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1.1 Program Identity and Mission

Accreditation requires an understanding of the program’s specific scholastic identity and mission. The APR must include:
- A summary of the program’s identity, uniqueness, strengths and challenges
- The program’s current mission statement, the date of its adoption or revision, and the date of its endorsement by the institution (if such statement and objectives do not exist, the program’s plans for completing one must be outlined).

Ryerson’s professional program in architecture has developed over the past decade out of a long history of technical education in architecture. Both the program’s strengths and its challenges can be understood, at least in part, as a result of that history.

The program is comprised of a four-year undergraduate (pre-professional) degree, the Bachelor of Architectural Science (B.Arch.Sci.), followed by a two-year professional Master of Architecture (M.Arch.), both of which are housed within the Department of Architectural Science. The B.Arch.Sci. includes options for specialization in Architecture, Building Science or Project Management, with graduates from all three specializations eligible for entry into the M.Arch. The inclusion of these three specializations within the program expresses a core belief in the holistic nature of architecture and of architectural education. The B.Arch.Sci. and its predecessor program, the B.Tech. (Architectural Science) have been offered at Ryerson since the 1970s, and constitute in many ways the core identity of the Department; the current version was launched in 2007, simultaneously with the M.Arch.

The Department has long prided itself on a close connection to the AEC (Architectural, Engineering and Construction) industry, and many of our graduates have gone on to significant careers in construction or development. As a result, our program has very strong ties to these industries. However, although many of our B.Arch.Sci. graduates have historically gone on to professional degrees (at other institutions) and licensure, the absence of a body of professional alumni in the local community has until recently made forging strong connections to the architecture profession a challenge. We are working hard to strengthen these ties.

Ryerson’s long tradition of technological education continues to influence the program. We have a large number of building technology courses in our curriculum, especially at the undergraduate level, and studios tend to require - and achieve - a relatively high degree of technical resolution. Conversely, and as the past visiting team noted, instilling the traditional liberal arts values of architectural education has been more of a challenge for the program, especially in the area of critical thinking. We have tended in the past to focus strongly on course content, leading to a very full curriculum, resulting in a reduced emphasis on conceptualisation or speculation in student work. Our challenge, at this point in our development, is to increase the latter, while maintaining the strength of the former.

Today, Ryerson’s professional program in architecture, like the University as a whole, is rapidly developing and maturing. The program stresses engagement in emerging technologies, and seeks to become a leader in this area. The program values collaboration, inside and outside the walls of the Architecture Building. We are a place of immense energy, as much activity is driven, bottom-up, from student initiatives. Our faculty are pursuing a rapidly growing research agenda. We offer a robust public lecture series and an exhibition series that will be bolstered in 2013 by the construction of a new professional-level gallery space. As our first M.Arch. graduates move towards licensure, we realize that we need to continue our development, to reframe once again the Ryerson tradition for the 21st century.

Ryerson University
Department of Architectural Science
Architecture Program Report
September 2012
Program Identity and Mission

Section 1.1 Page 2
Mission Statement

The Mission Statement of the Department of Architectural Science was prepared with input from the program’s constituents, the Program Advisory Council, students, alumni associations and faculty members. It was approved November 30, 2006 by the Department Council. It is reproduced in the Student Handbook and on the department website, and follows below. There is no record of its official adoption by the University, but it is passed to appropriate university bodies by virtue of being approved by the Department Council.

The development and implementation of new programs in the department, particularly graduate and professional programs, as well as the increasing emphasis on research, require that this Mission Statement be continually revised and updated.

The Mission of the Department of Architectural Science is:

• To provide education for a wide range of professional roles in the design, construction and management of the built environment by developing, enhancing and maintaining undergraduate, graduate and certification programs of applied study, and research in the areas of design, building science, project management and landscape.

• To prepare professionals for leadership roles in the AEC (Architecture, Engineering and Construction) Industry in the Greater Toronto Area, in Canada, and internationally by focusing on the development of the fundamental skills, knowledge and critical judgment necessary for effective participation in a complex, collaborative, cross-disciplinary workplace.

• To foster a comprehensive vision of architecture as a social, technical, political and cultural practice in the context of sustainability and evolving environmental and societal needs, and to utilize our combined expertise for the benefit of the larger community.

• To cultivate an environment conducive to lifelong learning and the pursuit of scholarly, research and creative activity by faculty and students.

The Mission of the Master of Architecture Program:

Within the broad mission of the Department of Architectural Science, the specific mission of the Master of Architecture program is to prepare the next generation of architectural leaders to think critically, act collaboratively and respond with sustainable solutions to local opportunities and global challenges. To do so, the program focuses on the study of architectural practice as distinct from, but encompassing, architectural design and architectural culture. The program has identified three broad overlapping areas of research interest: Sustainable Design, Emerging Technologies, and Global Communities.
Program Goals: UDLES development

In the winter of 2012, a committee of Department Council developed, as part of the University-mandated Periodic Program Review process, a series of Program Goals (Undergraduate Degree Level Expectations) for the pre-professional program. These have been formally adopted by Department Council.

