestone Design, Ottawa, ON

TEACHING ACTIVITY:

Studies, Lecture Courses, Workshops and Seminars:

- 2016  ARCN 2106 - Introduction to Multimedia (BAS 1st year)
- 2016  Studio F1rst - (Post-Baccalaureate program)
- 2016  Enriched Mini Course Program (EMCP), High School Student Summer Program
- 2016  ARCS 1105 – Studio 1 (BAS 1st year)
- 2015  ARCU 3902A – Workshop in Urban Studies and Heritage Conservation
- 2015  Enriched Mini Course Program (EMCP), High School Student Summer Program
- 2015  ARCS 1105 – Studio 1 (BAS 1st year)
- 2014  ARCS 2105 – Studio 2 (BAS 2nd year)
- 2014  Enriched Mini Course Program (EMCP), High School Student Summer Program
- 2014  ARCS 1105 – Studio 1 (BAS 1st year)
- 2013  ARCS 2105 – Studio 2 (BAS 2nd year)
- 2011  ARCS 1005 – Drawing (BAS 1st year)
- 2011  ARCS 1105 – Studio 1 (BAS 1st year)
- 2010  ARCS 3105 – Studio 3 (BAS 3rd year)
- 2010  ARCS 1105 – Studio 1 (BAS 1st year)
- 2009  ARCS 3105 – Studio 3 (BAS 3rd year)

SCHOLARLY AND PROFESSIONAL ACTIVITY

Guest Design Critic
- 2007-2016 – undergraduate and graduate reviews ASAU, Carleton Univ.
PUBLICATIONS: The Publications should be listed in the categories shown below and include the following information: books authored, books edited (a list of the chapters contributed by the editor must follow each title), chapters in books (other than those listed in the above category), papers in refereed journals, papers in refereed conference proceedings, technical reports, abstracts and/or papers read, and others. Each title must show the names of the authors in the order in which they appear in the original publication and inclusive page numbers. Publications submitted, but not yet accepted, must be listed separately within the various categories.

1) Life-time summary:
   - Books authored ............................................................ 1
   - Books edited .................................................................. 2
   - Chapters in books ......................................................... 4
   - Papers in refereed journal .................................................. 15
   - Papers in refereed conference proceedings ..................... 3
   - Technical reports ............................................................ 1
   - Abstracts and/or papers read ........................................... 6
   - Others (workshops presented) ......................................... 2

2) Details:

Books authored:

Papers in refereed journal:

Papers in Refereed Conference Proceedings
   2. Ross, Adriana. "Corso and Ricorso, Reawaking the Covenant Church", AHGSS Access/Restriction Conference, Carleton University, Ottawa, 2014 paper read

Journal edited:
Jeffrey Salmon, M.Arch. MRAIC
276B Loretta Ave South, Ottawa ON K1S 4R1
Jeffrey.salmon@carleton.ca

EDUCATION
2010   Master of Architecture
       Azrieli School of Architecture and Urbanism, Carleton University
2008   Bachelor of Architectural Studies, with distinction
       Azrieli School of Architecture and Urbanism, Carleton University

PROFESSIONAL EXPERIENCE
2014-present Intern Architect, Nicholas Caragianis Architect Inc.
2014-present  Contract Instructor, Azrieli School of Architecture and Urbanism, Carleton University
2011-present  Co-director, yowLAB
2011-present Urban art and critical practice, Impromptu Playground
2010-present Guest studio reviewer, Azrieli School of Architecture and Urbanism, Carleton University
2011-2014 Intern Architect, Liff & Tolot Architects Inc.
2010  Building assessments contract, WGD Architects Inc.

COURSES TAUGHT
2014-present Instructor. Azrieli School of Architecture and Urbanism, Carleton University.
       ARCC 4500 Design Economics (Fall 2014, Fall 2015)

ACADEMIC CONTRIBUTIONS
   • master thesis
   • conferences

NON-ACADEMIC CONTRIBUTIONS
   • articles in professional or trade journals and magazines
   • public lectures

ART AND DESIGN CONTRIBUTIONS
   • urban art projects (Independent / Impromptu Playground)
   • competitions
CURRICULUM VITAE

SANTANA QUINTERO, Mario, Assistant professor, tenured (2012)
Director, NSERC Heritage Engineering Program

DEGREES: designation, institution, department, year
2003 Ph.D. in engineering (Built heritage Conservation), University Leuven, Belgium
1997 Master in Conservation of Historic Towns and Buildings, University Leuven, Belgium
1994 Architect, Universidad Central de Venezuela

HONOURS:
2012 Tartessos Award for his leadership as president of CIPA. Spanish Society of Virtual Archaeology (SEAV).
2010 Merit Award, University of Ontario.

EMPLOYMENT HISTORY:
Teaching Positions
2011- Professor (part time), University College St-Lieven, Ghent, Belgium
2011- Assistant Professor (part time), University of Leuven (KU Leuven): Raymond Lemaire International Centre for Conservation, Leuven, Belgium
2011 Lecturer, University of Pennsylvania (Graduate program in Historic Preservation), USA

Professional Employment
2003-2016- Consultancy work (Architectural heritage) Algerie; Abu Dhabi (TCA); The Getty Conservation Institute, UNESCO, Euromed; World Monuments Fund, ICCROM.

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2016 - Co-Editor, Journal of Cultural Heritage Management and Sustainable Development
2014 - 17 Board Member, International Council of Monuments and Sites
2015 - 18 Vice President, International Scientific Committee for Heritage Documentation (CIPA-ICOMOS)
2010 - 14 President, International Scientific Committee for Heritage Documentation (CIPA-ICOMOS)

GRADUATE SUPERVISIONS:
Completed: 3 M.Arch (professional), 7 M. Sc. (Conservation), 3 PhD.
In progress: 4 M.Arch (professional), 4 M.Sc. (engineering), 2 M. Sc. (Conservation), 2 PhD.

TEACHING ACTIVITY:
Studios, Lecture Courses, Workshops and Seminars:
2012-16 ARCN 4100 – Historic Site Recording
2014-16 ARCN 4200 – Building Pathology and Rehabilitation

SCHOLARLY AND PROFESSIONAL ACTIVITY
University Administration
2012-2016 – Hiring Committee
2013-2015 – Tenure and Promotion committee – Member

RESEARCH AND FUNDING - Overview
1. External Research Funding:

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<th>Year</th>
<th>Source</th>
<th>Type*</th>
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*Type: C-Granting councils; G-Government; F-Foundations; O-Other

2. Internal Research Funding:

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<th>Amount per year</th>
<th>Purpose**</th>
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<td>$7,000</td>
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</table>
PUBLICATIONS:
1) Life-time summary (count) according to the following categories:
   - Books authored ...................................................... 2
   - Books edited ............................................................. 7
   - Chapters in books .................................................... 15
   - Papers in refereed journal .......................................... 14
   - Papers in refereed conference proceedings .................... 51
   - Technical reports .................................................... 32
   - Abstracts and/or papers read ........................................ 8
   - Others (workshops presented) ...................................... 10

2) Details:
Books authored:

Books edited:

Chapters in Books:

Papers in refereed Journals:
SGARBI, Claudio  Contract Instructor, Adjunct Research Professor

Academic, Professional Degrees and Education
- 1993 Doctor of Philosophy (PhD), University of Pennsylvania,
- 1985 Master of Science in Architecture, University of Pennsylvania
- 1983 Architetto, Registered Architect (Italy)
- 1982 Dottore in Architettura, IUAV Istituto Universitario di Architettura di Venezia
- 1976 Diploma, Classical Studies High School, San Carlo, Modena, 1972-76

Recent Academic and Professional Activity:
- Visiting Scholar, 2016
- Adjunct Research Professor, 2010-2016
- Technical Director, Building Company: Edra srl, Carpi since 2003
- Practicing Architect (Modena, Italia) since 1982

TEACHING EXPERIENCE (Didactic Activities, Lectures and Conferences from 2011):

2016 – Adjunct Research Professor and Visiting Critic; ASAU Carleton Univ. Fall: M.Arch, PhD Colloquium.
2016 – Bezalalel Academy, Jerusalem. School of Architecture, Visiting Critic and Conference Moderator.
2016 – ASAU Carleton Univ., Director of “STUDIO 1first bridge program”, spring/summer.
2015 – Washington Alexandria Center of Virginia Tech WAAC, Ph.D. students dissertations’ review.
2015 – First International Symposium on Funerary Architecture, Ravenna, October 21-24
2015 – Adjunct Research Professor and Visiting Critic; ASAU Carleton Univ. Fall: M.Arch Studio & Seminar
2014 – Adjunct Research Professor and Visiting Critic; ASAU Carleton Univ. Fall: - M.Arch Studio & Seminar
2014 – City Space Architecture – Bologna, Chair, at the International Conference, June 25-27.
2013 – Adjunct Research Professor and Visiting Critic; ASAU Carleton Univ. Fall: M.Arch Gateway Studio; PhD “Colloquium” for the 1st and 2nd Year Ph.D. Students;
2013 – University of West England, TRANSGRESSION, The 10th annual conference of the AHRA.
2013 – Boalsburg, Pennslyvania, Academy Street “Cagalibri” Symposium, paper presented: “Cosmos-po..iesis”.
2013 – Biennale of Public Space Rome, May 18, “The Public Space of Education”
2011-12 - ASAU Carleton Univ., Coordinator/instructor: Directed Studies Abroad (DSA), Bologna, Italy:
Courses taught: Advanced Building Systems; Collective Seminars in Contemporary Architecture; History and Theory of Architecture; Design Studio (“An Urban Historical Park of Debris”).
2011 - Visiting Lecturer, ASAU Carleton Univ., Fall: Hist/Theory Elective, Adv. Bldg Systems; PhD Seminar
PUBLICATIONS

Books
- 2013 Editor with Luisa Bravo of the special issue of the magazine IN_BO. Ricerche e progetti per il territorio, la città e l'architettura, Vol. 4, n. 1, "The public space of education".

Books’ Chapters

Peer review Articles
- 2015 “Questions and Answers” in IN_BO, Vol 6, No 3 (2015); TEACHING AND MAKING ARCHITECTURE TODAY. A global inquiry, special issue edited by L. Bartolomei and G. Gianciopoli

Articles
- 2013 “Notes for a Conversation with Joseph Rykwert”
- 2013 “Italian Design? Tradition and Invention”
- 2011 “Il futuro delle città e i luoghi del progetto aperto e del cantiere continuo. IN_BO, N. 3, dicembre

PROFESSIONAL WORKS: DESIGNS AND BUILDINGS (from 2011)
- 2016 design proposals for a commercial centre (Ex Imatex) in Carpi (Mo).
- 2016 Structural Renovation of CERMAG Industrial Buildings, Rio Saliceto (RE
- 2016, with Adriana Ross, “Protocol”, Int’l Competition “Fairy Tales 2016”
- 2015 with Jill Stoner, “Rigenerare Corviale”, International Competition, Rome
- 2014 Structural Renovation of Hotel Touring, Carpi, Technical Direction on Building Site (Built)
- 2014 Stage –set design for “Fola”, Verasimile, Soliera (Designed and Built)
- 2013 Structural Renovation of Enerplan Headquarters, Carpi
- 2013 Renovation of a Stanza, Via Barbieri 84, Modena (Designed and Built)
- 2012 with Qi Zhu and Marco Frascari, Amsterdam Bridge, International Competition.
- 2012 Restoration of Church of S.Ignazio, Casa Cortesi, Palazzo Corso, Convento delle Clarisse – Carpi Technical Director on Building Sites (Built)
- 2011 Housing Complex in Budrione, Carpi (Modena). Technical Direction on Building Site
- 2011 Restoration of the Multifunctional complex in Via del Corso, Carpi. Technical Direction on Building Site
CURRICULUM VITAE

SWARANJALI, Pallavi  Contract Instructor

DEGREES
2012-onwards  Ph.D. candidate, Carleton University, Azrieli School of Architecture and Urbanism, Ottawa, Canada
2003-2005  M. Design, Indian Institute of Science, Center for Product Design and Manufacturing, Bangalore, India
1997-2002  B. Architecture, Birla Institute of Technology, Department of Architecture, Mesra, India

HONOURS
June-September 2015  CCA Collection Research grant; CCA Residency, Montreal
Sept.–Dec. 2015  Mitacs Globalink Research Award, Canada
January, 2015  John Ruddy Scholarship Carleton University
2016-2017  Ontario Graduate Scholarship, Carleton University
2003-2005  Graduate Scholarship, Ministry of Human Resources Development, India, 2002  Gold medalist, Bachelors in Architecture

EMPLOYMENT HISTORY:
Teaching Positions
Winter 2016  Contract Instructor ASAU, Carleton
Fall 2016  Contract Instructor, School of Interior Design, Algonquin College
May, 2015  Contract Instructor, 35th Enrichment Mini- course Program, Carleton U
2012-2016  Teaching Assistant, ASAU, Carleton
2006-2011  Senior Lecturer, MAEER’S MIT Institute of Design, Pune, India

Professional Employment
2016  Research Assistant, Parliament - Center block, CIMS, Carleton
2005-2011  Architecture and Design Consultant, Opus One Architects, India

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2014-2015  International Student Mentor, ISSO, Carleton University
2015 –to present  Career mentor, Immigrant Services Organization (OCISO), Ottawa
2012-present  Lead, Design Team, Organizing committee, Festival of India, Ottawa

TEACHING ACTIVITY  (TA = Teaching Assistant; CI = Contract Instructor)
Winter 2017  ARCH 5200 Graduate Seminar - (Teaching Assistant)
Fall 2016  DSN4013, Fundamentals of Design 1(1st year), Algonquin College- CI
Summer 2016  Theories of Landscape design, Course Development-(Teaching Assistant)
Winter 2016  ARCS 1105 Studio 1(BAS 1st Year)- (Contract Instructor), Carleton
Winter 2015  ARCS 1105 Studio 1(BAS 1st Year)- (Teaching Assistant)
2015-2016  Workshop Facilitator, Educational Development Center, Carleton University
Fall 2014  ARCH 1000, Introduction to Architecture, (BAS 1st Year)- (TA)
Winter 2014  ARCH 1105 Studio 1(BAS 1st Year)- (TA)
Fall 2013  ARCH 1000, Introduction to Architecture, (BAS 1st Year)- (TA)
Fall 2012  ARCH 2300, Introduction to Architecture ( BAS 1st Year)- (TA)

SCHOLARLY AND PROFESSIONAL ACTIVITY
Guest Design Critic
2012-2013  Azrieli School of Architecture and Urbanism Graduate thesis reviews.
2015-2016  Azrieli School of Architecture and urbanism, Undergraduate studio

PUBLICATIONS:
1) Life-time summary (count) according to the following categories:
- Papers in refereed journal ................................................................. 1
2) Details

Papers in refereed journal
- Article titled (Re) collecting Yesterday, Today: The Universal Museum, Louvre Abu Dhabi," The International Journal of the Inclusive Museum, Volume 9, Issue 3, pp.1-10. Article: Print (Spiral Bound). Published online: January 29, 2016 (Article: Electronic (PDF File; 453.216KB)).

Papers in Refereed Conference Proceedings
- Art for Architecture, or Architecture for Art, peer reviewed abstract and paper published in Conference proceedings, AR (t) CHITECTURE An International Conference at the Technion – Israel Institute of Technology Faculty of Architecture and Town Planning 19-21 April 2016

Abstracts and/or papers read –
- Art for Architecture, or Architecture for Art, Paper presented virtually at AR (t) CHITECTURE An International Conference at the Technion – Israel Institute of Technology Faculty of Architecture and Town Planning 19-21 April 2016
- True or False: Louvre Abu Dhabi and the idea of ‘Simulacra’, Paper presented, Interface 2015, Annual graduate conference, Institute for Comparative Studies in Literature, Art and Culture (ICSLAC) at Carleton University, May 2, 3, 2015

Others
- Conducted the workshop, Visually wired, Feb 25 2015, 1-2:30, Visual strategies for better presentations for teaching in class, Teaching Assistant Training Workshop, Carleton University
- Conducted Workshop for International Students- Facilities and Resources available on University Campus, at International Student Services Office, Carleton University, Nov 26th, 2014
- Conducted the workshop - Visually wired, TA Training Day, Educational Development Center, Carleton University, January 23, 2016, 1:15-2:30 pm

PROFESSIONAL PROJECT LIST (last 6 years)
2016 Parliament Rehabilitation Project, Center Block, Carleton Immersive Media Studio, Carleton University, Ottawa
2016 CDMICA (Cultural Diversity and Material Imagination in Canadian Architecture), Carleton Immersive Media Studio, Carleton University, Ottawa,
CURRICULUM VITAE

TAJ, H Masud  Adjunct Professor, Carleton University

DEGREES:
M.Arch. (post-prof. with distinction), ASAU CU, 2004
G.D.Arch. (prof.), Bandra School of Art, Bombay 1982
Certificate in University Teaching, Carleton University 2010

HONOURS:
Visiting Fellow in four departments: Architecture, Fine Arts, Language & Literature, Quranic Studies. Aligarh Muslim University India, 2016
The Embassy of Liminal Spaces inducted in the Library of Parliament 2016
Special Mention by VC CU : State of the University Address 2014-2015
CUSA Teaching Excellence Award 2012
Capital Educators Award 2011

EMPLOYMENT HISTORY:
Teaching Positions
Since 2005  Contract Instructor, Adjunct Professor, ASAU CU since 2009

Professional Employment
Since 2007  Director, Transnational Architectural Journeys, India

SCHOLARLY AND PROFESSIONAL ACTIVITIES:
2016  Advisor: Sea Container Design Competition ASAU, ID, UOttawa
2014  Member Appointed CUPE 4600, CU CI Teaching Awards Committee

TEACHING ACTIVITY:
2017  Seminar: Six Degrees of Architecture ARCH 4505 ASAU CU
2005-2016  Architectural Design Studio 1 & 2, ASAU CU
Since 2010  Eleven Lecture Courses 12 hrs each CIE, CU

SCHOLARLY AND PROFESSIONAL ACTIVITY
M.Arch Internal Examiner
2011-2015  5 Thesis, School of Architecture, ASAU CU
Guest Design Critic
2011-2015  M.Arch Review ASAU CU
2012-2016  4th Yr Final Review
2011-2012  Graduate Summer Studio in Architectural Conservation Review School of Planning & Architecture, New Delhi,
2010  1st Yr Final Reviews, Marywood University, USA
Panelist
2016  Author Meets Readers panelists, Ottawa International Writers Festival

PUBLICATIONS:
1) Life-time summary (count) according to the following categories:
- Books authored ................................................................. 4
- Chapters in books............................................................... 2
- Papers in refereed journal ............................................... 1
- Papers in refereed conference proceedings ..................... 2
- Technical reports ............................................................. 1
- Abstracts and/or papers read ........................................... 8
- Others (see below).......................................................... 40
2) Details:

**Books:** all archived in Archives and Research Collections (SPC) CU

1. **The Embassy of Liminal Spaces** DFAIT: Ottawa; 2014  
   French translation: Dr Roseann Runte
2. **Alphabestiary** with co-author Dr. Bruce Myer; 2011  
   Featured: International Festival of Authors, Toronto 2011
3. **Nari Ghandi:** apprentice to FLWright (Mumbai: Foundation For Archt, 2009)

**Chapters in Books:**

   - Architectural photography medieval buildings in Toledo, Spain in Summer 2012
   - Featured in Faculty of Public Affairs Research Month, CU 2015

**Papers Read:**

1. *The Role of Imagination* Canadian Consulate General, Bangalore, India 2015
6. “Cube And Chiasm: Spatiality Of the Sacred” Art Univ. of Isfahan, Iran 2010

**Others**

Summer Lecture Tour, India 2015:
(i) *Sinan: Architect at the Centre of the World*, 6 Cities Lecture Tour
(ii) *Conversation with Architect-Poet-Calligrapher Taj*, Goa College of Architecture, Goa
(iii) *Charles Correa: In Memorium*, Mumbai

Summer Lecture Tour, 2014:  
*The Bookstand & The Book*, FAAA Talk, Mumbai, India; Aga Kahn Univ, London, UK

Summer Lecture Tour, India 2013:
(i) *In Transit: Photograph Poem Calligraphy Video Building* Goa College of Architecture
(ii) *Alphabestiary* Sir JJ College of Architecture, Mumbai
(iii) *Mosques of Mimar Sinan*, Dept of Archt Conservation, SPA, Delhi
(iv) *The Architect, The Translator & The Poet*, Academic Staff College, JMI Univ, New Delhi

**EXHIBITIONS:**

*Individual Exhibitions*
2015- Permanent installation, Canadian Consulate General, Bangalore, India

*Group Exhibitions*
2016 – *The Meaning of Life @ 91*, RIA, Ottawa
2015 - *Zahra & The Messy Birth of Digital Calligraphy*, RIA, Ottawa

**PROFESSIONAL PROJECT LIST** (last 6 years)

Since 2007 **Director, Transnational Architectural Journeys**

- **Residential** *House Between Mountain & Lake* (under construction) 2015/16
- **Residential** *House of Last Days* (built), Khandala, India; 2010
- **Institutional** *The Green School* (built), New Delhi, India; 2013
- **Institutional** *The Green School* (under construction), Aligarh, India; 2014
VANDENBERG, Jack T. M.Eng., P.Eng.
Adjunct Professor, Instructor Level III – Architecture, Engineering

Teaching Area
Engineering: Statics & Mechanics; Core-curriculum (BAS, B.Eng: Conservation & Sustainability)

EDUCATION
1988 M.Eng - Civil Engineering – Carleton University
1986 B.Eng with High Distinction - Civil Engineering - Carleton Univ.

HONOURS
• 2015 Deputy Minister Award of Excellence in Leadership and Management, Public Services and Procurement Canada.
• 2012 Queen Elizabeth II Diamond Jubilee Medal.
• 1997 Assistant Deputy Ministers Award.
• 1996 Director’s Merit Award. Awarded for excellence in conservation engineering.

EMPLOYMENT HISTORY:

Teaching Positions
Architecture, Civil & Environmental Engineering, Carleton Univ.; BAS - Conservation & Sustainability; B.Eng Architectural Conservation & Sustainability

2010 – Present Mechanics of Solids (CIVE 2200), Civil / Environmental / Architectural Conservation and Sustainability Engineering students / BAS students with a major in Conservation and Sustainability
2013-15 Eight sections of Mechanics I (ECOR 1101), a first year core course 400 - 600 students per year

Professional Employment
2001 - present Director Heritage Conservation Directorate (HCD), Professional and Technical Services Management Sector

2006 - 07 Acting Director, PWGSC’s services to Indian and Northern Affairs Canada (INAC)
2004 - 05 Acting Director, Architecture and Engineering Resources Directorate (AERD)
1999 – 00 Program Manager for Parks Canada, Heritage Conservation
1995 – 99 Business Development Manager, Heritage Conservation
1988 – 01 Conservation Engineer, Heritage Conservation Program,
1988 – 89 Structural Engineer, Adjeleian, Allen, Rubeli Ltd., Ottawa; Suter Keller Inc., Ottawa
CURRICULUM VITAE

WOOD, Robert, Contract Instructor

DEGREES:
  1986 Bachelor of Arts (Law), Carleton University, Ottawa, Ontario

EMPLOYMENT HISTORY:

Teaching Positions
2016 Contract Instructor Azrieli School of Architecture & Urbanism
2014 Contract Instructor Azrieli School of Architecture & Urbanism

Professional Employment (past 6 years suffice)
2012- Present Workshop Technician, Azrieli School of Architecture & Urbanism
1995-Present Owner, Wood ’n’ Dreams Cabinetmaking, Ottawa, Ontario

TEACHING ACTIVITY: past 6 years, by year
  Studios, Lecture Courses, Workshops and Seminars:

2016 ARCS 3902 – Architectural Technology Workshop – Chairs
2014 ARCS 3902 – Architectural Technology Workshop – Chairs
2003-2012 WOO 5503 – Woodworking II, Algonquin College, Ottawa, Ontario
4.4 Visiting Team Report from Previous Visit
2011 Visiting Team Report  
Master of Architecture Program  
Carleton University  

*Continuing Accreditation Visit Date: March 12-16, 2011*
Table of Contents

II. Summary of Team Findings .................................................................................................................. 5
   1. Team’s General Comments .................................................................................................................. 5
   2. Conditions for Accreditation “met” and “not met”: a summary ...................................................... 5
   3. Program’s Progress since the previous site visit and VTR ............................................................ 7
   4. Program Strengths ............................................................................................................................. 7
   5. Causes of Concern and Team’s recommendations ........................................................................... 8

III. Compliance with the Conditions for Accreditation ........................................................................ 9

IV. Appendices ....................................................................................................................................... 30

Appendix A: Program Information .......................................................................................................... 30
   1. Brief History of Carleton University ................................................................................................. 30
   2. Institutional Mission ......................................................................................................................... 30
   3. Program History .............................................................................................................................. 31
   4. Program Mission .............................................................................................................................. 32
   5. Program Action Plan ......................................................................................................................... 32

Appendix B: The Visiting Team ............................................................................................................... 34
I. Introduction • CACB Accreditation

The CACB is a national independent non-profit corporation, whose Directors represent the Canadian Architectural Licensing Authorities (CALA), the Canadian Council of University Schools of Architecture (CCUSA) and the Canadian Architectural Students Association (CASA). The CACB is both a decision-making and policy-generating body. It is the sole organization recognized by the architectural profession in Canada to assess the educational qualifications of architecture graduates (Certification program) and to accredit professional degree programs in architecture offered by Canadian Universities (Accreditation program).

By agreement of the Registration Authorities and Councils of nine Provincial Institutes and Associations, the CACB was established in 1976 to assess and certify the academic qualifications of individuals holding a professional degree or diploma in architecture who intend to apply for registration. The Ordre des Architectes du Québec joined the CACB in 1991. In 1991, the CACB mandate to certify degree credentials was reaffirmed and its membership was revised to reflect its additional responsibility for accrediting professional degree programs in Canadian University Schools of Architecture.

The CACB awards accreditation only to professional degree programs in architecture. These are normally:

- Master of Architecture degree with a related pre-professional bachelor’s degree; requirement, typically amounting to five or six years of study;
- Master of Architecture degree without a pre-professional requirement, consisting of an undergraduate degree plus a minimum of three years of professional studies;
- Bachelor of Architecture degree requiring a minimum of five years of study, except in Quebec, where four years of professional studies follows two years of CEGEP studies.

The process of accreditation begins at the school with the preparation of the Architecture Program Report (APR). The APR identifies and defines the program and its various contexts, responding to the CACB Conditions and Procedures for Accreditation. The APR is expected to be useful to the planning process of the school, as well as documentation for the purposes of accreditation.

Upon acceptance of the APR by the CACB Board, an accreditation visit is scheduled. The CACB’s decision on accreditation is based upon the capability of the program to satisfy the Conditions and Procedures for Accreditation, including the ability of its graduating students to meet the requirements for learning as defined in the Student Performance Criteria. During the visit, the team reviews student work and evaluates it against these requirements. The team also assesses the effectiveness and degree of support available to the architectural program through meetings with the institution’s administrators at various levels, architecture and other faculty, students, alumni, and local practitioners.

At the conclusion of the visit, the Visiting Team makes observations and expresses compliments and concerns about the program and its components. It also offers suggestions for program enrichment and makes recommendations, which, in the judgment of the team, are necessary for the program’s improvement and continuing re-accreditation. Following the visit, the team writes the following VTR, which is forwarded with a confidential recommendation to the CACB. The CACB then makes a final decision regarding the term of accreditation.
II. Summary of Team Findings

1. Team’s General Comments

The professional program as observed exists in a moment of transition, characterized by relative financial health and apparently enjoying substantive institutional support. In such a context, the School’s strategic priorities need to be exercised not only in the service of new and emergent programs, but also advanced through the ongoing review and enhancement of the 4+2 professional stream - the specific concern of the CACB review process.

Having concluded the review of the program’s APR and the Team Visit, the team would suggest an overarching comment in summary of our understanding of the program:

The team would encourage the program to more fully embrace the contemporary alongside the evident and longstanding validation of the timeless: more specifically to collectively imagine the potential for these two conditions to constructively engage.

While broadly stated, the team encourages the School to consider this comment in specific terms. These could include issues of faculty research, the deployment of digital media, the regard for technical and professional topics within the curriculum, and the cultivation of faculty governance and renewal. The School appears well positioned to take progressive action in this regard - congruent with their own strategic planning position - and we encourage their future success.

Finally, the team acknowledges the representation of the proposed MArch1 professional option within the School. While concluding an inability to comment in the context of this visit, the proposal and its need for CACB deliberation is accordingly brought to the attention of the Board.

2. Conditions for Accreditation “met” and “not met”: a summary

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Page 5 of - 39
7. Physical Resources

8. Information Resources and Information Technology

9. Financial Resources

10. Administrative Structure

11. Professional Degrees and Curriculum

12. Student Performance Criteria (SPC)
   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

   B1. Design Skills
   B2. Program Preparation
   B3. Site Design
   B4. Sustainable Design
   B5. Accessibility
   B7. Structural Systems
   B8. Environmental Systems
   B9. Building Envelopes
   B10. Building Service Systems
   B11. Building Materials and Assemblies
   B12. Building Economics and Cost Control

   C1. Detailed Design Development
   C2. Building Systems Integration
   C3. Technical Documentation
   C4. Comprehensive Design

   D1. Leadership and Advocacy
   D2. Ethics and Professional Judgment
   D3. Legal Responsibilities
   D4. Project Delivery
   D5. Practice Organization
   D6. Professional Internship
3. **Program's Progress since the previous site visit and VTR**

There has been significant improvement since the last visit, in a number of key areas. The program appears to enjoy a considerably improved institutional support - with attendant access to resources - as well as benefiting from the generous endowment from David Azrieli.

In this context, meaningful strategic planning has usefully occurred, concluding in the current approved strategic/business plan. This support has, in turn, allowed for a number of distinct enhancements to the program. These include the addition of new faculty positions with the result of refreshing local discourse while significantly enhancing faculty : student ratios; incremental - if modest - improvements made to the program facilities; and the significant recent augmentation of IT infrastructure and equipment.

Of course institutional support is seldom given arbitrarily, and the team acknowledges Sheryl Boyle’s time as Director as one of building strong relationships and clear lines of communication.

4. **Program Strengths**

The program is distinct in its persisting emphasis on analog drawing, related model-making and the very particular exploration of space and materials that such media encourage.

The continuing contribution made by the Stinson/Corneil building to the culture of the School and its professional program is palpable, and no doubt encourages the sense of student community observed over the course of the visit. This important asset is noted, notwithstanding the need for more vigilant maintenance and ongoing renewal of this resource and its furnishings.

The breadth of concern and sophistication of execution of MArch thesis work was notable.

The clear and direct contribution of the Azrieli endowment to both fundamental and enriched capacities of the program remains remarkable.

The varied educational settings available to students, including long and short-term studies-abroad, workshops and electives makes strong complement to core professional curriculum.
5. Causes of Concern and Team's recommendations

As noted in the introductory remarks, the School is observed at a transitional and arguably formative moment. Apart from furthering allied academic ambitions, the preoccupation with new academic programs appears to have displaced due attention from full and ongoing review of the 4+2 professional stream.

Notwithstanding the enabling of significant resources that accrue from these new programs, the team observes a number of rather specific concerns that remain outstanding.

1. Continuity of Undergraduate and Graduate components of the professional program

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.

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.

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-of-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.
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.

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.

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 of the program.

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.

III. Compliance with the Conditions for Accreditation

1. Program Response to the CACB Perspectives

Programs must respond to the relevant interests of the constituencies that make up the CACB: educators (CCUSA) and regulators (CALA), as well as members of the practicing profession, students and interns, and the general public.
A. Architecture Education and the Academic Context

The program must demonstrate that it both benefits from and contributes to its institutional context.

Met Not Met
[X] [ ]

Team comments:

The team notes evidence of engagement with other academic units. Although not exclusively lodged within the professional program, future engagement accompanying the new academic programs appears likely to constructively contribute to the professional realm.

University President Dr. Roseann O'Reilly Runte demonstrated a refreshing sensitivity and commitment to the Architecture Program. Her initiative relative to the Batawa community, and its interdisciplinary research and practice opportunities brings the school of Architecture front and Centre in the vision for Carleton, going forward. The School of Architecture has been consulted on the Masterplanning of the Campus, but has not been engaged beyond the role of other faculties.

Dr. Rafik Goubran, Dean of the Faculty of Engineering & Design, identified and re-affirmed that the School of Architecture and Urbanism is a “treasure” that is valued within the Faculty of Engineering and Design. His recent support for the Architecture program is significant, as is his acknowledgement of the importance of maintaining a clear degree of authonomy in terms of academic affairs and governance.

Dr. John Shepherd, Dean, Graduate & Postdoctoral Affairs identified the interdisciplinary nature of Architectural education as aligned with the mission.

In general, the Team was positively impressed by the strong relationships of the School of Architecture and University community, and commends the Director and Faculty of the school for nurturing these constructive and mutually beneficial relationships. In forging the current strategic plan the School has been well aware of the larger University priorities and sought to find alignment wherever possible. From the CACB perspective, it should be noted that the priorities of professional education are seldom directly implicated in University visions, and that the School must remain vigilant in ensuring that the program remain vigorous in this regard.

Overall, the senior administrators speak highly of the architecture program. They cited faculty participation in interdisciplinary research - especially digital media - as work that benefits the greater University research community and were appreciative of the School faculty’s contributions to University committees.

B. 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.

Met Not Met
[X] [ ]
Team comments:

The school provides support to the students through academic discourse and administrative engagement, and the team overall observed an enthusiastic *esprit de corps*.

In terms of anticipating student participation in the profession, the team observes that the current co-op option does not fully achieve its potential. This, at least in part, appears to stem from the administrative/logistical support being located at University level rather than being integrated within the School. While the co-op option might well benefit from a shift in current practice, the team would note that an accompanying increase in staff support would be necessary. The team also observed that the timing of first co-op placement is not necessarily consistent with appropriate skill sets of the students.

As the new streams in the bachelor's degree mature, it is vital to clearly communicate to students the nature of assessment between first and subsequent years. Following an intensely competitive application process for admission to the BAS, the potential to be disallowed from continuing in the direct professional Design stream did not appear to be fully understood by students in the midst of this process. A variety of administrative and procedural remedies might be imagined, but particularly if the School wishes the alternative, non-professional streams to attain their own identity and status, the team would raise this issue as one of considerable importance.

Related to this point, students were keen generally to have more explicit and more regular review of their progress through the course of a term, and program protocol in this regard appeared to be ad-hoc and rather informal. Particularly with respect to the entry to Design stream after the first year, the team would encourage some form of formal debriefing after the first term’s grades have been finalized in order to focus expectations over the course of the second term.

Finally, students communicated to the team the desire for the program to have less hesitation in using new digital technology, and that this technology be more fully integrated with design studios. To this end, they also identified gaps in the capacity of TA’s and faculty to provide the full support required to effect such desires effectively.

C. Architecture 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.*

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Team comments:

The program encourages practitioners’ involvement in many levels such as lectures, seminars, panel discussions and studio critiques. The OAA offers information and student affiliation, and the co-op option introduces approximately one-third of undergraduate students to direct professional work experience. Overall, the students demonstrated a clear understanding of registration issues.
D. 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.*

[ | ]

Met | Not Met
--- | ---
[X] | [ ]

Team comments:

There was evidence of certain strong relationships between the program and the profession, in which many aspects of this criterion would be engaged. Specifically, the practitioners’ support for the lecture series, the sponsorship of a studio by Stantec and the use of practitioners to deliver the visiting critic studio were each positive and well-received by the students.

Effort to maintain currency in this respect, however, appeared less clear in the coursework dedicated to professional issues, where only limited exposure to the many aspects of contemporary practice was observed. The one professional practice course presents only the traditional small-practice “sole-practitioner” approach to practice, without framing the many other roles that architects take on - especially in the context of Ottawa where there are so many public agencies who employ architects. There appears to be modest contact with the many government agencies - PWGSC, DND, Health Canada, NRC, IRC, DFAIT, etc. - with the particular emphasis and inflection that they give to practice.

E. Architecture 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.*

[ | ]

Met | Not Met
--- | ---
[X] | [ ]

Team comments:

Such understanding occurs in many instances across the professional curriculum. The criterion suggests a cumulative response whereby capacity builds alongside the program, and the staging of Studio Six offered the clearest instance where a full range of social and environmental concerns were deliberately engaged in the design studio. In this respect, the topic studios of the MArch program embraced a much more narrow set of concerns.
2. Program Self-assessment

The program must provide an assessment of the degree to which it is fulfilling its mission and achieving its action plan.

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Team comments:

Both curricular and financial strategic planning are evident and in place. As noted, many of the team’s comments concerning the program support the intentions of the School mission.

With respect to curricular review, however, the process of self-assessment remains less clear. The motivation for introduction of the Directed Research Studio, for instance does not appear to be prompted by assessment of the value of the thesis - for the program and for students - but rather appears bound up in issues of human resources, research aspirations and budget. More generally, the enthusiasm for new academic programs and the delineation of their curriculum has occurred at some cost to the review of the 4+2 professional sequence - particularly with respect to the undergraduate sequence.

3. Public Information

The program must provide clear, complete, and accurate information to the public by including in its academic calendar and promotional literature the exact language found in the CACB 2010 Conditions (Appendix A-1), which explains the parameters of an accredited professional degree program.

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Team comments:

The Team notes the lack of conformance of the published text with the wording of Annex A of the CACB Conditions and Procedures.

Equally important, the information available to prospective and current students is ambiguous about the current accreditation status of the proposed MArch1 sequence, and less than clear about the points of choice and assessment within the four streams of the BAS degree and the competitive nature of application to the existing professional MArch.

While incidental to fulfillment of this criterion, the team notes that the web presence of the professional program offers little evidence of the strengths and specific cultural ethos embodied in the School’s daily life.

4. Social Equity

The accredited degree program must provide a summary of provincial and institutional policies that augment and clarify the provisions of the Charter of Rights and Freedoms as they apply to social equity.

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Team comments:

The accreditation status of the proposed MArch1 sequence, and less than clear about the points of choice and assessment within the four streams of the BAS degree and the competitive nature of application to the existing professional MArch.
Team comments:

The School provides a supportive and collegial environment for teaching, learning and working. Facilities have in general been upgraded to accommodate the needs of all physical abilities, with the addition of ramps and renovated washrooms, in the past few years.

The Team recognizes the achievement of the program in redressing issues of gender imbalance in the faculty, as well as increasing the number of internationally-trained professors. The team would further encourage the program to continue to take advantage of the visiting lecture series and sessional appointments to establish gender equity.

5. Human Resources

The program must demonstrate that it provides adequate human resources for a professional degree program in architecture, including a sufficient faculty complement, an administrative head devoting not less than fifty percent of his/her time to program administration, administrative and technical support staff, and faculty support staff.

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Team comments:

Progress has been made, and is acknowledged. The student/faculty ratios have improved over the past five years, since the last accreditation visit. The Director of the program has been effective in working with the Faculty and the University and continues to address this concern. The necessary attention to new programs and course delivery, however, would suggest less dramatic progress with respect to the professional program.

The Team notes that the faculty members are typically required to teach the equivalent of two design studios, one core course, and an elective that actively contributes to the development of their individual body of research. The overall impression is one of a faculty - even while supplemented by contract hires - preoccupied with teaching activities. As noted elsewhere, the role of research in refreshing faculty knowledge bases and ensuring a contemporary currency should not be underestimated.

Notwithstanding the observed progress, it is important to conclude the cycle of faculty renewal with hires successfully completed in the near future.

With respect to support staff, the team notes some apprehension concerning the capacity of current administrative resources to successfully respond to the proposed expansion of student enrollment and enacting of new degree programs. The team also noted the use of Azrieli endowment resources to fund an essentially technical support position - CNC technician - that appears inconsistent with the intent of the endowment, irrespective of local necessity.
6. Human Resource Development

Programs must have a clear policy outlining both individual and collective opportunities for faculty and student growth within and outside the program.

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Team comments:

Faculty Research and research interests were partially demonstrated during the visit. While there are some remarkable projects being undertaken by Dr. Stephen Fai, and some delightful examples of student/faculty work in the renovated HUB lobby, the balance of the faculty demonstrated limited research activity. There was no exhibition of Faculty work presented as part of the Accreditation Visit Exhibition. Certainly there would be benefit in mounting such an exhibition for future Visiting Teams.

Faculty are allocated an annual bursary of funds for travel and professional development, to purchase books, equipment, etc and there is evidence in Faculty resumes that publications and research are underway, but there does not seem to be any tradition of concerted and coordinated research agendas being set within the School. The team would also encourage the expanded use of facilities as do exist: most obviously the resources of the CIMS could be only enhanced by including other faculty members as associated researchers with access to facilities.

With respect to student opportunities, the studies abroad options, visiting critic studios and short directed studies abroad workshops all speak to the program’s delivery of an array of opportunities for student growth. Within the inevitably hidebound necessities of a professional curriculum, the program offers a strong range of elective coursework and workshops.

7. Physical Resources

The program must provide physical resources that are appropriate for a professional degree program in architecture, including design studio space for the exclusive use of each full-time student; lecture and seminar spaces that accommodate both didactic and interactive learning; office space for the exclusive use of each full-time faculty member; and related instructional support space.

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Team comments:

The team acknowledges the incremental improvements within the main building and the graduate area in Azriel Pavilion, and the imminent acquisition of the fifth floor of the Stinson/Corneil building.

The Architecture building remains one of the finest purpose-built schools of architecture in North America, and this facility is well-complemented by those in the new Azriel building which provide an excellent space for the Graduate Studios. The practical and logistical concerns of occupying the varied facilities should be allied with a clear overview of program relationships, and the team encourages the School to this end.
Not withstanding the demonstrable virtue of the Architecture building, proposed remedial work to the ventilation system of the CNC installation and a more general attention to aspects of both maintenance and renewal require immediate attention. While universal accessibility to labs, studios, and other resources has largely been addressed, overcrowding in certain studios remains a concern. Environmental problems associated with an obsolete heating plant and an aging building envelope remain outstanding.

The team encourages the School to develop a comprehensive Facility Renewal Program and expresses the hope that the University will be sensitive to the heritage value of this building in Canada’s architectural culture. More specifically, the team encourages the Faculty to consider including this building in DOCOMO once it has achieved 40 years of age, in another year.