Subsequently, a set of equivalent goals were developed for the M.Arch. program (Graduate Degree Level Expectations). The UDLES and GDLES process is part of the Ontario Ministry of Education’s mandated Quality Assurance program. Formal review of the M.Arch., including GDLES analysis, is scheduled for 2016.

Bachelor of Architectural Science
By the end of this program, students should be able to:

1. Design and document a comprehensive building project of moderate scale and complexity.

2. Critically analyze buildings, other aspects of the built environment, and related texts; communicate that analysis in written and graphic form.

3. Analyze, design and integrate building technologies in the context of building projects.

4. Engage in the discourse of architectural culture and theory in relation to a broader understanding of historic, current and evolving human culture.

5. Apply principles of collaborative management to the development of the built environment within the context of the AEC professions.


7. Make appropriate use of established and emerging technologies and processes in all areas of the curriculum.

Master of Architecture
By the end of this program, students should be able to:

1. Innovate and speculate in the design of buildings and other aspects of the built environment.

2. Produce an architectural project that embodies and communicates a critical response to architectural or extra-architectural situations.

3. Investigate new and emerging building technologies, or new uses for existing technologies, in the context of building projects.

4. Situate their projective work within an understanding of current and emerging discourses, both disciplinary and extra-disciplinary.

5. Apply an understanding of the shifting contexts for architecture as a profession, as a discipline and as a practice, to the organization of a design project and an architectural practice; understand and embody the ethical and leadership roles of the architectural profession.

6. Demonstrate significant knowledge and expertise related to a specific topic in one of the three core areas of the program: Global Communities, Sustainable Design, and Emerging Technologies.

7. Demonstrate expertise in, and innovative engagement with, current discourses, methodologies and technologies in relation to the profession of architecture as a whole (breadth) and a specific area of study (depth).
1.2 Program Action Plan and Objectives

An accreditation decision requires an institutionally approved strategic plan that guides the program in achieving the objectives of its mission. This plan, which should be used to structure the program’s self-assessment process, helps the visiting team understand the program’s role within the institution and the parameters of its future development.

In the APR, the program must include:
- A strategic plan developed in accordance with institutional norms, its measures of success, and a timeline for executing the plan.

In 2008, the University embarked on an ambitious five-year planning cycle, which included an Academic Plan for the University, academic plans for each of the University faculties, which elaborated on this plan, and Department/School academic plans. We are now near the end of this planning cycle, and work will begin in mid-2013 on the development of the next strategic plan. The following is a description of key components of each of the 2008-13 plans. The discussion of the Department of Architectural Science Strategic Plan includes a commentary on progress made to date in each area. The complete Academic Plans for the University, Faculty and Department can be found online.

Ryerson University Academic Plan 2008-2013: Shaping our Future

Shaping Our Future proposes directions for the University that are rooted in its history and present circumstances, and that imagine its future. Fortunately for us, Ryerson University’s present circumstances are extraordinarily bright, even auspicious. And so is its future. Building on its proud origins as a polytechnic institute, when Ryerson began to transform itself into a comprehensive university in 1993, its first-ever academic plan, Learning Together, helped us imagine where we are today: very much up-and-coming, the first choice of record numbers of students, growing quickly in academic stature and overall reputation. Indeed the gist of Ryerson today is that the impressive growth since 1993 has strengthened the quality of our achievements in teaching and research—and has added significantly to the University’s reputation.

Shaping Our Future aims to build on and expand our current strengths by largely preserving the University’s current priorities as established in the Quality Agenda: student engagement and success, growth in Scholarly, Research and Creative (SRC) activity, graduate growth, and reputation enhancement. These priorities serve us well. At the same time, Shaping Our Future also recognizes that no university can afford to stand still amid profound changes in the economy of knowledge, where students and researchers alike are constantly responding to the dynamics of change, especially technological change. So Shaping Our Future also proposes that Ryerson vigorously expand its response to dynamic change. Details appear in the section on strategies, but an example here would be to create new opportunities for cross-disciplinary inquiry by researchers, creative practitioners, and students. Shaping Our Future also proposes to explore other transformational changes in the University’s academic structures, academic funding models, and services to the academic community, especially students.

Shaping Our Future proposes five principal priorities:

1. High Quality, Societally-Relevant Undergraduate and Graduate Programs
2. Student Engagement and Success
3. Learning and Teaching Excellence
4. SRC Intensity
5. Reputation
Shaping Our Future presents 25 Strategies to support the principal priorities:

Strategy 1: Ryerson's undergraduate curriculum will continue to evolve, so that undergraduate programming and its delivery remain innovative and responsive to students. Courses will be made more accessible, students will be given more choice, and transferability will be enhanced.