Beyond the care of the historic building, significant funding for the renovation of the fifth floor of the building will be needed. Despite the relatively recent construction of that space and its enviable technological infrastructure, its configuration is not yet suited to the needs of the School. The team encourages the undertaking of a major renovation to ensure that space is as effective, accessible and supportive of the School’s academic mission as the rest of the building.

Finally, noted that institutional neglect in the upgrading of studio furniture, maintenance of the building and effective provision of janitorial services can only too easily contribute to the ‘broken window’ phenomenon, encouraging a culture of neglect only aggravated by the reality of a ’24+7’ occupation of the premises.

8. Information Resources and information technology

The architecture librarian and, if appropriate, the staff member in charge of visual resource or other non-book collections must prepare a self-assessment demonstrating the adequacy of the architecture library. For Information Technology Resources, the program must also provide the information technology infrastructure and corresponding staff support in order to effectively contribute to the delivery of the curriculum, as well as supporting activities of staff and faculty.

Team comments:

Library Resources

Communication between the University Library and the School appears collegial and productive. In addition to actively supporting the permanent collection, the Library regularly accepts input from School faculty regarding acquisitions and provides introductory sessions for both Undergraduate and Graduate students, outlining the specialist data-bases available and providing a general orientation to Library resources. The staff is looking forward to utilizing the archives with the new Ph.D. program in the Azrieli School of Architecture and Urbanism.

Recent renewal to facilities available in the Technical Data Room should encourage increased student use as a local source of current periodicals and as an informal meeting/working space.
In addition, the Archives and Special Books Collection are available to School Graduate Students and Faculty, including work sessions that introduce key aspects of primary archival research methods. Elizabeth Knight – Subject Specialist for Architecture – noted during the visit that the collection's architectural material was well used, with a notably high incidence of circulation relative to the holdings generally.

**Information Technology Resources**

Through the agency of the Dean's office, significant resources have recently been made available that greatly enhance the capacity of the School to responsibly support student needs in this regard. As noted during the visit, the program will not doubt find that such enhanced support will fuel enhanced expectations, and the team encourages the School to consider strategic planning with respect to software and hardware provision alongside the technical support they imply.

The needs of the program in terms of digital lab and workshop equipment appear adequate, although subject to topical extremes in their use. In particular, the focus of dedicated IT staff to the mundane procedures of running prints - for instance - aggravate the stress of staff and appeared an unnecessarily inefficient application of resources. The use of staff-dependent CNC installation in the service of relatively small scale-model making was another instance where specialist resources appeared to be casually calibrated to student needs - perhaps in this instance an issue that might help shape ongoing discussions concerning the efficacy of laser-cutting technology.

Noted that while students in their second year of the undergraduate program purchase their own computers, conformity with stated program technical profile is inconsistent. As the School pursues its strategic goal of increasing engagement with new technologies, it is essential that ample 'entry-level' criteria for both hardware and software are made clear and enforced.

Finally, noted the intention to profile the next faculty hire as a colleague with specific expertise in emerging digital media and production. This would go some way in responding to student apprehensions concerning the expertise of current design faculty - and TA support - in contributing to coursework and assisting with day-to-day necessities.

**9. Financial Resources**

*Programs must have access to sufficient institutional support and financial resources.*

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Team comments:

As noted elsewhere, the School appears to possess stable and sufficient resources to undertake its professional program alongside the new and proposed academic offerings.

To the extent that the use of Azriel monies is somewhat at the discretion of the Director, and that the recent resources accruing from the Dean's office are discretionary, it is essential that the resources necessary to sustain the professional program are clearly observed over time.
It should also be noted that while the recent enhancement of financial resources is significant, to some degree it has been used to redress historical shortfalls. In particular, the capacity of program faculty to undertake significant research appears somewhat curtailed by their necessary obligations to delivering program curriculum. This would appear to be a quite specific issue that future fund-raising efforts might usefully address.

Finally, noted that ongoing fund-raising efforts allied with public lecture series, etc. continue with the support of the Dean’s office and University.

10. Administrative Structure (Academic Unit & Institution)

The program must be part of, or be, an institution accredited by a recognized accrediting agency for higher education. The program must have a degree of autonomy that is both comparable to that afforded to the other relevant professional programs in the institution and sufficient to assure conformance with all the conditions for accreditation.

Met Not Met
[ X ] [   ]

Team comments:

The institutional position as designated School within the Faculty of Engineering and Design provides an evident degree of autonomy consistent with the intent of this criterion. The current Dean appears well aware of this distinction and stressed his own efforts to maintain a sense of both autonomy and identity specific to the School.

Within the School, the Director’s position is given due administrative release time, and is augmented by Associate Directors for Undergraduate and Graduate programs as well as by coordinators of specific curricular streams. The anticipation of an Associate Director for Research would appear constructive, and the team would encourage delineation of responsibilities and deployment of such an administrative role.

As noted elsewhere, the team encourages mindful awareness of the specific needs of the professional program as its context of allied academic programs expands - perhaps suggesting a reconfiguration of the current undergraduate / graduate designations for Associate Directors in due course.
11. Professional Degrees and Curriculum

The CACB awards accreditation only to first-professional degree programs in architecture. These include:

- Master of Architecture degree with a related pre-professional bachelor's degree; requirement, typically amounting to five or six years of study;
- Master of Architecture degree without a pre-professional requirement, consisting of an undergraduate degree plus a minimum of three years of professional studies.
- Bachelor of Architecture degree requiring a minimum of five years of study, except in Quebec, where four years of professional studies follows two years of CEGEP studies;

The curricular requirements for awarding these degrees must include three components: general studies, professional studies, and electives that respond to the needs of the institution, the architecture profession, and the students respectively.

Met [X]  Not Met [ ]
12. Student Performance Criteria (SPC)

Each architecture program must ensure that all its graduates possess the skills and knowledge defined by the performance criteria set out below, which constitute the minimum requirements for meeting the demands of an internship leading to registration for practice.

(See CACB 2010 Conditions for further detail regarding the SPC categories and criteria).

General Team comments:

The team observed a program being undertaken with ongoing vigour set in the context of a relatively secure curriculum at the Bachelor’s level and a more recently revised structure at the Master’s level.

While the program overall demonstrates an enduring commitment to analogue drawing and model-making across the curriculum, it has yet to fully acknowledge the dynamic changes in digital technology as it pertains to design, project management and emerging fabrication technologies. This is most directly observed in persisting assumptions regarding design process and procedure.

Given the material available for review, it is apparent that coverage of technical concerns is uneven: generally strong in its delivery where addressed, but with specific and conspicuous gaps. This unevenness speaks to a need to more deliberately orchestrate the various coursework, but also to consider how such material occurs in design studies as an integrative force - especially with respect to environmental systems, professional necessities and issues of sustainability.

The manner in which current and local issues are addressed as studio topics was seen as positive and relatively consistent in the material observed. The team would encourage the program to be more explicit and regular in its engagement with the varied resources that are highly specific to the Ottawa culture.

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.

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Team comments:

Condition is considered to be well met.

The students display a clear understanding of the significance of critical thought processes as related by their response to the academic program, evidenced in a variety of curricular settings.
A2. Research Skills

Ability to employ basic methods of data collection and analysis to inform all aspects of the programming and design process.

Met Not Met
[X] [ ]

Team comments:

Condition is considered to be well met.

While research skills can be observed across the professional curriculum, the team notes the particular accomplishment evident in the Thesis and Directed Research Studios.

A3. Graphic Skills

Ability to employ appropriate representational media to convey essential formal elements at each stage of the programming and design process.

Met Not Met
[X] [ ]

Team comments:

The manual graphic skills are strong and demonstrate the students ability to communicate their intentions clearly. A full engagement of contemporary and emerging digital media remains to be demonstrated, however. While this criterion focuses on ‘the programming and design process’, the team would extend its comment across all aspects of the professional curriculum.

A4. Verbal and Writing Skills

Ability to speak and write effectively on subject matter contained in the professional curriculum.

Met Not Met
[X] [ ]

Team comments:

Student writing samples demonstrate appropriate abilities in writing. Efforts to raise student writing skills in the context of the MArch sequence is noted, and commended as an imaginative application of endowment resources to the professional curriculum.

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.

Met Not Met
[X] [ ]
Team comments:

In both studio and specific coursework group work is given due emphasis. Students more generally demonstrate the collegial respect that necessarily underpins constructive collaboration.

A6. Human Behavior

Understanding of the relationship between human behavior, the natural environment and the design of the built environment.

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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.

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Team comments:

The team observed this criterion most clearly in various elective coursework, while appearing rather undernourished in the curricular core.

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.

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A9. Precedents

Ability to make a comprehensive analysis and evaluation of a building, building complex, or urban space.

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Team comments:

Most studio projects draw from some form of precedent studies. However, it is noted that observation - however finely delineated - provides the basis for ‘analysis and evaluation’ rather than standing in their stead.
B1. Design Skills

Ability to apply organizational, spatial, structural, and constructional principles to the conception and development of spaces, building elements, and tectonic components.

Met Not Met
[X] [ ]

Team comments:

A clear architectural language is displayed the studio projects and - particularly in the undergraduate work observed - contributes to a sense of common design culture permeating the program. The team did observe instances in which longstanding commitment to specific design processes actively discouraged integration with the full range of issues present in a professional curriculum in Architecture.

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.

Met Not Met
[ ] [X]

Team comments:

While aspects of program preparation appear in various aspects of the curriculum, there is no instance in which specific focus is exercised and sustained. While certain of the thesis work observed was exemplary in this matter, engagement with program preparation was - not unreasonably - inconsistent across the range of thesis preoccupations.

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.

Met Not Met
[X] [ ]

Team comments:

Condition is considered to be minimally met.

The presence of work demonstrating fulfillment of this criterion was uneven, and where observed often remained in the realm of close observation rather than ‘analysis and response’.
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.

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Team comments:

Condition is considered to be **minimally met**.

Given the increasing emphasis granted to sustainable practice, the work observed remained curiously mute on the topic: certainly not generally understanding sustainability to be central and formative to contemporary design practice.

This being said, effort is clearly being made to raise awareness of material implications of a sustainable agenda, in particular with respect to the adaptive re-use of urban building stock.

B5. Accessibility

*Ability* to design both site and building to accommodate individuals with varying physical and cognitive abilities.

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Team comments:

Level four design studio projects showed a degree of awareness of and ability to work with principles of accessibility, including accessible washrooms, ramp access, and barrier free movement through buildings. More generally, students display a range of ability in this area.


*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.

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Team comments:

Students show some awareness of egress systems, and distinctions between combustible and non-combustible construction, although the role of sprinkler systems is not apparent in any tests, papers or drawings observed. The team encourages that this suite of interests be more deliberately brought into the formulation of design strategy and intent.
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.

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Team comments:

Condition is considered to be well met.

Beyond the aspects of coursework devoted to this criterion, the exploration of structural systems and performance through the construction of scale models is commended.

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.

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Team comments:

Acoustics, artificial illumination, and mechanical systems for large buildings are apparently not being taught in the current year, although a breadth of related material including building envelopes and natural light are covered in the technical sequence in good detail. Faculty involved appear enthusiastic and well respected by students and their peers.

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.

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The team notes that the study of high-performance systems, especially in regard to cold-climates, were under-represented in the work observed.
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.

Met Not Met
[ ] [X]

Team comments:
Plumbing, electrical, communication and sprinkler & other fire protection systems are not evident in the material made available to the reviewing team.

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.

Met Not Met
[X] [ ]

Team comments:
Covered in various coursework, this material is also addressed in the coordination of technical concerns with the two comprehensive design studios.

B12. Building Economics and Cost Control
Understanding of the fundamentals of development financing, building economics, construction cost control, and life-cycle cost accounting.

Met Not Met
[X] [ ]

Team comments:
This condition is considered to be well met.

C1. Detailed Design Development
Ability to assess and detail as an integral part of the design, appropriate combinations of building materials, components, and assemblies.

Met Not Met
[X] [ ]
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.

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Team comments:

Student work demonstrates an ability to integrate knowledge of structural systems and building envelopes, but other issues are not consistently present.

C3. Technical Documentation

*Ability* to make technically precise descriptions and documentation of a proposed design for purposes of review and construction.

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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.

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Team comments:

The level four studio focused upon housing design offered evidence of student attention to a reasonable level of detail of certain aspects of this criterion. However, since lighting, acoustics & mechanical systems are not currently being taught, these components are simply not evident - comments on other required concerns as noted.

The team notes some concern regarding the building type and complexity presented as the appropriate vehicle for successfully undertaking the intent of this criterion. It was also noted that since the intended comprehensive studio occurs within the undergraduate portion of the professional program, it will inevitably include students not destined to complete the full accredited program in Architecture - yet compelled to fulfill this challenging student performance criterion as part of their undergraduate degree requirements.

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.

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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.

Met Not Met
[X] [ ]

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.

Met Not Met
[X] [ ]

Team comments:
The student work displays a good overall understanding of practice issues. Practicing architects are deliberately engaged with the students and their coursework, however codes and regulations still remain sporadically applied, as noted elsewhere.

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.

Met Not Met
[X] [ ]

Team comments:
The student work demonstrates a good knowledge of project delivery, contracts as well as appropriate documentation required to communicate effectively.

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.

Met Not Met
[X] [ ]

Team comments:
The coursework provides good level of understanding, exposure and access to practice issues. The student accessibility to the CHOP is reinforced with the inclusion of local practitioners in the delivery of this content.
D6. Professional Internship

Understanding of the role of internship in professional development, and the reciprocal rights and responsibilities of interns and employers.

Met [X]  Not Met [ ]
IV. Appendices

Appendix A: Program Information

The following is condensed from the Program's 2010 Architecture Program Report

1. Brief History of Carleton University

Carleton University's origins lie in a wartime initiative to offer university-level instruction to veterans and a younger generation of civil servants. Carleton College, as it was first known, began offering classes in 1942. During this period, the College operated out of the high-school facilities and temporary buildings under very stringent financial conditions. Enrollment continued to expand and in 1952 Carleton's degree-granting privileges were confirmed by the Province with the Carleton College Act. The College was renamed Carleton University in 1957.

Carleton had been the first post-secondary institution to be established in Ontario since the nineteenth century and its move to the current campus in 1959 coincided with a substantial expansion of the Provincial university system. The University's development in the 1960s was characterized by rapid increases in enrollment and by almost continuous construction activity. As organized at present, the University consists of five faculties offering more than fifty disciplines of study. The faculties of Arts and Social Sciences (FASS), Public Affairs and Management (PAM), Engineering and Design (FED), and Science provide instruction to some 15,000 full-time and 3800 part-time undergraduate students; the Faculty of Graduate Studies enrolls 2100 full-time and 4600 part-time graduate students.

2. Institutional Mission

Carleton University President Dr. Roseann O'Reilly Runte, in consultation with a wide range of internal and external groups, has developed a strategic plan that informs the university's decision-making over the next five years, highlights its top priorities and sets specific targets with timelines.

“Defining Dreams”, approved by the Board of Governors on Feb. 2, 2010, guides academic and administrative units as they develop their plans and agendas in the coming months and years.

The full content of “Defining Dreams” can be found at the following link:
http://www2.carleton.ca/about/ccms/wp-content/ccms-files/strategic_plan_final.pdf
3. Program History

The School of Architecture held its first classes in the fall of 1968, with twelve students and four faculty members. The School offered a five-year undergraduate professional degree, accredited, from the outset, by the Ontario Association of Architects. The first degree was awarded in 1973. In the fall of 1972, the School moved into its present purpose-built facility, designed by Toronto architects Carmen Corneil and Jeff Stinson. The Architecture Building was planned for a total of 250 students (a number long since exceeded). The building is highly regarded by the architectural community. It continues to provide a supportive, appropriate environment and to constructively influence the School’s programs.

In 1997, the School developed a proposal to restructure its 5-year Bachelor of Architecture to a 4-year, pre-professional Bachelor of Architectural Studies followed by a 2-year professional Masters of Architecture degree. The undergraduate component was approved by the University Senate in 1997 and began accepting students in the Fall of 1998. The graduate component was approved by the Ontario Council of Graduate Studies in 1998 as a variation on the previously approved postprofessional M.Arch. The first class accepted into the professional M.Arch. entered in September of 2001. The first graduates from that class were conferred with the M.Arch degree in November, 2004. The School instituted a formal co-op program in 1999 as an option within the BAS. Students must spend minimum of three terms (two of which are contiguous) to satisfy the requirements for the co-op designation. Work terms begin after students complete the second year of the BAS. This option is now well established.

The 4+2 program at Carleton is now in its eleventh year and has undergone only minor changes since its inception. Until 2008, the most significant of these changes was the development of the Directed Research Studio (DRS) as a thesis option in the final year of the M.Arch. intended as an important research vehicle and a viable option for students less inclined toward independent research. Other changes include a short duration (1-3 weeks) undergraduate Directed Studies Abroad (DSA) option in the third year of the BAS and a full term DSA in the first year of the M.Arch. The School offers a visiting critics studio as an option to graduate students who choose not to participate in the DSA.

The last and most significant shift is presently underway as the school develops four new Majors at the undergraduate level. All BAS Majors (Design, Urbanism, Conservation & Sustainability, Philosophy & Criticism) will share a common first year: This year lays a broad foundation on which further architectural studies are built.

The BAS – Major in Design - is based on the historic program and course structure with minor changes, and 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, and oral 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.
4. Program Mission

Note: The School of Architecture formalized its mission at a Faculty Board meeting, Oct. 6, 1999. At the same time, a long-term Strategic Plan was implemented with its goals outlined in the APR (2000 and 2004). In 2008, additional strategic components were added to reflect the expansion of the BAS with 4 Majors as outlined above.

- To offer a high-calibre undergraduate and graduate education that instils a deep appreciation for the built environment and a firm understanding of the complex social, structural, technical, cultural, and economic forces that produce it.
- To recognize and to promote the role of architects and the relevance of architectural principles in the widest possible context.
- To provide a university-level professional architectural education within a broad, multidisciplinary pedagogy that also prepares students for a wide range of design disciplines.
- To promote global perspectives on human development through planning and design principles of sustainable built environment.
- To recognize Canadian ideals and realities that can be positively served through architecture and to promote them through educational as well as real-life situations.
- To promote the value of academic inquiry and applied research especially in those areas that directly influences the practice of architecture, urbanism & sustainable design.
- To provide education and training towards the adoption of high technology (visualization, content design).
- To promote an appreciation of material culture and pedagogy of learning by making -- recognizing design as a form of research and the primacy of the studio as a pedagogical venue.

The School's Mission Statement is in line with the University's goals, and the 4+2 program along with the introduction of new undergraduate Majors, will greatly expand the School's participation and in graduate studies in architecture, as well as in other Carleton programs and disciplines.

5. Program Action Plan

a) Implementation the new 4+2 program (fully implemented in 2003/04 with first graduating class in 2004)
b) To implement 4 new Majors within the BAS program and to increase enrolment by 10% over 4 years. Process begun in 2008; fully implemented in University Calendar in 2009; Undergraduate Program Review & Approval Spring 2010. First students currently entering 3rd year – Fall 2010.
c) To increase the volume of faculty research through professional and post-professional graduate offerings, through workshop-based coursework and through the School's Architectural Research Units (ORUs).
d) To rebuild the faculty establishment through strategic replacement of faculty positions. In response to the increased enrolment from the new Majors, the school anticipates an increase in faculty establishment from 16.5 to 20.5 over 4 years. These will be supplemented by 1 faculty awarded the Azrieli Chair and 1 rotating visiting Azrieli Professorship for a total of 22.5 by 2011/12
e) To secure additional space to accommodate the proposed expansion of the School's programs with augmentations of information technologies. Integrate the undergraduate and graduate programs by securing un-segregated studio space for Professional M.Arch. students (by 2011)
f) To stabilize the School's financial position and augment its autonomy through program restructuring (addition of 4 undergraduate Majors within the BAS degree), increased research funding, contract work, donations, and endowments.

g) To establish links and continue to work with other units in the University -- especially units within the Faculty of Engineering and Design -- on initiatives related to the University's strategic goals.

h) To enhance the integration of new technologies into the School's curricula.

These objectives continue to be important because they focus both on the School's formal mission statement and the mission statement of the University to “advance knowledge and scholarship and to provide people who have the ability and the desire to learn with opportunities to realize their intellectual potential.” The strategic plan also created common goals for the Faculty to pursue. To further establish the School as one of the top schools of architecture in Canada, the School's recently appointed Director has added to the stated vision for the School the following:

i) Maintain the quality of existing programs

j) Advance the position of the current programs and research centres

k) Create new programs and research that pioneer the teaching, research, and community service frontiers for the School, and

l) Increase the visibility of the programs and research developed by the School through paper and electronic publications.
Appendix B: The Visiting Team

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Appendix C: The Visit Agenda

ACCREDITATION VISIT
SATURDAY, 12 MARCH 2011 TO WEDNESDAY, 16 MARCH 2011

Saturday, March 12th, 2011

Visiting Team Arrive and check-in at hotel

7:30 p.m. Dinner (Team Only)

Sunday, March 13th, 2011

8:00 a.m. Breakfast – with Director S. Boyle
APR Review

10:00 a.m. Initial review of exhibits and records

11:00 a.m. Tour of School w/S. Boyle

11:30 a.m. Meet with Associate Directors (R. Connah – Graduate and J. Debanné – Undergraduate), program coordinators (M. Báez – Design, M. Esponda – Conservation & Sustainability, B. Gianni – Urbanism, M. Frascari – Philosophy and Criticism) and Accreditation Coordinators (M. Báez and P. Kariouk)

12:00 noon Lunch – Team Members only

2:00 p.m. Faculty introductions

2:30 p.m. Review of exhibits and records (accompanied by Faculty in both the Azrieli Pavilion, Architecture Building, and CIMS Lab)

4:00 p.m. Team commences review of exhibits

7:30 p.m. Dinner – Team Members only

Monday, March 14th, 2011

8:00 a.m. Team Breakfast with Director S. Boyle

10:00 a.m. Meeting with Dr. John Shepherd, Dean, Graduate & Postdoctoral Affairs

10:45 a.m. Meeting with Dr. Roseann O’Reilly Runte, President
11:30 a.m.  Meeting with Dr. Rafik Goubran, Dean, Engineering & Design
12:30 p.m.  Lunch – Team Members Only
1:30 p.m.  Elizabeth Knight, Anita Hui, & Patti Harper – University Library
2:30 p.m.  Studio class observations and continuation of review of student work.
3:30 p.m.  Meet with all Faculty
5:00 p.m.  Cocktail Reception – Faculty, Administrators, practitioners, alumni
7:00 p.m.  Dinner

**Tuesday, March 15th, 2011**

8:00 a.m.  Team Breakfast with Director S. Boyle
9:30 a.m.  Meet with Student NUG Representatives, CSAAS, CASA
10:30 a.m.  Meet with Support Staff
11:30 a.m.  Continue Review Exhibits
12:30 p.m.  Lunch - Team members only (catered at Team Office)
1:30 p.m.  Complete review of exhibits and begin draft of VTR
  Team members available for individual consultation with school community members by appointment
8:00 p.m.  Dinner – Team Only
Evening  Accreditation deliberations

**Wednesday, March 16th, 2011**

8:00 a.m.  Team Breakfast with Director S. Boyle
9:45 a.m.  Exit Meeting with J. Shepherd, Dean of Graduate & Post Doctoral Affairs and R. Goubran, Dean of Engineering and Design
11:00 a.m.  Exit Meeting with R. O’Reilly Runte, President
11:45 a.m.  School-wide exit meeting with all faculty/staff/instructors/students
V. Report Signatures

Christopher Macdonald, Team Chair
representing the educators

Gordon Richards
representing the practitioners

Patricia O’Leary
representing the educators

Vivian Manasc
representing the practitioners

Pierina Saia
representing the practitioners

Eric Archambault
school/program observer

Peter Anthony Levar
CACB observer

George Wagner
CACB observer
Report submitted to the
Canadian Architectural Certification Board

Includes:

2013 FOCUSED EVALUATION REPORT

AND

CLARIFICATION OF M.ARCH1 CURRICULAR SEQUENCE LEADING TO THE MASTER OF ARCHITECTURE

Submitted by Carleton University

Azrieli School of Architecture & Urbanism

April 2013
April 15, 2013

Mourad Mohand-Said, B.Arch, M.Sc.A
Executive Director | Registrar
Canadian Architectural Certification Board
1 Nicholas Street, Suite 710
Ottawa, Ontario, Canada
K1N 7B7
info@cacb.ca
www.cacb.ca

Dear Mourad Mohand-Said, Executive Director, CACB,

Please find attached the documents from Carleton University’s Azrieli School of Architecture & Urbanism in response to the CACB’s request for the following:

1) 2013 CACB Focused Evaluation Report (according to the Focus Evaluation Submission Guidelines), and

2) Clarification of the M.Arch1 curricular sequence fulfilling the Master of Architecture (first professional degree) as requested by the CACB President, Ivan Martinovic in his letter dated June 29th, 2012.

Our goal in this report has been to present our responses with clarity and precision. The report is structured in two parts as listed above.

Should you have any questions regarding this report, please feel free to contact me at any time at sheryl_boyle@carleton.ca or via phone at 613-520-2861. Thank you for your encouragement and guidance.

Sincerely,

Sheryl Boyle, Interim Director
Azrieli School of Architecture & Urbanism, Carleton University
TABLE OF CONTENTS

Covering Letter to CACB ..............................................................................................................2

PART 1 – FOCUSED EVALUATION REPORT 4
Executive Summary of the Focused Evaluation Report....................................................... 5
Response Sections for SPC Conditions & Criteria deemed NOT MET................................7
  • Format of Response............................................................................................................7
  • Condition 3....................................................................................................................... 9
  • SPC – B2.........................................................................................................................14
  • SPC – B8.........................................................................................................................16
  • SPC – B10.......................................................................................................................20
  • SPC – C2.........................................................................................................................23
  • SPC – C4.........................................................................................................................26

PART 2 – Master of Architecture: CLARIFICATION OF M.Arch1 SEQUENCE 29
Introductory notes addressing the request in the CACB letter dated June 29, 2012
from CACB President, Ivan Martinovic for Clarification of the M.Arch1 curriculum...............30
  • Condition 3.11 and Carleton University’s First Professional Degree..............................30
  • The Accredited Degree at Carleton University..............................................................30
  • Two curricular sequences/paths to the Master of Architecture (first professional degree).....31
  • CACB Matrix of SPC’s for the M.Arch1 curricular sequence..........................................35

APPENDIX 36
USB of Student Work and Course Outlines:............................................................................37
1) Section 1 - Material for the Focused Evaluation Report
2) Section 2 - Material for the M.Arch1 sequence clarification
PART 1

FOCUSED EVALUATION REPORT
Executive Summary of the Focused Evaluation Report

The Azrieli School of Architecture & Urbanism at Carleton University received a site visit from the CACB Accreditation Team to assess eligibility for continuing accreditation on March 12-16, 2011. Carleton’s Master of Architecture received accreditation from the Canadian Architectural Certification Board for a six-year term with a Focused Evaluation at the end of three years effective January 1, 2011 and ending on December 31, 2016. The next accreditation visit is scheduled to take place in 2017, and the focused evaluation will be carried out in 2013.

In the letter dated June 22, 2011 from Terrance Galvin (CACB President) to Sheryl Boyle (Director of the Azrieli School of Architecture & Urbanism), the CACB summarized the following six points deemed NOT MET that are the subject of this Focused Evaluation Report:

- Condition 3 – Public Information
- SPC B2: Program Preparation
- SPC B8: Environmental Systems
- SPC B10: Building Service Systems
- SPC C2: Building Systems Integration
- SPC C4: Comprehensive Design

In Part 1 of this report, we clearly identify the steps that have been taken to satisfy these six points as well as future steps that will be implemented beginning in the fall of 2013. Student work is included on the attached USB.

In a further letter dated June 29, 2012 from the CACB President, Ivan Martinovic, Carleton was asked to give clarification to the M.Arch1 curricular sequence leading to the Master of Architecture degree, with particular attention to providing clarity regarding its professional designation.

In Part 2 of this report, we clearly identify that Carleton offers only one first-professional degree in architecture, namely our Master of Architecture. We further clarify that this conforms to two of the recognized paths to the first-professional degree as identified by CACB Condition 3.11: Professional Degrees and Curriculum:

- Master of Architecture degree with a related pre-professional bachelor’s degree requirement, typically amounting to five or six years of study; and
- Master of Architecture degree without a pre-professional requirement, consisting of an undergraduate degree plus a minimum of three years of professional study.

Further, we have provided clear diagrams and listed the courses in a CACB SPC matrix for the M.Arch1 curricular sequence. On an attached USB we have included examples of course work produced by current M.Arch1 students.

The Appendix contains a USB divided into two parts: Section 1 containing all material requested for the Focused Evaluation, and Section 2 containing all material requested relating to the M.Arch1 curricular sequence.
Response Sections to the SPC Conditions & Criteria Deemed NOT MET

This section addresses the specific CACB conditions and criteria deemed as NOT MET in the Visiting Team Report.

Format of Response

Each condition and criteria is dealt with individually in the following order and format:

- CACB Condition/SPC number and title; for reference
- CACB Condition description; for reference
- CACB VTR Team Comments; for reference
- Azrieli School of Architecture & Urbanism Response Section which includes:
  - Identification and list of the specific elements noted in the Visiting Team Comments justifying the “NOT MET” designation,
  - Table of Action Taken: identifying the specific elements (in the column headings) cross-listed with rows naming the specific courses that have been modified to include said elements in our professional program.

  TABLE LEGEND
  - X denotes new element added to course,
  - A denotes the particular Assignment (e.g. Assignment 3 = A3)
  - L denotes the particular date of a lecture in which the specific element was delivered (e.g. the Lecture on October 24th is shown as L Oct.24)
  - P denotes the particular Project Number where the specified element is demonstrated (e.g. Project 2 = P2)
  - Narrative describing how each of the identified elements are now integrated into our Professional Program in the order listed in the Response Table.
  - All Courses that have been modified and that demonstrate each specific element noted as missing in the Team Comments Section are on a USB in the Appendix.

NOTE: The following seven courses are taken by students in the BAS (Undergraduate program) AND the M.Arch1 sequence (Graduate program) on their way to the first professional degree (Master of Architecture) and are identified by two course numbers – one with an undergraduate designation (i.e. beginning with number 1, 2, 3 or 4) and one with a Master’s designation (i.e. beginning with 4 or 5).
### Shared Professional Studies Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Undergraduate Course Code</th>
<th>Graduate Course Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architectural Technology 1</td>
<td>ARCC 2202</td>
<td>ARCC 5096</td>
</tr>
<tr>
<td>Architectural Technology 2</td>
<td>CIVE 2005</td>
<td>ARCC 5097</td>
</tr>
<tr>
<td>Architectural Technology 3</td>
<td>ARCC 2203</td>
<td>ARCC 5098</td>
</tr>
<tr>
<td>Architectural Technology 4</td>
<td>ARCC 3202</td>
<td>ARCC 5099</td>
</tr>
<tr>
<td>Modern Architecture</td>
<td>ARCH 2300</td>
<td>ARCH 5100</td>
</tr>
<tr>
<td>Computer Aided Design</td>
<td>ARCN 2105</td>
<td>ARCN 5000</td>
</tr>
<tr>
<td>Design Economics</td>
<td>ARCC 4500</td>
<td>ARCC 4500</td>
</tr>
</tbody>
</table>

- Files within course folders are consistently named identifying subject, assignment and grade range (High, Medium, or Low pass)
Condition 3 – Public Information

Condition: The program must provide clear, complete, and accurate information to the public by including in its academic calendar and promotional literature the exact language found in the CACB 2010 Conditions (Appendix A-1), which explains the parameters of an accredited professional degree program.

Team Comments:

“The Team notes the lack of conformance of the published text with the wording of Annex A of the CACB Conditions and Procedures.

Equally important, the information available to prospective and current students is ambiguous about the current accreditation status of the proposed MArch1 sequence, and less than clear about the points of choice and assessment within the four streams of the BAS degree and the competitive nature of application to the existing professional MArch.

While incidental to fulfillment of this criterion, the team notes that the web presence of the professional program offers little evidence of the strengths and specific cultural ethos embodied in the School’s daily life.”

Response:

The four areas deemed “not met” are identified as:

1) Conformance of published text with Annex A
2) Clarity regarding accreditation status of M.Arch1 sequence
3) Clarity regarding points of choice and assessment in BAS degree
4) Clarity regarding competitive nature of application to the Master of Architecture

We have addressed these points on the University website and in our new “Prospectus” document for the graduate program.

Table of Action Taken for Condition 3

<table>
<thead>
<tr>
<th></th>
<th>Conformance with Annex A</th>
<th>Clarity re Accreditation Status for M.Arch1 sequence</th>
<th>Clarity re Points of Choice and Assessment in BAS</th>
<th>Clarity re Competitive Application to M.Arch</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Website</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Graduate Prospectus publication</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Narrative for Condition 3 – Public Information:

1) CONFORMANCE WITH ANNEX A

a) Completed Changes
i) We have updated our website to conform to Annex A as it is published in the 2012 CACB Conditions and Terms for Accreditation. We would note that in the letter dated June 29th, 2012 from CACB President, Ivan Martinovic we were asked to post text stating that “…all provinces require a degree from an accredited professional degree program…” instead of “…all provinces recommend a degree from…” In our best efforts to follow the wishes of the CACB, we have followed the wording for Annex A as provided by the Visiting Team Report, but will change this to “require” should this be deemed to be the correct wording. See:

http://www1.carleton.ca/architecture/current-graduate-students/master-of-architecture-1-m-arch1/

ii) We have created a new recruitment document for the Master of Architecture program entitled the “Graduate Prospectus”. The Prospectus was written to conform to Annex A as published in the 2012 CACB Conditions and Terms for Accreditation. The Graduate Prospectus may be viewed online at:

http://issuu.com/azrielischoolofarchitecture/docs/2012-2014graduateprospectus

2) CLARITY REGARDING ACCREDITATION STATUS FOR THE M.Arch1 CURRICULAR SEQUENCE:

a) Completed Changes

i) With this section, we wish to make clear that the M.Arch1 is simply a new sequence to the first professional degree at Carleton University - the Master of Architecture. We have updated our website to reflect this clarity.

As per the CACB website, the accreditation status at Carleton University is as follows¹:

Degree: Master of Architecture: Accredited since 2005
Terms of accreditation: Six–year term with a Focused Evaluation at the end of Three years
Effective January 1, 2011 and will end on December 31, 2016.
The next accreditation visit is scheduled to take place in 2017, and the focused evaluation will be carried out in 2013.

ii) We have created a diagram to assist in making clear the various paths towards our accredited degree – the Master of Architecture (See Figure 1 below). This diagram is included on our website at:

http://www1.carleton.ca/architecture/current-graduate-students/master-of-architecture-1-m-arch1/

This diagram is also used in our Graduate Prospectus available at:

http://issuu.com/azrielischoolofarchitecture/docs/2012-2014graduateprospectus

Note: Further elaboration of the M.Arch1 program is presented in Part 2 of this report beginning on page 30.

M.ARCH - According to the Canadian Architectural Certification Board, Conditions, and Terms for Professional Degrees and Curricula, the M.ARCH sequence leading to the first professional degree (Master of Architecture) conforms to Condition 3.11 as a "Master of Architecture degree with a related pre-professional bachelor's degree requirement typically amounting to five or six years of study."

* M.ARCH1 - According to the Canadian Architectural Certification Board Conditions, and Terms for Professional Degrees and Curricula, the M.ARCH1 sequence leading to the first professional degree (Master of Architecture) conforms to Condition 3.11 as a "Master of Architecture degree without a pre-professional requirement, consisting of an undergraduate degree plus a minimum of three years of professional studies."

At Carleton University, the M.ARCH1 sequence is a 13.0 credit course of study. Students without significant professional course work (including design studio) must follow the M.ARCH1 sequence (with up to a maximum of an additional 2.5 credits of Professional Studies) to complete the Master of Architecture, as shown in the chart above.

Figure 1: Diagram showing the various paths to first-professional degree at Carleton University: Master of Architecture.
3) **CLARITY REGARDING POINTS OF CHOICE AND ASSESSMENT IN THE B.A.S.**

a) **Completed Changes**

i) We have posted the following chart (see Figure 2 below) on our school website to best describe the paths of study available at Carleton University.

![Carleton Architecture: Program Flow-through Chart](image)

**Figure 2: Carleton Architecture: Program Flow-Through Chart**

ii) Our school website links to the University Calendar entry regarding the points of assessment after the 1st year of the B.A.S to give easier access to this information. The link leads to information published in the Undergraduate Calendar under Academic Performance Evaluation in Section 7.5 - “Additional Information Concerning Academic Performance Evaluation for Some Degrees” and can be found at:

http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv7/

Figure 2 depicts the admission of approx. 85 students into the 1st year of the BAS, all of whom are enrolled in a common curriculum.
All students choose their Major after the common first year. Continuation in the Design major requires that students meet the Calendar’s criteria - Section 7.5 upon completion of their first year, namely:

- Minimum grade point average of 8.00 taken over the following courses: ARCS 1005 Drawing, ARCS 1105 [1.0] Studio 1, ARCN 2106 Introduction to Multimedia;

- An overall CGPA of 6.00 or higher.

iii) We have posted a link to the University Calendar regulations for each BAS Major on our school website so it is easily accessed by the public and by our students. The link is:

http://calendar.carleton.ca/undergrad/undergradprograms/architecturalstudies/

All students complete their distinct BAS - Major in years 2 through 4 graduating with a Bachelor of Architectural Studies with a Major identified as follows:

- Bachelor of Architectural Studies with a Major in Design
- Bachelor of Architectural Studies with a Major in Urbanism
- Bachelor of Architectural Studies with a Major in Conservation & Sustainability
- Bachelor of Architectural Studies with a Major in Philosophy & Criticism

Typically 60-65 students continue in the BAS - Major in Design while 20-25 students continue in an alternate Major.

4) CLARITY REGARDING COMPETITIVE APPLICATION TO THE MASTER OF ARCHITECTURE

a) Completed Changes

i) We have updated our website to indicate that all students, including internal students, must apply to the Master of Architecture Program. The on-line information can be found at:

http://www1.carleton.ca/architecture/current-graduate-students/master-of-architecture-1-m-arch1/

ii) We have produced a new “Graduate Prospectus” that clearly describes the criteria for admission to each curricular sequence leading to the Master of Architecture degree.

iii) We have initiated a new Graduate Recruitment Event to better communicate the various courses of study at Carleton. Our inaugural event was held on January 25th, 2013 where we invited all our own third and fourth year undergraduate students and sent out invitations to neighbouring schools to discuss the competitive nature of the program and the unique content of the graduate studies at Carleton.

As shown above in Figure 2, our graduate program at Carleton is separated into two distinct pillars; practice via the first Professional Degree (Master of Architecture) and research via the MAS/PhD.
SPC B2 – Program Preparation

Criteria: Ability to prepare a comprehensive program for an architectural project that accounts for client needs and user needs, appropriate precedents, space and equipment requirements, the relevant laws and standards, and site selection and design assessment criteria.

Team Comments:

“While aspects of program preparation appear in various aspects of the curriculum, there is no instance in which specific focus is exercised and sustained. While certain of the thesis work observed was exemplary in this matter, engagement with program preparation was – not unreasonably – inconsistent across the range of thesis preoccupations.”

Response:

The area deemed “not met” is identified as:

1) Program Preparation in a specific identified studio.

We have added or enhanced modules and requirements for this point into the following courses or sections of courses as follows:

Table of Action Taken for SPC B2 – Program Preparation

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course Code</th>
<th>Program PREPARATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.Arch1 Studio II</td>
<td>ARCS 5103</td>
<td>X</td>
</tr>
<tr>
<td>M.Arch1 Studio III</td>
<td>ARCS 5104</td>
<td>X</td>
</tr>
<tr>
<td>Grad Studio 1</td>
<td>ARCS 5105</td>
<td>starting fall 2013</td>
</tr>
<tr>
<td>Thesis – Directed Research Studio</td>
<td>ARCN 5909</td>
<td>starting fall 2013</td>
</tr>
</tbody>
</table>

Narrative for SPC B2 – Program Preparation:

1) PROGRAM PREPARATION

In our interpretation, the ability to prepare a program comes in two stages, interpretation of program, and preparation of program. Interpretation of program occurs at all levels of undergraduate and graduate studios, increasing in complexity throughout the professional program. This was in place during the Accreditation Visit. We have focused our efforts to fully prepare a program in a specific studio, firstly in the second and third studio of our M.Arch1 sequence (Studio III) and secondly in the new Master’s “Gateway Studio” which all students in the graduate program must complete.

a) Completed Changes

i) M.Arch 1-Studio II in the Winter of 2013 required students to develop alternate programs for a competition in which an existing building was undergoing adaptive reuse. Each student was required to research and justify their program selection and develop their own
building program. This course outline and samples of student work can be found in the Folder entitled: M.Arch1-Studio II_ARCS 5013.

ii) M.Arch 1-Studio III in the Fall of 2012, required students to choose a site on Carleton campus, and to identify the needs of the university, the local community and to work within the proposed site in the creation of a program for a building that dealt with hospitality and the context of enhanced community exchange. The buildings were required to have an exhibition space, accommodation spaces for visitors, a café and other “hospitality” programs defined in broad strokes. From this, students developed diverse, individually defined programs ranging from a light-rail station, a new Student Unicentre building, a Recreational Kayak Sports Club, and a Media Centre. This course outline and samples of student work can be found in the Folder entitled: M.Arch1-Studio III_ARCS 5014.

b) Future Changes

i) The new Master’s Gateway Studio (ARCS 5105/ARCN 5909): In the fall of 2013, we will initiate a new Master’s Gateway Studio for all graduate students working towards their first professional degree at Carleton. This studio will occur in the Fall semester and be paired with the Advanced Building Systems core course. Over the course of the semester, students will be required to prepare a detailed building program appropriate for a large building.
SPC B8 – Environmental Systems

Criteria: 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.

Team Comments:

“Acoustics, artificial illumination, and mechanical systems for large buildings are apparently not being taught in the current year, although a breadth of related material including building envelopes and natural light are covered in the technical sequence in good detail. Faculty involved appear enthusiastic and well respected by students and their peers.”

Response:

The three areas deemed “not met” are identified as

1) Acoustics
2) Artificial Illumination
3) Mechanical Systems for Large Buildings

We have added or enhanced modules and requirements for these three areas into the following courses or sections of courses as follows:

<table>
<thead>
<tr>
<th>Table of Action Taken for SPC B8 – Environmental Systems</th>
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<tr>
<td><strong>Undergrad Course Number</strong></td>
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<td>Advanced Building</td>
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<tr>
<td>Studio 4</td>
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<tr>
<td>Studio 5</td>
</tr>
<tr>
<td>M.Arch1</td>
</tr>
<tr>
<td>Studio III</td>
</tr>
</tbody>
</table>

Narrative for SPC B8 – Environmental Systems:

1) ACOUSTICS

a) Completed Changes:
i) Tech 3 has added a lecture module on acoustics, delivered in the October 31st, 2012 lecture. This lecture addressed STC ratings, acoustic isolation and techniques for controlling acoustic transmission through vibration. The course used case studies such as Frank Gehry’s Disney Concert Hall in Los Angeles and the Royal Conservatory of Music in Toronto by KPMB with specific focus on construction details used to isolate the concert halls from the rest of the building. The quiz at the end of the acoustics lecture addressed calculation of STC ratings. The course outline and student work can be found in the Folder entitled: “Tech3_ARCC 2203_ARCC 5098”.

ii) Tech 4 includes a full lecture dedicated to acoustics, delivered on October 11th in 2012. It focuses on sound control, including sources of sound (air-borne and impact sounds), transmission of sound including flanking, the types of sound control, measurement of sound transmission (Sound Transmission Coefficient, Impact Insulation Class) and a discussion of decibel ratings and detailed comparisons of construction details for sound control. The course investigates building envelope detailed design relating to acoustics, including sound absorption in partitions in different types of construction (wood, concrete or steel), construction details of partitions, party floors and party walls across various building types (residential, multi-unit residential and commercial). Reference Material is also provided in the lectures relating to acoustics and sound control as well as reference and definitions outlined in the National Building Code. The course outline and student work is included in the Folder entitled: “Tech 4_ARCC 3302_ARCC 5099”.

iii) Studio 4 incorporated a new building type as the major building project of the term to allow the concept of acoustics to be introduced in the third year studio. Project 3, the Research Centre in Almonte included the assessment of a 250 seat auditorium in a heritage building and the design of a new 150 seat auditorium. This project introduced students to the basic ideas of acoustics and spatial arrangements in a theatre. Elements addressed included issues of materiality, the concept of ceiling and wall profiles, and sight lines. This course outline and student work is in the Folder entitled: “Studio 4_ARCS_3105”.

b) Future Changes:

i) We will introduce a lecture module on acoustics to our Tech 1 class in the fall of 2013 through a discussion of materials and acoustic properties as it relates to interiors in small-scale wood frame buildings.

2) ARTIFICIAL ILLUMINATION

a) Completed Changes:

i) Tech 3 has added a lecture module on artificial illumination that was delivered on October 24th, 2013. The lecture addresses foot candles and lumens, how they are calculated, how to determine sufficient lighting, including electrical systems from source to switch, circuits, voltage, amps, resistance and conductivity as they relate to various types of equipment and appliances. The quiz at the end of class addresses simple electrical concepts. The Case Study (Assignment #3) required students to identify the electrical room and understand the wiring diagrams and symbols. The course outline and student work is in the Folder entitled: “Tech 3_ARCC 2203_ARCC 5098”.

ii) Our Advanced Building course was completely revised in the summer of 2012 to address several key areas, with a focus on contemporary environmental systems and building
In Assignment 1, students were asked to dissect a given project and identify, describe and understand all of the integrated building systems including artificial illumination. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

iii) M.Arch1-Studio III incorporated the concept of electric lighting into their project design for a building on Carleton University campus dealing with hospitality services. Students were taken on a field trip to a lighting design and distribution company to understand the most recent lighting technologies including incandescent, fluorescent, compact florescent and LED. This included a demonstration of the appropriate use and energy issues relating to each fixture type. Students were given catalogues from which they were to choose appropriate fixtures for their large-scale buildings. A studio discussion on lighting qualities for various uses of space including experiments with low-voltage halogen lighting was delivered during Project 1. This course outline and student work is in the Folder entitled: “M.Arch1-Studio III_ARCS 5014”.

b) Future Changes:

i) We will introduce a lecture module on artificial illumination to our Tech 1 class in the fall of 2013 through a discussion of the qualities of light from natural and artificial sources as it relates to interiors.

3) MECHANICAL SYSTEMS FOR LARGE BUILDINGS

a) Completed Changes:

i) Tech 3 has added a lecture module on mechanical systems for large buildings that was delivered on October 24th, 2012. The lecture addressed topics in HVAC, including the use of rooftop chillers and how they are mounted including detailed drawings of the roof penetrations. Other elements of the HVAC lecture included forced air systems types, variable air volume controls, supplementary heating (e.g. perimeter heating) radiant floor heating and cooling (such as in a hockey arena) and ground source heating. The case study (assignment #3) analyses the mechanical systems in large buildings such as a library or concert hall etc. The course outline and student work is in the Folder entitled: “Tech3_ARCC 2203_ARCC 5098”.

ii) Studio 5

iii) Our Advanced Building course was completely rewritten in the summer of 2013 to address several key areas, with a focus on contemporary environmental systems and building performance. The course explores Large Buildings as the primary building type. Mechanical Systems for large buildings, including the principles and concepts for mechanical systems and environmental control systems is a major part of all three assignments. Students were asked to propose systems for large buildings in Assignment 3 with a focus on solar shading explored through iterative designs. Examples of the student knowledge of mechanical systems for large buildings can be seen in Assignments 1, 2 and 3. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

iv) M.Arch 1-Studio III introduced the concept of mechanical systems for large buildings in the design studio’s Project 3. A formal studio lecture on HVAC systems for large
buildings was delivered including basic rules of thumb for duct-sizes and air handling equipment. Students also were required to perform calculations of distribution duct sizes for their studio project, and to locate the mechanical rooms and the primary paths for duct distribution in their building designs. This course outline and student work is in the Folder entitled: “M.Arch1-Studio III_ARCS 5014”.
SPC B 10 – Building Service Systems

Criteria: Understanding of the basic principles that inform the design of building service systems, including plumbing, electrical, vertical transportation, communication, security, and fire protection systems.

Team Comments:

"Plumbing, electrical, communication and sprinkler & other fire protections systems are not evident in the material made available to the reviewing team."

Response:

The four areas deemed “not met” are identified as

1) Plumbing
2) Electrical
3) Communication
4) Sprinkler and other fire suppression systems

We have added or enhanced modules and requirements for these four areas into the following courses or sections of courses as follows:

Table of Actions Taken for SPC B10 – Building Service Systems

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<td>Electrical</td>
<td>Communication</td>
<td>Sprinkler/Fire Suppression</td>
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<td>X (L Sept 12)</td>
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Narrative for SPC B10 – Building Service Systems:

1) PLUMBING

a) Completed Changes

i) Tech 1 now includes a lecture module (delivered on December 2, 2012) that addresses plumbing in small-scale wood frame construction. Topics include type of piping and how plumbing runs and fixtures should be vertically stacked. The course outline and student work is in the Folder entitled: “Tech1_ARCC 2202_ARCC 5096”.
ii) Tech 3 has added a lecture module on plumbing systems, delivered on October 24th, 2012. The lecture addressed sanitation runs versus supply feeds, operation of fixtures, concepts of water pressure as well as city services and storm water management. A short quiz on these topics at the end of class as well as documentation of plumbing in the Case Study (Assignment #3) tested students understanding of these concepts. The course outline and student work is in the Folder entitled: “Tech3_ARCC 2203_ARCC 5098”.

iii) M.Arch1 Studio I included studio discussion of on-grid water dispersion and usage, water services location in the building, off-grid water collection, site attributes and water sourcing from the site. The course outline and student work is in the Folder entitled: “M.Arch1 Studio I_ARCS 5102”.

iv) Our Advanced Building course was completely rewritten in the summer of 2013 to address several key areas, with a focus on contemporary environmental systems and building performance. The first exercise is a full building systems inventory and includes plumbing systems. Students also looked at issues of storm water and grey water recycling. Examples of the student knowledge of plumbing systems can be seen in Assignments 1, 2 and 3. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

2) ELECTRICAL

a) Completed Changes

i) Tech 3 has added a lecture module on electrical systems, delivered on October 24th, 2012. The lecture addresses foot candles and lumens how they are calculated, how to determine sufficient lighting, including electrical systems from source to switch, circuits, voltage, amps, resistance and conductivity as they relate to various types of equipment and appliances. The quiz at the end of class addresses simple electrical concepts. The Case Study (Assignment #3) required students to identify the electrical room and understand the wiring diagrams and symbols. The course outline and student work is in the Folder entitled: “Tech3_ARCC 2203_ARCC 5098”.

ii) Our Advanced Building course now has a focus on contemporary environmental systems and building performance. The first exercise is a full building systems inventory and includes electrical systems. The course explored electricity generation through active systems such as photovoltaic cells, wind and geothermal energy. Examples of the student knowledge of electrical systems can be seen in Assignments 1, 2 and 3. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

b) Future Changes

i) We will introduce a lecture module on electrical systems to our Tech 1 class in the fall of 2013 including a presentation of electrical systems in residential wood-frame construction.

3) COMMUNICATION

a) Completed Changes
i) Tech 3 has added a lecture module on communication systems that was delivered on November 7th, 2012. Students will have an understanding of how to locate telephone rooms, connections required for internet and cable as well as issues relating to penetrations made in the building for these types of services. Drawing details of fire stops, the use of the plenum, entry and exit points for communication services and general locations for communication rooms are also covered. The course outline and student work is in the Folder entitled: “Tech3_ARCC 2203_ARCC 5098”.

ii) As part of our Studio 4 lecture series for Project 2 (the Design-Build of a new Hybrid Studio environment) students received a one-hour lecture entitled “Wired and Wireless” communication systems. This included concepts of amperage/wattage/voltage, computer connections and their various speeds relating to data volume, fibre optics versus copper connections, cloud computing and power requirements for computers and networks. This course outline and student work is in the Folder entitled: “Studio 4_ARCS_3105”.

iii) Our Advanced Building course now has a focus on contemporary environmental systems and building performance. The lectures covered topics including communication systems with a focus on the concepts and systems for smart building technologies and automated environmental systems. Examples of the student knowledge of communication systems can be seen in Assignment 2. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

4) SPRINKLER & OTHER FIRE SUPPRESSION SYSTEMS

a) Completed Changes

i) Tech 3 has added a lecture module on fire suppression systems that was delivered on September 19th, 2012. Students will have an understanding of “Siamese connections” and their location, water pressure, sprinkler location and distribution as per the building code. They will also understand “occupancies” as defined by the OBC, as well as their related fire ratings, fire separation classes, occupancy types, and sprinkler requirements within these types. The course outline and student work is in the Folder entitled: “Tech3_ARCC 2203_ARCC 5098”.

ii) Tech 4 presents a full lecture dedicated to fire suppression systems, delivered on October 11th, 2012. This lecture, under the heading of Floor and Wall Systems is paired with the module on sound control. Students will understand Fire Resistance Ratings (FRR), Fire Protection Ratings (FPR), openings in fire separations including walls, windows and doors. The lecture goes over the difference between a fire separation and a firewall including design details and associated reference materials. Topics relating to fire separation in the National Building Code are examined including limiting distances, access for fire-fighting equipment and other fire control strategies. Additionally, the topic of combustible construction and the difference between wet and dry systems of fire suppression including sprinkler and non-sprinkler options are explored. The course outline and student work is included in the Folder entitled: “Tech 4_ARCC 3302_ARCC 5099”.

iii) Our Advanced Building course now has a focus on contemporary environmental systems and building performance. The first exercise is a full building systems inventory and includes sprinkler and other fire suppression systems. Examples of the student knowledge of fire suppression systems can be seen in Assignments 1. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.
SPC C2 - Building Systems Integration

**Condition:** *Ability* to assess, select, and integrate structural systems, environmental systems, life safety systems, building envelopes, and building service systems into building design.

**Team Comments:**

“*Student work demonstrates an ability to integrate knowledge of structural systems and building envelopes, but other issues are not consistently present.*”

**Response:**

The three areas deemed “not met” are identified as

1) Environmental Systems *into building design*
2) Life Safety Systems *into building design*
3) Building Service Systems *into building design*

We have added or enhanced modules and requirements for these three areas into the following courses or sections of courses as follows:

**Table of Action Taken for SPC C2 – Building Systems Integration**

<table>
<thead>
<tr>
<th></th>
<th>Environmental Systems into building design</th>
<th>Life Safety Systems into building design</th>
<th>Building Service Systems into building design</th>
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</thead>
<tbody>
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<tr>
<td>Grad Studio 1 ARCS 5105</td>
<td>Starting Fall 2013</td>
<td>Starting Fall 2013</td>
<td>Starting Fall 2013</td>
</tr>
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</table>

**Narrative for SPC C2 - Building Systems Integration**

1) **ENVIRONMENTAL SYSTEMS INTEGRATION INTO BUILDING DESIGN**

a) **Completed Changes**

i) Our Advanced Building course was completely rewritten in the summer of 2012 to address several key areas, with a focus on contemporary environmental systems and building performance. Examples of the student knowledge of environmental systems integration into building design can be seen in Assignments 3. In this project, students acquire the ability to develop a schematic design for an institutional-scale building with an emphasis on proposing and testing building form and orientation through iterative design modelled in “Rhino” with a day-lighting and energy modelling plug-in (DIVA). Students understand the relationship between building form and energy performance in this process by
analyzing day-lighting and passive solar radiation as a primary component of the environmental systems. Metrics for illumination and radiation were the primary elements of Assignment #3. This course outline and student work is in the Folder entitled “Advanced Building_ARCC 5100”.

ii) Studio 5 required that students develop the ability to locate environmental systems into their studio design including HVAC, lighting grids, plumbing stacks, mechanical rooms and to demonstrate this ability via a large axonometric of the building’s environmental systems utilizing “Building Information Modelling” software. The course outline and student work is in the Folder entitled: “Studio 5_ARCS 3106”.

iii) M.Arch 1-Studio III introduced students to the concept of environmental systems integration into a building design in their design studio’s Project 3. A formal studio lecture was given on day-lighting principles, performance of building envelopes and natural ventilation. Students were required to demonstrate their ability to integrate building orientation, shading devices and envelope design in their studio project proposals. The course outline and student work is in the Folder entitled: “M.Arch1-Studio III_ARCS 5014”.

b) Future Changes

i) New Graduate Gateway Studio’s integration with Advance Building core course: After having tested our new Advanced Building course in the fall of 2012, we are now planning to further integrate it with the graduate program’s new Master’s Gateway Studio (ARCS 5105) required of all graduate students. Students must demonstrate an ability to integrate environmental systems into their studio project.

2) LIFE SAFETY SYSTEMS INTEGRATION INTO BUILDING DESIGN

a) Completed Changes

i) Our Advanced Building course was completely rewritten in the summer of 2012 to address several key areas, with a focus on contemporary environmental systems and building performance. Examples of student’s ability to integrate life safety systems into a building design can be seen in Assignment 3. Students were required to design circulation routes in the project and relate it to the integrated strategy for other building systems. In addition, students were required to demonstrate the ability to understand the relationship of egress routes and environmental systems, site strategies and building massing through iterative design. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

ii) Studio 4 introduced the concept of life safety systems integration into building design through Project 3, the “Research Centre in Almonte”. A lecture on egress and the building code with focus on fire safety and programmatic separation was given to the entire class. Topics also included code requirements concerning corridor widths, fire separations, and the relationship between renovations in an existing historic building and new construction. Students must have the ability to include appropriate egress in their design. This course outline and student work is in the Folder entitled: “Studio 4_ARCS 3105”.

iii) Studio 5 requires students to understand egress for assembly and commercial occupancy for a large-scale building in their final project. Students must have the ability to include
appropriate egress in their design. The course outline and student work is in the Folder entitled: “Studio 5_ARCS 3106”.

iv) M.Arch 1-Studio III introduced students to the concept of life safety systems integration in building design as part of their design studio Project 3. Students had to demonstrate the ability to include appropriate egress in their design. This course outline and student work is in the Folder entitled: “M.Arch1-Studio III_ARCS 5014”.

c) Future Changes

i) New Graduate Gateway Studio’s integration with Advanced Building core course: After having tested our new Advanced Building course in the fall of 2012, we are now planning to further integrate it with the graduate program’s new Master’s Gateway Studio (ARCS 5105) required of all graduate students. Students will be required to demonstrate the ability to integrate life safety systems into their studio project.

3) BUILDING SERVICE SYSTEMS INTEGRATION INTO BUILDING DESIGN

a) Completed Changes

i) Our Advanced Building course was completely rewritten in the summer of 2012 to address several key areas, with a focus on contemporary environmental systems and building performance. Examples of the student knowledge of building service systems integrated into a building design can be seen in Assignment 3. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

b) Future Changes

i) New Graduate Gateway Studio’s integration with Advanced Building core course: After having tested our new Advanced Building course in the fall of 2012, we are now planning to further integrate it with the graduate program’s new Master’s Gateway Studio (ARCS 5105) required of all graduate students. Students will be required to demonstrate the ability to integrate building service systems, including plumbing, electrical, vertical transportation, communication, security, and fire protection systems into their studio projects.
SPC C4 – Comprehensive Design

Condition: 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.

Team Comments:

“The level four studio focused upon housing design offered evidence of student attention to a reasonable level of detail in certain aspects of this criterion. However, since lighting, acoustics & mechanical systems are not currently being taught, these components are simply not evident – comments on other required concerns as noted.

The team notes some concern regarding the building type and complexity presented as the appropriate vehicle for successfully undertaking the intent of this criterion. It was also noted that since the intended comprehensive occurs within the undergrad portion of the professional program, it will inevitably include students not destined to complete the full accredited program in Architecture – yet compelled to fulfill this challenging student performance criterion as part of their undergraduate degree requirements.”

Response:

The three areas deemed “not met” are identified as

1) Lighting, acoustics and mechanical systems as a part of a comprehensive design
2) Building type used for comprehensive design
3) Level of student completing comprehensive design

We have added or enhanced modules and requirements for these three areas into the following courses or sections of courses as follows:

Table of Action Taken for C4 – Comprehensive Design

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<thead>
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<th>Course/Level</th>
<th>Lighting, Acoustics and Mechanical systems as part of a comprehensive design</th>
<th>Building Type as a part of a comprehensive design</th>
<th>Level of student completing comprehensive design</th>
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<tr>
<td>Studio 5</td>
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Narrative for SPC C4 – Comprehensive Design

1) LIGHTING, ACOUSTICS AND MECHANICAL SYSTEMS AS PART OF A COMPREHENSIVE DESIGN
a) Completed Changes

i) Studio 5 altered the building type for the entire studio. We used a large building type - a Library with Community Centre or a Gymnastics club with a hockey rink – all with a large clear span, focused program and a residential component. The project required that students demonstrate the ability to integrate HVAC, lighting grids, plumbing stacks, and mechanical rooms into their project, represented in a large axonometric of the building drawn in a “Building Information Modelling” software. The course outline and student work is in the Folder entitled: “Studio 5_ARCS 3106”.

ii) M.Arch 1-Studio III introduced concepts for lighting and mechanical systems as part of a comprehensive design program in the design studio’s Project 3. This included appropriate selection of the site, program development, preliminary design, structural and envelope design in a large building. The use of case studies offered guidance through precedent. This course outline and student work is in the Folder entitled: “M.Arch1-Studio III_ARCS 5014”.

iii) In Advanced Building, students were required to demonstrate the ability to design lighting and mechanical systems in their iterative design project (Project 2). Acoustics was not covered. Passive daylighting and solar strategies were the driving elements of a design proposal for institutional scale buildings. This included building orientation, massing and site development strategies. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

b) Future Changes

i) Grad Studio 1 – this new Graduate Gateway Studio will require of students to demonstrate their abilities to integrate lighting, acoustics and mechanical systems as part of a comprehensive design program.

1) BUILDING TYPE AS A PART OF COMPREHENSIVE DESIGN

a) Completed Changes

i) Studio 5 altered the building type for the entire studio. We used a large building type - a Library with Community Centre or a Gymnastics club with a hockey rink – all with large clear spans, focused program and a residential component. The course outline and student work is in the Folder entitled: “Studio 5_ARCS 3106”.

ii) M.Arch 1-Studio III introduced a project to design a large public building dealing with the concept of hospitality. Students were required to demonstrate the ability to design a large building in this comprehensive studio. This course outline and student work is in the Folder entitled: “M.Arch1-Studio III_ARCS 5014”.

iii) Advanced Building required students to demonstrate the ability to design a large building, with institutional or commercial program in a comprehensive design.
b) Future Changes

ii) Grad Studio 1 – this new Masters Gateway Studio will require students to demonstrate the ability to design a large-scale building as part of a comprehensive design program. This new course will be coupled with the existing Advanced Building core course.

2) LEVEL OF STUDENT COMPLETING A COMPREHENSIVE DESIGN

a) Completed Changes

i) M.Arch1-Studio III brought comprehensive design to the graduate program as requested by the CACB Visiting Team. This course outline and student work is in the Folder entitled: “M.Arch1-Studio III_ARCS 5014”.

ii) Advanced Building is a graduate course that introduces comprehensive environmental design at the graduate level as requested by the CACB Visiting Team. This course outline and student work is in the Folder entitled: “Advanced Building_ARCC 5100”.

iii) We have clarified the placement and development of our comprehensive design studios. We now deliver the comprehensive design criteria through the pairing of technology courses and design studios in a progressive manner throughout the entire professional program as follows:

Pairings Completed Since Last Visit:

- Tech 1 (ARCC 2202/5096) paired with Studio (ARCS 2105/5102)
- Tech 3 (ARCC 2203/5098) paired with Studio (ARCS 3105/5104)

b) Future Changes

i) Grad Studio 1 – the new Graduate Gateway Studio will introduce the concept of a comprehensive design project to all students in the graduate program. This new course will be coupled with the existing Advanced Building core course.

ii) We have clarified the placement and development of our comprehensive design studios. We now deliver the comprehensive design criteria through the pairing of technology courses and design studios in a progressive manner throughout the entire professional program as follows:

Future Pairings:

- Advanced Building (ARCC 5100) paired with Studio (ARCS 5105)
PART 2

M.ARC: CLARIFICATION OF M.Arch1 SEQUENCE
INTRODUCTION

In the letter dated June 29, 2012 from the CACB president, Ivan Martinovic, the Azrieli School of Architecture & Urbanism was asked to clarify a number of points regarding the M.Arch1 sequence. Specifically we were asked to:

a) Outline CACB Condition 3.11 (Professional Degrees and Curriculum) and the first professional degree at Carleton University, and
b) Clarify the new M.Arch1 sequence and whether or not it is an accredited degree and,
c) Further clarify the two paths to the Master of Architecture, and
d) Provide evidence of how the students following the M.Arch1 sequence will meet the CACB accreditation criteria through a CACB matrix (indicating the SPC’s), and
e) Provide student work for these SPC’s (included in the Appendix of this report on USB)

The clarification of the above information is herein submitted as Part 2 of this package and accompanies Part 1 - the “Focused Evaluation Report”. We acknowledge that some of the information in Part 2 may repeat portions of Part 1 of this package. This allows for Parts 1 & 2 to be read independently without loss of information.

Our goal is to be clear, concise and thorough. We will therefore follow the format of the above five points as they were outlined in the CACB letter.

A) CONDITION 3.11 & CARLETON UNIVERSITY’S FIRST PROFESSIONAL DEGREE

Carleton only offers one first-professional degree program in architecture, namely our Master of Architecture. We further wish to clarify that this conforms with two of the general paths to the first-professional degree as identified by CACB Condition 3.11 Professional Degrees and Curriculum;

- Master of Architecture degree with a related pre-professional bachelor’s degree requirement, typically amounting to five or six years of study; and
- Master of Architecture degree without a pre-professional requirement, consisting of an undergraduate degree plus a minimum of three years of professional study.

B) THE ACCREDITED DEGREE AT CARLETON UNIVERSITY

As per the CACB website, the accreditation status at Carleton University is as follows:

Degree: Master of Architecture: Accredited since 2005
Terms of accreditation: Six-year term with a Focused Evaluation at the end of Three years
Effective January 1, 2011 and will end on December 31, 2016.
The next accreditation visit is scheduled to take place in 2017, and the focused evaluation will be carried out in 2013.

C) TWO SEQUENCES/PATHS TO THE MASTER OF ARCHITECTURE

Clarity regarding Accreditation Status for M.Arch1 sequence:

The following diagram shows the various paths towards our Master of Architecture:

![Diagram showing the various paths to first-professional degree at Carleton University: Master of Architecture.](image)

**M.Arch:** According to the Canadian Architectural Certification Board, Conditions and Terms for Professional Degrees and Curriculum, the M.Arch sequence leading to the first professional degree (Master of Architecture) conforms to Condition 3.11 as a “Master of Architecture degree with a related pre-professional bachelor’s degree requirement typically amounting to five or six years of study.”

* M.Arch1: According to the Canadian Architectural Certification Board Conditions and Terms for Professional Degrees and Curriculum, the M.Arch1 sequence leading to the first professional degree (Master of Architecture) conforms to Condition 3.11 as a “Master of Architecture degree without a pre-professional requirement, consisting of an undergraduate degree plus a minimum of three years of professional studies.”

At Carleton University, the M.Arch1 sequence is a 13.0 credit course of study. Students without significant professional course work (including design studios) must follow the M.Arch1 sequence (with up to a maximum of an additional 2.5 credits of Professional Studies) to complete the Master of Architecture, as shown in the chart above.

Figure 3: Diagram showing the various paths to first-professional degree at Carleton University: Master of Architecture.
According to Condition 3.11, “The CACB awards accreditation only to first-professional degree programs in architecture”. We wish to be absolutely clear, that we only offer one Professional degree – the Master of Architecture at Carleton University, as per Figure 1 above.

Condition 3.11 further describes the allowable pathways to the first-professional degree as:

- Master of Architecture degree with a related pre-professional bachelor’s degree; requirement typically amounting to five or six years of study;

The definition of a pre-professional bachelors degree is not separately stated in the CACB document, but can be deduced from the two listed paths to the first professional degree that are defined by the number of years of study required at the graduate level (according to the CACB Condition 3.11).

Using this deduced definition, the pre-professional bachelor’s degree at Carleton University is the four-year Bachelor of Architectural Studies (BAS) with a Major in Design followed by two years (8.0 credits) at the Graduate level Master of Architecture.

We should also note that the definition above does state that the pre-professional degree plus Masters typically amounts to five or six years of study, but we feel that it could amount to seven or more, and therefore would include our other BAS Majors.

The BAS at Carleton has four distinct majors, each of which complete varying components of the CACB Professional Program at the undergraduate level with the remaining components of the professional program delivered at the graduate level:

- BAS (Major in Design) requires 8.0 additional credits at the graduate level,
- BAS (Major in Conservation & Sustainability) requires 13.0 additional credits at the graduate level
- BAS (Major in Urbanism) also requires 13.0 additional credits at the graduate level, and
- BAS (Major in Philosophy & Criticism) requires a full 15.5 additional credits at the graduate level

The critical reason for these definitions is to ensure that the Student Performance Criteria are met by all sequences to the first Professional Degree at Carleton, the Master of Architecture, as demonstrated in Part 2 of this report.

- Master of Architecture degree without a pre-professional requirement, consisting of an undergraduate degree plus a minimum of three years of professional studies;

This definition would clearly apply to students admitted to our 13.0 + 2.5 = 15.5 credit sequence (referred to as the M.Arch1 sequence) leading to the Master of Architecture, who apply from outside architecture and who hold a university-level Honours Degree, normally consisting of 20 credits over 4 years of study.

The diagram in Figure 1 above depicting the various sequences to the first Professional Degree (Master of Architecture) at Carleton University is available online as public information at:

http://www1.carleton.ca/architecture/current-graduate-students/master-of-architecture-1-m-arch1/
Pursuing the first professional degree in Architecture (**Master of Architecture**):

- Note that we admit approximately 45 students each year into the Master of Architecture:
  - 30 to the M.Arch (8 credit) sequence,
  - 15 to the M.Arch1 (13 credit) sequence

a) Carleton students wishing to pursue their first professional degree must **apply** to the Master of Architecture. Admission is not guaranteed for internal applicants. Students graduating from the BAS-Design will follow the M.Arch (8 credit) sequence. Students graduating from the BAS-C&S or BAS-Urbanism majors must follow the M.Arch1 (13.0 credit) sequence. Students graduating from the BAS-P&C must follow the M.Arch1 (13.0 + 2.5) credit sequence.

b) External applicants with a pre-professional bachelor’s degree in architecture may also apply to the Master of Architecture and are individually assessed for the sequence they are required to complete.

c) Students with an Honours degree in fields of study other than Architecture may also apply to the Master of Architecture and must follow the M.Arch1 (13.0 + 2.5) credit sequence.

d) Students may also complete a one-year Graduate Diploma in Architectural Conservation during their Master of Architecture studies as per Figure 2.

Pursuing the **PhD or MAS** (non-professional graduate studies in Architecture):

e) Students wishing to pursue a graduate degree in architecture that does not lead to the first professional degree can apply to Master of Architectural Studies (MAS) or the PhD as indicated in Figure 2 in Part 1 of this report.

**Definition of the term M.Arch1:**

As per Figure 1, Carleton University only offers one professional degree, namely the Master of Architecture (our only first-professional degree), accredited until December 31, 2016 with this **Focused Evaluation** (in 2013).

To differentiate between the two-year (8 credit) path to the degree of Master of Architecture and the 3-to-3.5 year (13 to 15.5 credit) path to the Master of Architecture, Carleton adopted the commonly used distinction of **M.Arch** (for the 2-year) and **M.Arch1** (for the 3 - 3.5 year). This terminology is used in similar programs in both Canada (University of Calgary) and the US (Sci-ARC, Cornell, University of Pennsylvania, and UCLA to name a few) and provides applicants with clarity as to the admissions options and curricular sequences available at Carleton.

Secondly, at the Faculty of Graduate and Postdoctoral Affairs at Carleton, it was necessary to distinguish between graduate students enrolling in the typical 2-year sequence versus a 3-year sequence for clarity of internal tracking and the duration of provincial funding. (Typical Masters funding from the Province is only allotted for 2 years. Our MArch1 is distinguished by a unique 3.5 year funding formula, required to properly support the program).
Finally, it is important to note that the M.Arch1 sequence completes the three CACB curricular components for the Master of Architecture (General Studies, Professional Studies, and Electives) by placing the Professional Studies component towards the end of the curricular path (i.e. within the Master of Architecture curriculum - see Figure 1), while the majority of the General Studies and Elective courses are undertaken as part of the Honours Degree or BAS Major (Urbanism, Conservation & Sustainability, Philosophy & Criticism) curricula.

It should also be noted that the Professional Studies courses identified for the M.Arch1 curricular sequence are the same courses taken by those in the BAS/M.Arch sequence but identified with a Graduate Course numbering system. These courses are otherwise identical (i.e. they are in the same classrooms with the same teachers, delivering the same content, with the same assignments). As an exception, the first three design studios in the M.Arch1, are delivered separately from the existing BAS/M.Arch sequence in order to ensure accelerated content, skills and production.

Lastly, the Professional Studies of the M.Arch1 sequence comprise 15 credits at the graduate level, out of a total of 35.5 credits (assuming the normal 20-credit Honours degree) for a total of 42% of the student’s post-secondary education, meeting the CACB requirement for balance between undergraduate and graduate studies.
### D) CACB MATRIX OF SPC'S FOR THE M.ARC1 SEQUENCE (PROFESSIONAL STUDIES)

| Course title                     | Course Number | Matching Course | BAS ASch | MArch1 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | B11 | B12 | C1 | C2 | C3 | C4 | D1 | D2 | D3 | D4 | D5 | D6 |
|----------------------------------|---------------|----------------|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| **PROFESSIONAL STUDIES**         |               |                |          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Tech 1                           | ARCC 2202     | ARCC 5096      | ✓         | ✓      | X  | X  | X  | X  | /  | /  | X  | /  | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Tech 3                           | ARCC 2203     | ARCC 5098      | ✓         | ✓      | X  | X  | /  | /  | /  | /  | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Tech 4                           | ARCC 3202     | ARCC 5099      | ✓         | ✓      | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Design Economics                 | ARCC 4500     | ✓              | ✓         | ✓      | X  | X  | X  | X  | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Advanced Building                | ARCC 5100     | ✓              | ✓         | ✓      | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Professional Practice            | ARCC 5200     | ✓              | ✓         | ✓      | X  | X  | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Modern Architecture              | ARCH 2300     | ARCH 5010      | ✓         | ✓      | X  | X  | X  | X  | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Grad Seminar 1                   | ARCH 5200     | ✓              | ✓         | ✓      | X  | X  | X  | X  | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Grad Seminar 2                   | ARCH 5200     | ✓              | ✓         | ✓      | X  | X  | X  | X  | X  | X  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  |
| Computer Aided Design            | ARCN 2105     | ARCN 5000      | ✓         | ✓      | X  | X  | ✓  | ✓  | ✓  | ✓  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Advanced Representation          | ARCN 5005     | [new course]   | ✓         | X      | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| MArch1 Studio I                  | ARCS 5102     | ✓              | ✓         | X      | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | ✓  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| MArch1 Studio II                 | ARCS 5103     | ✓              | ✓         | X      | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| MArch1 Studio III                | ARCS 5104     | ✓              | ✓         | X      | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Grad Studio I                    | ARCS 5105     | ✓              | ✓         | X      | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Grad Studio II                   | ARCS 5106     | ✓              | ✓         | X      | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Directed Research Studio         | ARCN 5909     | ✓              | ✓         | X      | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |

✓ = class taken with BAS or M.Arch students, or as separate class  
◆ = Course content revised since last visit to meet CACB Student Performance Criteria  
X = CACB SPC Criteria Met by Course  
0 = CACB Criteria Dependent of Course Option, Project Proposal, or Assignment  
/ = CACB Criteria is introduced in a lecture format as part of a studio course, and may not necessarily be demonstrated by the project
APPENDIX
THIS APPENDIX CONTAINS A USB ATTACHED TO THIS PAGE:

1) Section 1: Material for the Focused Evaluation Report

2) Section 2: Material for the M.Arch1 sequence clarification
4.5 Annual Reports
June 26, 2013

Carole Caron, AANB  
President  
Canadian Architectural Certification Board  
1508-1 Nicholas Street  
Ottawa, Ontario  
K1N 7B7

Dear Ms. Caron:

The following is Carleton University’s Annual Report to the Canadian Architectural Certification Board for the academic year 2012-13. We are pleased to report that the School has made considerable progress in addressing the concerns raised by the Visiting Team Report (VTR) in the spring of 2011 that addressed and reported upon in the Focused Evaluation Report submitted in April 2013. We will also address successes and concerns noted in the CACB Focused Evaluation Team Report sent to us on June 14, 2013.

This Annual Report is presented in 3 sections:

A. Response to specific issues raised in the 2013 Focused Evaluation Report.  
B. Highlights of the period from May 2012 to June 2013.  

A. Response to: The 2013 Focused Evaluation Team Report - “Conditions Not Met” and a few other areas to improve in “Conditions deemed Met”.

Condition 3: Public Information  
The program must provide clear, complete, and accurate information to the public by including in its academic calendar and promotional literature the exact language found in the CACB 2010 Conditions (Appendix A-1), which explains the parameters of an accredited professional degree program.

Met  Not Met  
[X]  [ ]
**Focused Evaluation Team comments:**
The FE Team acknowledges that your program structure is now in line with CACB criteria. There is only one first-professional M. Arch accredited program. Second, the team thanks the School for pointing out the discrepancy between ‘recommend’ and ‘require.’ Please use the term “require” for all public information regarding promotion of the M. Arch program.

In the Carleton website, under Master of Architecture description (Prospective Students) please write a text that corresponds to the current diagram (p.11 of the 2013 Focused Evaluation Report). Please describe the regular BAS 20 credits with a Major in Design (4+2 yrs.); how the other BAS with two streams works for an additional 13 credits (3+3 yrs.); and how the final stream leading from the BAS with a Major in Phil. + Criticism or the B.Hons. (no pre-professional architecture degree) with 15.5 credits works (4+3.5 yrs.). No matter which route, they all culminate in the first-professional M. Arch degree. This should all be clear to prospective students as well as to the public.

With your description correlating to the diagram on p. 11 of the Focused Evaluation Report, then please make sure that this is consistent across all public information for the program, including multiple places on the website.

Response by Carleton to FER Team Comments:
During the summer of 2013, we will ensure that our website includes clarity for all four majors of our undergraduate Bachelor of Architecture. We are also considering implementing direct entry into each major from high school. We will ensure that it is clear in all literature that all degrees culminate in the first professional degree – the Master of Architecture, as per our charts in the Focused Evaluation Report.

**Student Performance Criteria:**

**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.*

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**Focused Evaluation Team comments:**
The VTR comment still holds. As a whole, the work submitted displays a modest approach to programming. Program work seems to be more interpretative than developing a comprehensive program from the onset of design. ARCS 5103 appears to be a small room with emphasis on memory. ARCS 5104 again emphasizes design concepts. The “complete book” shows some evidence of technical details, sizing of air-cooling, etc. Evidence of how students developed program spaces in themselves and in relation to each other is still absent overall. Perhaps students need a sustained effort throughout the semester culminating in a final report (as mentioned in the syllabus).

In ARCS 5104 Project 3A Deliverable requires: “A written document that describes your attitude towards program.” This requirement does not fully appear in the design work at the moment. The former ARCS 5105 has a series of well-executed case studies. The FE Team feels that, given the School’s goals, there should be a translation from the analyses done in the case studies to the design process and program development in other courses, including ARCS 5104 and ARCS 5103.

Response by Carleton to FER Team Comments:
In the fall of 2013, we are implementing a new graduate “gateway studio” which all students in the Master of Architecture must take. This studio will include a full semester project that will require students to develop a comprehensive building program for a large-scale building. We will ensure that students prepare and submit their building program as a course deliverable for the gateway studio in addition to the other initiatives taken across the program.
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.

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Focused Evaluation Team comments:
This SPC is partially there, but is still not met. ARCC 2203 shows evidence of construction. ARCC 3302 shows building science study. However, the FE Team questions how the “understanding” of B8 gets expressed as an outcome that manifests student “understanding.” This is still required, and should be evident through an assignment or a series of assignments that test the information delivered in the lectures. Acoustics needs to be more evidence based.

From the 2011 VTR comments, the FE Team feels that artificial illumination and mechanical systems for large buildings are being adequately addressed.

ARCS 3105 addresses the theatre as a building type. However, as a constant theme of this FE Team Report, what is intended and what is evident in the student presentation of work is still too often disjunct.

Response by Carleton to FER Team Comments:
We will continue our efforts in Tech 3 (ARCC 2203) and in Tech 4 (ARCC 3302) to improve upon deliverables that can better demonstrate student understanding of Environmental Systems, with particular focus on acoustics. We hope that by including more emphasis on the theatre in the ARCS 3105 that evidence of acoustics will be better demonstrated.

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.

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Focused Evaluation Team comments:
This SPC is not yet evident and consistent, but the Focused Evaluation Team feels that the School has made great progress in this direction. The case studies and method of group work are supporting this approach to integrated design. ARCC 5100 shows a series of case studies that reflect good analysis skills. This is followed up by the integrated design projects done in small groups. All the work in this course displays a valid attempt to take on building system integration.

In terms of SPC C4, what is missing is advanced structural design, building assemblies, and life safety provisions. Larger annotated wall sections or other types of models could certainly address these issues. ARCS 5104 has some studies with project data and wall sections showing assembly, but how this information is derived (or is given in a syllabus or other course?) is unclear. Elements of program are listed in the syllabus, and the syllabus goals are clear as Learning Objectives. The SPC of Comprehensive Design is still not uniform throughout the projects submitted. Qualitative differences between high, medium and low are also not self-evident.

In ARCS 5104, the syllabus for Project 3A states: “we will be creatively exploring the idea of program,” and a Deliverable for Project 3A includes: “A written document that describes your attitude towards program.” The written document that would describe what was learned during such an exercise is not included with the current submission.
The former ARCS 5105 has a series of well-done case studies. The Focused Evaluation Team feels that there needs to be a translation from the analyses done in the case studies to inform the design process and program development in other courses, including ARCS 5104 and ARCS 5103.

Response by Carleton to FER Team Comments:
In 2013, we will integrate the development done in Advanced Buildings (ARCC 5100) with the Gateway Graduate Studio (ARCS 5105) that will address the advanced structural design, building assemblies and life safety provisions in a design project. We will work with the faculty teaching the first Gateway Studio to implement these deliverables. In addition, as mentioned above, students in the gateway studio will also be producing their own program for the project.

B. Highlights of the School Activities

Facilities

The school has received a generous donation to renovate the third and fourth year studios. We are installing studio group working tables instead of individual drafting tables and lockers. The large solid maple group tables can accommodate up to 15 students and are supplemented with an adjacent model building table, hardware for a temporary drafting surface, upgraded electrical for multiple electronic devices, direct connections to a new render farm via high-speed direct links and high-speed internet connections. In addition, each table will have a permanent projection screen with paper pad at one end for informal digital projections that can be drawn upon. The studio lockers will be moved to the perimeter beneath several long pin-up/projection boards. We hope that the “dinner table” studios will encourage collaboration and cross-group discussions.

Our first year studios will also begin a new Health & Safety training project that will see them build their own wooden lockers (called LOCT) in first year that they carry with them through the years. The LOCT project allows students to use all the key wood and metal shop tools necessary for Health & Safety training, so once completed, they can use the shop. This innovative idea and prototype was designed by a group of our own third year Design students as part of our design/build at the beginning of the term.

In September 2012 we also took over and renovated the fifth floor of the Architecture Building for various studio spaces, lecture rooms and a new 30-seat computer facility.

Research

The School has experienced continued growth in funded research in the field of advanced digital visualization technologies and sustainable design. Faculty have received funding from CFI for a solar thermal house project that is being built on campus. Carleton Immersive Media Studio, directed by Stephen Fai is working on a range of projects funded by SSHRC, MITACS, CIHR, the Carleton Research Excellence Fund, and the Getty Conservation Institute. CIMS has 22 full time research assistants this summer—undergraduate, masters and PhD students.
Directed Studies Abroad

The School offered two graduate Directed Study Abroad (DSA) programs, five undergraduate DSA’s and a number of exchange options. In the undergraduate program, students in the second term of third year (studio 5) are given a choice of three travelling studios that went to Lyon, London and New York in 2013. In addition we ran an Urbanism DSA to Buenos Aires and a Conservation & Sustainability DSA to Barcelona. Travel takes place over two weeks in February. The range of options recognizes financial and other constraints faced by students as well as faculty research objectives. Students interested in international exchange programs must complete their exchange during the same semester that studio 5 is being offered. Through the ISSO (International Student Services Office) Carleton has exchange agreements with a number of institutions abroad including France, the UK, Australia, Germany, Mexico, South Africa, Israel, Turkey, and others.

At the graduate level, students had the option of studying abroad for the full term of their first year which included a Fall semester in Paris and a winter semester in Finland.

Visiting Critic’s Graduate Studio

Graduate students who do not participate in the Graduate DSA can opt to participate in the Visiting Critics Studios that run in both semesters and are taught by international guests. This year our Visiting Critic Studios were taught in the Fall semester by Halldora Arnardottir and Javier Sanchez from Spain and in the Winter semester by Jonathan Hale from the UK and Jamie Salazar from Germany.

Frascari Symposium

Professor Federica Goffi and Roger Connah along with Visiting Critic Jonathan Hale organized and held a symposium on the topic of Critical Phenomenology founded on the ideas in the career of Professor Marco Frascari. The event attracted national and international visitors and guests along with participation by our students. Speakers included Jonathan Hale, Paul Emmonds, Donald Kunze and Sam Ridgeway. The event concluded with one of the school’s Forum Lecture Series Kenneth Frampton lecture.

Forum Lecture Series

Our 2012/13 Forum Lecture Series included lectures by Alex Rankin and Raymond Moriyama at the Canadian War Museum, Emmanuelle Combarel and Tania Concko (France), Paul Goldberger (New York), Eva Juricna (London), Kenneth Frampton (New York) and Russell Acton (Vancouver) who all lectured at the National Gallery of Canada.
C. Statistics and Human Resources Report – 2012-13

Please see attached report.

In 2013 we will be advertising for a new Director and a new tenure-track faculty in the area of advanced building technology. We hope to have these two positions filled by July 2014.

Should you or the Board require any additional information, please feel free to contact me.

Sincerely,

Sheryl Boyle
Interim Director
Azrieli School of Architecture and Urbanism

A-4 • Human Resources Statistics Report • 2012–2013

School or Program: Azrieli School of Architecture & Urbanism, Carleton University, Ottawa, ON

<table>
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<tr>
<th>Professional Degree Accredited</th>
<th>Total nb of credits / degree</th>
<th>Total nb of terms / degree</th>
<th>Nb of credits / term</th>
<th>Nb of hours / credit</th>
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<td>• Master of Architecture degree</td>
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<td>• Master of Architecture degree</td>
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<td>without a pre-professional requirement, and consisting of an</td>
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<td>undergraduate degree plus a minimum of three years of professional</td>
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<td>studies</td>
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<td>• Bachelor of Architecture degree</td>
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<td>minimum of five years of study, except in Quebec, where four years</td>
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<td>of professional studies follow two years of CEGEP studies</td>
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<td>• Visiting</td>
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<td>Total FT Equivalent (FTE) Other Faculty</td>
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<td>Total Regular and Other Faculty teaching in studio</td>
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<td>Nb of pre-professional studios taught by all Faculty for the year</td>
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<td></td>
<td>1 1 6 8</td>
<td>0 0 1 1</td>
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<td><strong>Total Full-Time Equivalent (FTE) Students</strong></td>
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<td>48 44 5 97</td>
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<td><strong>FTE Foreign Students</strong> 2 (optional) – Students who paid international fee</td>
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<td>3 3 1 6</td>
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<td><strong>Students in Design Studio</strong></td>
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<td></td>
<td>172 232 0</td>
<td>50 47 0</td>
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<td><strong>Studio Ratio</strong> (Students in Design Studios / Nb studios taught for a year)</td>
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<td>57.71</td>
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<td></td>
<td></td>
<td>19.4</td>
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<td><strong>Number of applicants for a given term and total for a year</strong></td>
<td>159 152 8 319</td>
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<td><strong>Number of entering students for a given term and total for a year</strong></td>
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<td>31</td>
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<td><strong>Total Degrees Awarded-Expected for a given term and total for a year</strong></td>
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<td>4 25 (Spring) 29</td>
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<td>Women (optional)</td>
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<td><strong>Graduation Rate (%)</strong> 3</td>
<td>75.4%</td>
<td>31.3%</td>
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*Does not include faculty on Sabbatical or LOA

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1. Full-Time Equivalent Students (FTE): Number of full-time students reported above + number of full-time equivalent for part-time students calculated on the basis of a full course load required to complete the program in the normal number of terms.
2. FTE Foreign Students: Students included in Total FTE Students who are not Canadian citizens or landed immigrants.
3. No of degrees awarded or expected / No of entering students at the beginning of the degree.
ANNUAL REPORT TO
CACB-CCCCA

Narrative Section

Program: MASTER OF ARCHITECTURE (M. Arch)

Academic Year: 2014-2015

Head of the Program (Name): Sheryl Boyle

Signature: 

Date: June 30th, 2015
1- INTRODUCTION

JUNE 29, 2015

Mourad Mohand-Said, B.Arch, M.Sc.A
Executive Director | Registrar
Canadian Architectural Certification Board
1 Nicholas Street, Suite 710
Ottawa, Ontario, Canada
K1N 7B7
info@cacb.ca
www.cacb.ca

Dear Mourad Mohand-Said, Executive Director, CACB,

Please find attached the 2014/15 Annual Report from Carleton University's Azrieli School of Architecture & Urbanism.

As per your letter dated December 16, 2014 this report will address the conditions identified as "not met" namely SPC: B2 (Program Preparation), B8 (Environmental Systems) and C4 (Comprehensive Design). In addition we will update you on our progress on the "Causes of Concern" as listed in the 2011 Visiting Team Report noted under Section 1, Point 5 (page 8 and 9 of 39). Our goal in this report has been to present our responses with clarity and precision.

Should you have any questions regarding this report, please feel free to contact me at any time at sheryl_boyle@carleton.ca or via phone at 613-520-2861.

Sincerely,

Sheryl Boyle, Interim Director
Azrieli School of Architecture & Urbanism
Carleton University
2- STATEMENT OF CHANGES TO THE PROGRAM

• In 2014/15 we allowed students to apply directly to the three BAS Majors (Design, Conservation & Sustainability or Urbanism) directly out of high school rather than having them choose their Major after first year. This change simply gives students a better feeling of inclusion rather than "transferring out of Design" as was done in the past and starts to streamline admissions. The curriculum also moved to include more design-based courses for the BAS C&S and Urbanism in their third and fourth year. Students can apply to change Majors but the curriculum requirements for each program must be met. The program requirements for the professional degree (the M.Arch) do not change with this new admission pathway.

• In the M.Arch Program, we offered the M.Arch studio (ARCS 5104) and Building Technology 3 (ARCC 5098) in the summer semester, allowing students in the 13 credit M.Arch curriculum to align their courses with the 8.0 credit curriculum more efficiently. The program requirements did not change, just the semester offered.

3- RESPONSE TO TEAM FINDINGS

3.1- CAUSESES OF CONCERN

In the order listed in the Visiting Team Report (2011 VTR)

1. Continuity of Undergraduate and Graduate components of the professional program

"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."

Response 2015

Since 2011, several changes have been made to give continuity between the BAS and M.Arch including running a comprehensive studio in the fall each year from 2nd through to Grad Gateway studio (a succession of 4 years in a row) bridging across the BAS and M.Arch. These courses are now integrated with the fall Tech courses in a much more determined and progressive way than in 2011.

As noted in previous reports, we also defined a new Associate Director position which looks only at the continuity of the professional stream as a whole (Associate Director Professional Program: Yvan Cazabon) as a key associate to the Director.

Each year since 2011, we have improved the diversity of offerings and content in the BAS including upgraded technology integration and technical coursework supported by new faculty hires and improved technical resources, the details of which are included in the responses below.

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 confusing 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."
Response 2015

Our significant attention to the technical aspects of the curriculum and their integration into the fall comprehensive studios in year 2, 3, 4, and Graduate Gateway Studio have given clear structure to our technical curriculum and its integration into design work in studios. To teach a great comprehensive studio requires progressive revisiting of the concept and these fall studio/tech combinations expand the material questions, technical concepts and scale of this integration.

In 2014/15 we brought two new full-time faculty onboard with expertise in the technical field: Giancarlo Mangone (Advanced Building Systems) and Scott Buckling (Tech 1 - collaborative BIM hire with Civil Engineering). We also expanded (and continue to expand) our excellence in Contract Instructors (including Barry Craig from the CMHC) to our Tech 4 delivery Team. These experts are excellent additions to our existing technical CI’s; they including Larry Hately whose publication on building envelopes is part of the CMHC collection (Tech 4) and Jay Lim, an architect with Perkins Will Architects (Tech 3). In 2014 we also worked with Civil Engineering to hire Contract Instructor, Jack Vandenberg (architect and engineer at the Heritage Directorate of PWGSC) as full-time Instructor at Carleton (Jack delivers Tech 2).

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."

Response 2015

In addition to the improvements noted in prior year reports, we continue to expand our daily inclusion of digital media into the program and pedagogy, embracing the hybridity of architectural design, in the acquisition, manipulation and output of data/images/form using digital tools and skills.

Our strategic hire of Professor Johan Voordouw (with his expertise not only in digital systems but in their application to design thinking in studios etc.) has proved highly transformative for both our undergraduate and graduate students and for the profile of the school.

Our 2014 hire of Professor Giancarlo Mangone has brought digital thinking into realms of quantative analysis, human performance and urban ecologies in both technical and comprehensive design courses.

In 2015 we hired a new technical position (Digital Craft Technician) who will oversee the expanding digital photography and photogrammetry software and hardware, printing, expanded laser-cutter and our 3-d printing media lab. This expansion moves into the area formerly used by the darkroom and photo studio adjacent to the Assembly Room. This technician position works with a team of student employees in providing access to this equipment and software which inherently expands and changes quickly. In addition to the hire, we also purchased three new laser cutters and upgraded our software packages in the
expanded computer labs. This has not aggravated the students as anticipated by the Visiting Team, but rather has increased their use and enjoyment of the media and allowed more faculty and courses to include digital media in their assignments and teaching. Some of this expansion has included a revamp of the Introduction to Multimedia course in first year under the guidance of PhD student James Hayes (e.g. including the use of PhotoScan/photogrammetry) and the inclusion of BIM in the second year Tech course under the guidance of new BIM hire Scott Buckling. We continue to update tools and concepts of acquisition, manipulation and production/output of media each year.

Our recent collaborative hire with Civil Engineering of the Building Information Modeling position will allow us to expand our BIM course offerings and integration into studio. This is first being done in Tech 1 in 2015 fall.

In 2015, Professor Stephen Fai, whose research bridges digital craft and historic conservation practices (a first for Canada) received over $2 million in SSHRC grants which includes provision to purchase a Kuka robot. His research unit (CIMS) also collaborated on an additional $2.5 million NSERC grant as well as approximately $1 million in contracts for his research team which includes several architecture faculty.

The gap between the new BAS majors and emerging technologies sensed by the Visiting Team in 2011 has certainly closed, as our faculty have achieved success in grants to compliment the ethos instilled in the program. These grants will also continue to expand our technical expertise at the school and infuse the entire accredited program with access to new leading-edge technologies and experience through summer placements, work-study, thesis work and research assistantships and emerging technologies in the curriculum.

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."

Response 2015

In response to the need for critical assessment and enrichment of the curriculum and collegial discourse discussed in the 2011 VTR, we have moved forward with several initiatives. Our success in securing over 5 million in research funding in 2014 from SSHRC and NSERC as well as contracts (noted above) confirms recognition of our efforts in this area.

In 2014, we received the first round of applications for the Research Facilitator/Manager (a two-year term) whose job it will be to solely assist faculty in the school with advancing their research. We were not satisfied with the pool and have readvertised. The position will be hired during summer 2015 and the new Director, Jill Stoner will be working with this person to stage a series of events devoted to faculty research agendas, including collaborations with faculty from other departments and schools at Carleton. The research facilitator will identify collaborators, apply for grants, and manage funds as well as broadcast research successes of the school.
In 2014 several key research accomplishments include the completion of the solar thermal research house (full-scale) on the front lawn of Carleton Campus which was a major CFI grant (Sheryl Boyle), the commitment by several journals to publish the current work of Professor Federica Goffi, Professor Stephen Fai's ongoing digital craftsmanship work on Parliament Hill and at CIMS, a book chapter by Professor Inderbir Riar and many other exciting projects.

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."

**Response 2015**

Since 2011, we have worked and successfully transformed the culture of the school and addressed the concerns identified by the Visiting Team. This transformation was fuelled by a series of open and substantive conversations and meetings which also included new committee structures and breaking down perceived barriers. The school now embodies an open and collaborative environment, and is in good shape for our new Director.

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 of the program."

**Response 2015**

Since 2011, all hires have been in response the the enrichment of the core courses of the accredited program.

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."

**Response 2015**

In 2013 we received a new $1 million endowment from the Azrieli Foundation (the same foundation that endowed the school). The funds from this gift are now available for use and being deployed in establishing connections between the city of Ottawa and the Azrieli School of Architecture & Urbanism. Professor Roger Connah has begun to build an agenda with city officials around the "Ottawa 2017" events. The research work of
Professor Fai on Parliament, the focus of studio work on local conditions and contract instructor hiring from the local architecture and research (CMHC) as well as the publication and public voice of faculty members in local media, are all part of our increased engagement with our locale since 2011.

3.2- CONDITIONS AND SPC “NOT-MET”
In the order listed in the Visiting Team Report (VTR) as well as in the Focused Evaluation Report if it applies.

Condition 3 – Public Information

Condition: The program must provide clear, complete, and accurate information to the public by including in its academic calendar and promotional literature the exact language found in the CACB 2010 Conditions (Appendix A-1), which explains the parameters of an accredited professional degree program.

Team Comments:

“The Team notes the lack of conformance of the published text with the wording of Annex A of the CACB Conditions and Procedures.

Equally important, the information available to prospective and current students is ambiguous about the current accreditation status of the proposed MArch1 sequence, and less than clear about the points of choice and assessment within the four streams of the BAS degree and the competitive nature of application to the existing professional MArch.

While incidental to fulfillment of this criterion, the team notes that the web presence of the professional program offers little evidence of the strengths and specific cultural ethos embodied in the School’s daily life.”

Response 2015:

Since 2011 we have addressed all these points on the University website and in our new “Graduate Prospectus” document which is linked to our website. Current updates to website format in 2015 will also include this information as required by CACB. In the summer of 2015, we are one of the first units at Carleton University to move to the new magazine format website that will include video and image based information conveying both the information and the specific strengths of the school as noted by the visiting team.

SPC B2 – Program Preparation

Criteria: Ability to prepare a comprehensive program for an architectural project that accounts for client needs and user needs, appropriate precedents, space and equipment requirements, the relevant laws and standards, and site selection and design assessment criteria.

Team Comments:
“While aspects of program preparation appear in various aspects of the curriculum, there is no instance in which specific focus is exercised and sustained. While certain of the thesis work observed was exemplary in this matter, engagement with program preparation was – not unreasonably – inconsistent across the range of thesis preoccupations.”

Response 2015:

The area deemed “not met” was identified as Program Preparation in a specific identified studio.

As noted in the 2014 report, we believe that the ability to prepare a program comes in two stages, interpretation of program, and preparation of program. Interpretation of program occurs at all levels of undergraduate and graduate studios, increasing in complexity throughout the professional program. This was in place during the Accreditation Visit in 2011. In 2015 we continued to build upon the program preparation in the Master’s “Gateway Studio” which all students in the professional program must complete. This studio was run in the fall of 2014 and the program was a large urban library where each student was required to write a clear and defined building program for their project.

SPC B8 – Environmental Systems

Criteria: 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.

Team Comments:

“Acoustics, artificial illumination, and mechanical systems for large buildings are apparently not being taught in the current year, although a breadth of related material including building envelopes and natural light are covered in the technical sequence in good detail. Faculty involved appear enthusiastic and well respected by students and their peers.”

Response 2015:

As noted in the 2014 report, we now include the three areas of acoustics, artificial illumination and mechanical systems for large buildings across our technical stream (especially in Tech 1, Tech 3 and Tech 4).

The modules for each area were described in detail in the 2014 report and in 2015 we simply continued to deliver these enhanced programs, evaluate them and refine them with great success.

SPC B10 – Building Service Systems

Criteria: Understanding of the basic principles that inform the design of building service systems, including plumbing, electrical, vertical transportation, communication, security, and fire protection systems.

Team Comments:

“Plumbing, electrical, communication and sprinkler & other fire protections systems are not evident in the material made available to the reviewing team.”
Response 2015:

The four areas deemed “not met” are identified as plumbing, electrical, communication and sprinkler and other fire suppression systems.

As noted in the 2014 Annual report, we have added or enhanced modules and requirements for these four areas into our Tech stream courses in incremental steps and continued to deliver these modules evaluate them and refine them with great success in 2014/15.

**SPC C2 - Building Systems Integration**

**Condition:** Ability to assess, select, and integrate structural systems, environmental systems, life safety systems, building envelopes, and building service systems into building design.

**Team Comments:**

“Student work demonstrates an ability to integrate knowledge of structural systems and building envelopes, but other issues are not consistently present.”

Response 2015:

The three areas deemed “not met” are identified as Environmental Systems into building design, Life Safety Systems into building design and Building Service Systems into building design.

As noted in the 2014 report, we have added or enhanced modules and requirements for these three areas into the courses and continued to deliver these modules evaluate them and refine them with great success in 2014/15.

**SPC C4 – Comprehensive Design**

**Condition:** 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.

**Team Comments:**

“The level four studio focused upon housing design offered evidence of student attention to a reasonable level of detail in certain aspects of this criterion. However, since lighting, acoustics & mechanical systems are not currently being taught, these components are simply not evident – comments on other required concerns as noted.

The team notes some concern regarding the building type and complexity presented as the appropriate vehicle for successfully undertaking the intent of this criterion. It was also noted that since the intended comprehensive occurs within the undergrad portion of the professional program, it will inevitably include students not destined to complete the full accredited program in Architecture – yet compelled to fulfill this challenging student performance criterion as part of their undergraduate degree requirements.”

Response:
The three areas deemed “not met” are identified as:

1) Lighting, acoustics and mechanical systems as a part of a comprehensive design
2) Building type used for comprehensive design
3) Level of study for student completing comprehensive design

We have addressed the addition of modules for lighting, acoustics and mechanical systems in great detail in the 2014 report and continue to deliver them in the places previously identified. We have also successfully delivered Gateway Studio as our key comprehensive studio for two fall semesters as an integration with Advanced Building Systems under our new hires, Professor Johan Voordouw (Gateway Studio coordinator) and Professor Giancarlo Mangone (Advanced Building Systems hire). All students and faculty agree that the success of Gateway Studio is now a defining feature of our Graduate program.

4- OTHER RELEVANT INFORMATION
School activities and Initiatives

The Azrieli School of Architecture & Urbanism is proud to announce the selection of their new director, Professor Jill Stoner from the University of California Berkeley who will join the school in July 2015. Professor Stoner has practiced in the US and received her undergraduate degree at New College in Sarasota, Florida and her Master of Architecture from the University of Pennsylvania. She is currently the Associate Dean at Berkeley. Professor Stoner will take over from Professor Sheryl Boyle who has served in the Director’s office for five years and who will now return to full time teaching and research. Professor Boyle brought to fruition Carleton’s two research based degrees, the PhD in Architecture and the Master of Architectural Studies as well as the Graduate Diploma in Architectural Conservation and the 13-credit pathway to the professional Master of Architecture.

In 2014, Carleton also hired our new specialist in Advanced Building Systems, Professor Giancarlo Mangone from the Technical University of Delft where he was completing his PhD in urban ecologies and building systems. Professor Mangone teaches the graduate course in advanced building systems and is also the principal at Symbiosis Sustainable Design & Consulting out of West Palm Beach in Florida.

Our PhD program is entering its fifth year and our students are working on a wide array of issues relating to the culture of practice including heritage buildings and the integration of the digital craftsman (on Parliament Hill), parametric techniques in material studies, architectural representation and sketching, Middle Eastern gardens, media and the urban environment and marketing for mid-sized architectural firms.

Our professional Masters of Architecture program continues to prosper with admissions of 47 students each year and exciting thesis projects as independent work or as research groups.

Our Bachelor of Architectural Studies continues to garner strong numbers of applications with a 1:10 acceptance rate for the 90 new students each year. Architecture is definitely an interesting profession for our youth. A few highlights include our undergraduate and graduate Directed Study Abroad programs to Helsinki, Lisbon, Guadalajara, Beijing and Hong Kong, New York and Berlin. Our coop program continues to grow and we are happy to have so many new firms sign on to hire a Carleton student. Our shared program
with Civil Engineering in Architectural Conservation & Sustainability saw a highlight year with approximately 50 students entering through Engineering which we hope will forge many new exciting professional partnerships in the near future.

Our faculty are engaged in research including building a Solar Thermal Research Facility on Carleton campus, expanding the field of digital modeling, visualization and conservation of buildings and working with aboriginal organizations on structural innovations in bent wood to name a few.

We continue to expand our outreach to the professional community and each year present the Forum Lecture Series open to the public and held at the National Gallery of Canada (you can follow us at twitter.com/forumlecture). Our new school website is about to be launched and our student and faculty work in our annual school publication, Building 22 which can also be purchased online at www.building22.ca
### A-4 Human Resources Statistics Report • 2014–2015

**School or Program:**
Azrieli School of Architecture & Urbanism

<table>
<thead>
<tr>
<th>Professional Degree Accredited</th>
<th>Total nb of credits / degree</th>
<th>Total nb of terms / degree</th>
<th>Nb of credits / term</th>
<th>Nb of hours / credit</th>
<th>Total nb of hours / degree</th>
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<tbody>
<tr>
<td>• Master of Architecture degree with a related pre-professional bachelor's degree</td>
<td>8</td>
<td>4</td>
<td>2.5</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Master of Architecture degree without a pre-professional requirement, and consisting of an undergraduate degree plus a minimum of three years of professional studies</td>
<td>13</td>
<td>7</td>
<td>2.5</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Bachelor of Architecture degree minimum of five years of study, except in Quebec, where four years of professional studies follow two years of CEGEP studies</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

*Non studio courses=6 hrs per 1.0 credit. Studio courses first year = 9 hours per 1.0 credit. Studio courses upper year =12 hours per 1.5 credit. Note: Nbr hours per credit and total nbr of hours per degree can fluctuate depending on time required to complete the 2.0 credit independent thesis.*

### Faculty Data

<table>
<thead>
<tr>
<th>Faculty Credentials (highest degree only)</th>
<th>Full-time (FT) + Part-Time (PT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D or D.Arch</td>
<td>FT</td>
</tr>
<tr>
<td>Post-Prof. Ms</td>
<td>FT</td>
</tr>
<tr>
<td>Prof. M.Arch</td>
<td>FT</td>
</tr>
<tr>
<td>B.Arch</td>
<td>FT</td>
</tr>
<tr>
<td>Other</td>
<td>FT</td>
</tr>
<tr>
<td>Licensed architects</td>
<td>FT</td>
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<tr>
<td>Studio teaching</td>
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#### Regular Faculty

<table>
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<tr>
<th>Gender</th>
<th>FT</th>
<th>PT</th>
<th>FT</th>
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<th>FT</th>
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</table>

<table>
<thead>
<tr>
<th>Teaching load / year</th>
<th>FT</th>
<th>PT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical</td>
<td>2.0</td>
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</table>

#### Other Faculty

<table>
<thead>
<tr>
<th>Type</th>
<th>FT</th>
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<tbody>
<tr>
<td>Visiting</td>
<td>2</td>
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<tr>
<td>Adjunct • Sessional • Lecturer</td>
<td>2</td>
<td>0</td>
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<tr>
<td>Ph.D Candidate</td>
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<td>3</td>
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<tr>
<td>Total FT Equivalent (FTE) Other Faculty</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Licensed architects</td>
<td>17</td>
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<table>
<thead>
<tr>
<th>Teaching load / year</th>
<th>FT</th>
<th>PT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

#### Total FTE Regular + Other Faculty

<table>
<thead>
<tr>
<th>FT</th>
<th>PT</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Regular and Other Faculty who are licensed architects</th>
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<th>PT</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>17</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Regular and Other Faculty teaching in studio</th>
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<th>PT</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>28</td>
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</table>

<table>
<thead>
<tr>
<th>Nb of pre-professional studios taught by all Faculty for the year</th>
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<th>PT</th>
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</thead>
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<tr>
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<table>
<thead>
<tr>
<th>Nb of Masters studios taught by all Faculty for the year</th>
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<th>PT</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>11</td>
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</tr>
<tr>
<td>Student Data</td>
<td>Pre-professional degree</td>
<td>Master of Architecture degree or Bachelor of Architecture degree</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>Winter</td>
</tr>
<tr>
<td>Full-Time Students</td>
<td>321</td>
<td>324</td>
</tr>
<tr>
<td>Men (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-Time Students</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Men (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Full-Time Equivalent (FTE) Students (1)</td>
<td>331</td>
<td>330</td>
</tr>
<tr>
<td>FTE Foreign Students (2) (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students in Design Studio</td>
<td>256</td>
<td>256</td>
</tr>
<tr>
<td>Studio Ratio (Students in Design Studios / Nb studios taught for a year)</td>
<td>15</td>
<td>11.6</td>
</tr>
<tr>
<td>Number of applicants for a given term and total for a year</td>
<td>575</td>
<td></td>
</tr>
<tr>
<td>Number of entering students for a given term and total for a year F2011-UG, F2013-GR With advanced standing (optional)</td>
<td>104</td>
<td>0</td>
</tr>
<tr>
<td>Total Degrees Awarded-Expected for a given term and total for a year Men (optional)</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Women (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduation Rate (%) (3)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(1\) Full-Time Equivalent Students (FTE): Number of full-time students reported above + number of full-time equivalent for part-time students calculated on the basis of a full course load required to complete the program in the normal number of terms.

\(2\) FTE Foreign Students: Students included in Total FTE Students who are not Canadian citizens or landed immigrants.

\(3\) No of degrees awarded or expected / No of entering students at the beginning of the degree.
ANNUAL REPORT to CACB

Narrative Section

Master of Architecture Program

Academic Year 2015-16

Head of Program: Jill Stoner

Date: 30 June, 2016
1.0 INTRODUCTION

30 June 2016

Mourad Mohand-Said
Executive Director / Registrar
Canadian Architectural Certification Board
1 Nicholas Street, suite 710
Ottawa, Ontario
K1N 7B7

Dear Mourad,

This annual submission coincides with the end of my first year as Director of the Azrieli School. I am pleased to report the conclusion of a productive academic year during which we have added two new faculty, two new staff members, and increased enrolment in our Master of Architecture program.

We are in the process of preparing our Academic Program Review for our upcoming accreditation visit, which will outline in detail many of the developments, improvements, and new initiatives to increase the level of excellence in our graduate program.

Many of the responses to the 2011 accreditation team’s comments are similar to those submitted last year by my predecessor Sheryl Boyle; in those cases I have referred to the previous report.

Please let me know if you would like any clarifications; you can contact me at: jill.stoner@carleton.ca.

Respectfully submitted,

Jill Stoner, Director
Azrieli School of Architecture and Urbanism
2.0 STATEMENT OF CHANGES TO THE PROGRAM
See 2015 response.

3.0 RESPONSE TO TEAM FINDINGS

3.1 CAUSES OF CONCERN

In the order listed in the Visiting Team Report (2011 VTR)

1. Continuity of Undergraduate and Graduate components of the professional program

"While the team observed significant renewal of the M. Arch 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."

Response 2016:

From the 2015 response: Since 2011, several changes have been made to give continuity between the BAS and M. Arch including running a comprehensive studio in the fall each year from 2nd through to Grad Gateway studio (a succession of 4 years in a row) bridging across the BAS and M. Arch. These courses are now integrated with the fall Tech courses in a much more determined and progressive way than in 2011. As noted in previous reports, we also defined a new Associate Director position which looks only at the continuity of the professional stream as a whole (Associate Director Professional Program: Yvan Cazabon) as a key associate to the Director.

Over the course of the past year and in preparation for the next accreditation visit, we have continued to refine the coordination of the technical classes with the design studio. This year, we launched a pilot summer studio for the M. Arch 1 students—their third studio in the sequence, and the one leading up to the point where they join the 4 + 2 stream. This studio was completely integrated with a revised Technology course specifically for this cohort of students. The results were extremely positive, and we look forward to sharing this work during the 2017 accreditation visit.
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."

Response 2016

See response in 2015 report.

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."

Response 2016

In addition to the improvements noted in prior years’ reports, we continue to expand our inclusion of digital media into our program and pedagogy. In the fall of 2015, we purchased four new Makerbot machines, which are now an integral part of our core course in computer technologies. We have also added a permanent staff position to assist students and faculty in digital fabrication, and are offering an advanced digital theory course for thesis students working on fabrication and parametric technologies in their thesis work.

Professor Johan Voordouw, in his 4th year studio, has merged digital fabrication with community involvement, in a design-build studio that constructed two Parklets for the
Vanier neighborhood of Ottawa. The installation of these new public spaces in June 2016 was a cause for celebration among community members, public officials, journalists and the Azrieli School community.

The gap between the new BAS majors and emerging technologies sensed by the Visiting Team in 2011 has certainly closed, as our faculty have achieved success in grants to compliment the ethos instilled in the program. These grants will also continue to expand our technical expertise at the school and infuse the entire accredited program with access to new leading-edge technologies and experience through summer placements, work-study, thesis work and research assistantships, and emerging technologies in the curriculum.

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."

Response 2016

In response to the need for critical assessment and enrichment of the curriculum and collegial discourse discussed in the 2011 VTR, we have moved forward with several initiatives.

In 2015-16, we advertised for a major new position: a Special Projects and Research Facilitator. We are fortunate to now have Mawuena Torkornoo as a full-time member of the staff. With experience in recruitment, and a Master’s degree in Business, Mawuena is well-positioned to assist faculty in identifying research opportunities and preparing grant applications. She is also launching several self-supporting programs, including a suite of post-professional courses that will satisfy Con Ed requirements for professional architects.

Our success in securing over $5 million in research funding in 2014 from SSHRC and NSERC as well as contracts (noted above) confirms recognition of our efforts in this area. Faculty are actively pursuing multi-year grants in health care design, material technologies, and heritage documentation.
The research of Professor Stephen Fai and his team at CIMS reached new levels this past year with the purchase of a seven-axis robot, and a smaller robot, which are being installed in the School over the summer. The Dean of the Faculty has supported this development, offering $300,000 to the school for the necessary renovations to accommodate the machines. The robots will be working on several projects, including the ongoing restoration of the Houses of Parliament, carving sandstone replacement pieces for the West and center blocks.

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.”

2016 response: As the 2015 report indicates, the interim director worked hard to successfully transform the culture of the school and to address the concerns identified by the Visiting Team. The School now has an institutionalized practice of three intensive faculty retreats each year—in August before the start of fall semester, in February, and in May following the winter semester. Comprising a total of five full days of meetings, the agendas address critical assessment of curriculum, evaluation of recruitment strategies, working groups to identify specific goals around building up technology infrastructure, space use improvements, balancing the faculty with new hires, and promoting the School nationally and internationally.

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 of the program."
Response 2016

As noted in the 2015 report, since 2011, all hires have been in response to the enrichment of the core courses of the accredited program. Over the past year, we have worked specifically on introducing elements of social, political, and economic relevance into several parts of the curriculum. This is closely connected with the hiring of two new faculty at the intersection of architecture and urbanism.

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."

Response 2016

In 2015-16, we began a pilot relationship with local development firms to sponsor one of our core housing studios. Based on this success, we have a commitment for three additional sponsored studios for 2016-17. Each of these combines the real situation of urban development in Ottawa with the highly refined and proven pedagogy of this 4th year studio. We are also adding a sponsored studio to the Master’s stream, engaging issues of designing for First Nation and northern communities.

3.2 CONDITIONS AND SPC “NOT-MET”

In the order listed in the Visiting Team Report (VTR) as well as in the Focused Evaluation Report if it applies.

Condition 3-Public Information

Condition: The program must provide clear, complete, and accurate information to the public by including in its academic calendar and promotional literature the exact language found in the CACB 2010 Conditions (Appendix A-1), which explains the parameters of an accredited professional degree program.
Team Comments:

"The Team notes the lack of conformance of the published text with the wording of Annex A of the CACB Conditions and Procedures.

Equally important, the information available to prospective and current students is ambiguous about the current accreditation status of the proposed M. Arch 1 sequence, and less than clear about the points of choice and assessment within the four streams of the BAS degree and the competitive nature of application to the existing professional M. Arch.

While incidental to fulfilment of this criterion, the team notes that the web presence of the professional program offers little evidence of the strengths and specific cultural ethos embodied in the School's daily life."

Response 2016:

As noted in the 2015 report, these concerns have been addressed in the complete redesign of our website, and in new print materials for recruitment and outreach.

SPC B2 – Program Preparation

Criteria: Ability to prepare a comprehensive program for an architectural project that accounts for client needs and user needs, appropriate precedents, space and equipment requirements, the relevant laws and standards, and site selection and design assessment criteria.

Team Comments:

"While aspects of program preparation appear in various aspects of the curriculum, there is no instance in which specific focus is exercised and sustained. While certain of the thesis work observed was exemplary in this matter, engagement with program preparation was - not unreasonably - inconsistent across the range of thesis preoccupations."

Response 2016 (same as 2015)

The area deemed "not met" was identified as Program Preparation in a specific identified studio. As noted in the 2014 report, we believe that the ability to prepare a program comes in two stages, interpretation of program, and preparation of program. Interpretation of program occurs at all levels of undergraduate and graduate studios, increasing in complexity throughout the professional program. This was in place during the Accreditation Visit in 2011. In 2015 we
continued to build upon the program preparation in the Master's "Gateway Studio" which all students in the professional program must complete. This studio was run in the fall of 2014 and the program was a large urban library where each student was required to write a clear and defined building program for their project.

**SPC B8 - Environmental Systems**

**Criteria:** 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.

**Team Comments:**

"Acoustics, artificial illumination, and mechanical systems for large buildings are apparently not being taught in the current year, although a breadth of related material including building envelopes and natural light are covered in the technical sequence in good detail. Faculty involved appear enthusiastic and well respected by students and their peers."

**Response 2016:**

As noted in the 2015 report, we now include the three areas of acoustics, artificial illumination and mechanical systems for large buildings across our technical stream (especially in Tech 1, Tech 3 and Tech 4).

The modules for each area were described in detail in the 2014 report and in 2015 we simply continued to deliver these enhanced programs, evaluate them and refine them with great success.

**SPC B 10 – Building Service Systems**

**Criteria:** Understanding of the basic principles that inform the design of building service systems, including plumbing, electrical, vertical transportation, communication, security, and fire protection systems.

**Team Comments:**

"Plumbing, electrical, communication and sprinkler & other fire protections systems are not evident in the material made available to the reviewing team."
Response 2016:

The four areas deemed "not met" are identified as plumbing, electrical, communication and sprinkler and other fire suppression systems.

As noted in the 2014 and 2015 Annual reports, we have added or enhanced modules and requirements for these four areas into our Tech stream courses in incremental steps and continued to deliver these modules, evaluate them, and refine them, with great success in 2014/15.

SPC C2 - Building Systems Integration

Condition: Ability to assess, select, and integrate structural systems, environmental systems, life safety systems, building envelopes, and building service systems into building design.

Team Comments:

"Student work demonstrates an ability to integrate knowledge of structural systems and building envelopes, but other issues are not consistently present."

Response 2016:

The three areas deemed "not met" are identified as Environmental Systems into building design, Life Safety Systems into building design and Building Service Systems into building design.

As noted in the 2014 and 2015 reports, we have added or enhanced modules and requirements for these three areas into the courses and continued to deliver these modules, evaluate them, and refine them, with great success in 2014/15.

SPC C4 - Comprehensive Design

Condition: 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.
Team Comments:

"The level four studio focused upon housing design offered evidence of student attention to a reasonable level of detail in certain aspects of this criterion. However, since lighting, acoustics & mechanical systems are not currently being taught, these components are simply not evident - comments on other required concerns as noted.

The team notes some concern regarding the building type and complexity presented as the appropriate vehicle for successfully undertaking the intent of this criterion. It was also noted that since the intended comprehensive occurs within the undergrad portion of the professional program, it will inevitably include students not destined to complete the full accredited program in Architecture - yet compelled to fulfill this challenging student performance criterion as part of their undergraduate degree requirements."

Response:

The three areas deemed "not met" are identified as:

1. Lighting, acoustics and mechanical systems as a part of a comprehensive design
2. Building type used for comprehensive design
3. Level of study for student completing comprehensive design.

We have addressed the addition of modules for lighting, acoustics and mechanical systems in great detail in the 2014 report and continue to deliver them in the places previously identified. We have also successfully delivered Gateway Studio as our key comprehensive studio for two fall semesters as an integration with Advanced Building Systems under our new hires, Professor Johan Voordouw (Gateway Studio coordinator) and Professor Giancarlo Mangone (Advanced Building Systems hire). Several members of the faculty are continuing efforts to improve the challenge and level of accomplishment in the Gateway Studio and the Advanced Building Systems course, and in fall 2016 we hope the work of this studio will achieve a new level of resolution.

All students and faculty agree that the success of Gateway Studio is now a defining feature of our Master of Architecture program.
4. OTHER RELEVANT INFORMATION

School activities and Initiatives 2015-16

One of the most significant initiatives during the past academic year was the search for two additional members of the faculty, both with an emphasis on architecture at the scale of the city. Eighty candidates applied for the positions, and the two top-ranked have accepted an offer of employment; one will be joining the School on August 1st 2016, and the other on January 1, 2017.

Another significant development is the successful recruitment for our three-year Master’s program, which will almost double the entering cohort in that stream. Students are entering with a wide range of undergraduate majors, and representing sixteen different undergraduate institutions.

We have several sponsored studios in 2016-17, which will allow us to bring in visiting studio critics representing a wide range of approaches and practice models. We have expanded the reach of our end-of-semester studio guests and external examiners for the Master of Architecture thesis to include renowned architects and academics from the United States, Israel, France, Portugal and Australia.

During summer 2016 we are renovating several spaces in our building, in order to make a new gallery, to improve our main office, and to house the seven-axis robot. There is excitement and enthusiasm for the coming academic year.
### Faculty Data

<table>
<thead>
<tr>
<th>Professional Degree Accredited</th>
<th>Total nb of credits / degree</th>
<th>Total nb of terms / degree</th>
<th>Nb of credits / term</th>
<th>Nb of hours / credit</th>
<th>Total nb of hours / degree</th>
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</thead>
<tbody>
<tr>
<td>Master of Architecture degree</td>
<td>8</td>
<td>4</td>
<td>2.5</td>
<td>x</td>
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<td>with a related pre-professional bachelor's degree</td>
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<tr>
<td>Master of Architecture degree</td>
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<td>7</td>
<td>2.5</td>
<td>x</td>
<td>x</td>
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<tr>
<td>without a pre-professional requirement, and consisting of an undergraduate degree plus a minimum of three years of professional studies</td>
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<tr>
<td>Bachelor of Architecture degree</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</table>

- Minimum of five years of study, except in Quebec, where four years of professional studies follow two years of CEGEP studies

<table>
<thead>
<tr>
<th>Faculty Credentials (highest degree only)</th>
<th>Full-time (FT) + Part-Time (PT)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Ph.D or D.Arch</td>
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<tr>
<td></td>
<td>FT</td>
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<td>Regular Faculty</td>
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<tr>
<td>Men</td>
<td>3</td>
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<tr>
<td>Women</td>
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<tr>
<td>Total FT Equivalent (FTE) Regular Faculty: Number of FT Regular Faculty + a figure equating PT Regular Faculty</td>
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<tr>
<td>Typical FT teaching load / year</td>
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- Other Faculty
  - Visiting: 2
  - Adjunct • Sessional • Lecturer: 12
  - Ph.D Candidate: 3

<table>
<thead>
<tr>
<th>Other Faculty</th>
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<tr>
<td></td>
</tr>
<tr>
<td>Men</td>
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<td></td>
</tr>
<tr>
<td>Women</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total FT Equivalent (FTE) Other Faculty: a figure equating other faculty on the basis of a typical FT teaching load</td>
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</table>

| Total FTE Regular + Other Faculty | 25 |

- Total Regular and Other Faculty who are licensed architects: 17
- Total Regular and Other Faculty teaching in studio: 28
- Nb of pre-professional studios taught by all Faculty for the year: 12
- Nb of Masters studios taught by all Faculty for the year: 11
<table>
<thead>
<tr>
<th>Student Data</th>
<th>Pre-professional degree</th>
<th>Master of Architecture degree or Bachelor of Architecture degree</th>
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<td></td>
<td>Fall</td>
<td>Winter</td>
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<tr>
<td>Full-Time Students</td>
<td>321</td>
<td>324</td>
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<tr>
<td>Men (optional)</td>
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<td>Part-Time Students</td>
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<tr>
<td>Total Full-Time Equivalent (FTE) Students ¹</td>
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<td>FTE Foreign Students ² (optional)</td>
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<td>Students in Design Studio</td>
<td>256</td>
<td>256</td>
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<tr>
<td>Studio Ratio (Students in Design Studios / Nb studios taught for a year)</td>
<td>171/12 = 14.25</td>
<td>56.33/11 = 5.12</td>
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</table>

<table>
<thead>
<tr>
<th>Number of applicants for a given term and total for a year</th>
<th>Fall</th>
<th>Winter</th>
<th>Summer</th>
<th>Total/yr</th>
<th>Fall</th>
<th>Winter</th>
<th>Summer</th>
<th>Total/yr</th>
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<tr>
<td></td>
<td>575</td>
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<td>Number of entering students for a given term and total for a year</td>
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<td>90</td>
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<td>With advanced standing (optional)</td>
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<td>Total Degrees Awarded-Expected for a given term and total for a year</td>
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<td>3</td>
<td>68</td>
<td>72</td>
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<td>Men (optional)</td>
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<tr>
<td>Women (optional)</td>
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<td>Graduation Rate (%) ³</td>
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¹ Full-Time Equivalent Students (FTE): Number of full-time students reported above + number of full-time equivalent for part-time students calculated on the basis of a full course load required to complete the program in the normal number of terms.
² FTE Foreign Students: Students included in Total FTE Students who are not Canadian citizens or landed immigrants.
³ No of degrees awarded or expected / No of entering students at the beginning of the degree.