Strategy 2: Ryerson's undergraduate programs will offer opportunities to students to develop a broad foundation of knowledge and skills necessary for the changing professions of the twenty-first century.

Strategy 3: Deans will evaluate the experiential learning opportunities available to students in their faculties, and will pursue improvements and new initiatives based on their evaluations and available resources.

Strategy 4: Subject to appropriate funding, Ryerson will increase the number of its professional and research-based graduate programs, particularly at the doctoral level.

Strategy 5: Each faculty in conjunction with the School of Graduate Studies will identify how services to graduate students may be strengthened, and the University will endeavour to pursue the recommendations with available resources.

Strategy 6: Ryerson will continue to pursue initiatives that offer life-long learning through continuing education programming as well as a broad range of programs designed to meet the access obligations of a democratic society.

Strategy 7: The University will continue to provide stimulus and support to increase both the quality and quantity of SRC activity.

Strategy 8: The transfer of knowledge to the community, industry, and the marketplace will be fostered.

Strategy 9: The University will increasingly pursue partnerships and collaborations that support the overall SRC plan.

Strategy 10: Undergraduate as well as graduate students will be provided with SRC activity opportunities.

Strategy 11: The Vice Provost, Students will assess the academic support services, and other services for students, and the University will work to sustain its effective programs and make improvements and changes where necessary.
Strategy 12: The director of Athletics will lead efforts to enhance facilities and opportunities for intramural sports and recreation.

Strategy 13: The University will make a key priority of its continued expansion of space for formal and informal study, informal gathering, and research and teaching.

Strategy 14: Ryerson will invest in the learning and teaching environment of a twenty-first century university; support pedagogical innovation; preserve its studio and lab cultures; and strengthen its experiential learning model.

Strategy 15: All faculties will be encouraged to create a faculty team in partnership with others to support teaching, learning, and student success and retention.

Strategy 16: A report on the academic structure of the University will be developed by the Provost through a consultative process.

Strategy 17: The Provost, with the Vice Provost, University Planning and the deans, will review Ryerson’s academic funding models.

Strategy 18: Ryerson will compete vigorously to attract and retain highly qualified faculty.

Strategy 19: Opportunities will be enhanced for faculty, instructors, and teaching and graduate assistants to strengthen their teaching practices.

Strategy 20: The University will work to expand the staff complement where possible, recognizing the vital impact of staff support on the educational mission.

Strategy 21: Additional professional and career development opportunities will be designed or supported for staff.

Strategy 22: Development activities will be undertaken to support proposals both at the university and faculty levels, consistent with the priorities of the Academic Plan.

Strategy 23: University Advancement will take the lead in creating new university-level opportunities and pathways for alumni to become even more engaged in the life of the University, and will collaborate with faculties as appropriate.

Strategy 24: Ryerson will foster local, national, and international partnerships and collaborations with organizations that share the University’s goals and enhance its mission.
Strategy 25: Ryerson will ensure that it communicates effectively to its many internal constituents and external stakeholders the value and quality of its academic programs, its research, and its community. Ryerson will publicly celebrate major achievements, successful initiatives, and other signal accomplishments to add to the University’s reputation.

Faculty of Engineering, Architecture and Science

Faculty Mission

Please note that on August 1, 2012, the University launched a new Faculty of Science, comprised of several departments that had previously been housed in the Faculty of Engineering, Architecture and Science. As of that date, our Faculty is known as the Faculty of Engineering and Architectural Science. However, all literature pertaining to the 2008-2013 Strategic Plan refers to the Faculty of Engineering, Architecture and Science.

The mission of the Faculty of Engineering, Architecture and Science (FEAS) is to create knowledge through advanced research in Engineering, Science and the Built Environment to address societal needs in these essential fields; and to disseminate relevant state-of-the-art information and knowledge in these fields through the provision of programs of study, which will provide a balance between theory and application, and prepare students for professional careers and lifelong learning capabilities in the Engineering, Natural Science, Computer Science and Architectural fields.

Faculty Strategic Academic Plan, 2008-2013

Faculty Goals

The Faculty of Engineering, Architecture and Science has formulated six goals that are listed below. The full Faculty Strategic Academic Planning document also includes specific outcomes of the goals and the steps proposed to accomplish these goals.

1. Achieving “Excellence” in the quality of our undergraduate and graduate engineering, architecture and science programs. This requires the continued upgrading not only of programs’ curricula and the related teaching/learning innovations, but also of the operational and environmental parameters that have direct impact on the quality of the programs offered by FEAS.
2. The development and the implementation of new societally relevant and needed high quality undergraduate and graduate programs.
3. Faculty Restructuring: The Faculty currently offers 15 undergraduate programs and 11 graduate programs in the various disciplines of engineering, architecture and science. It serves over 4500 undergraduate students and 800 graduate students. It is in fact larger than a significant number of Canadian and North American Universities, and can certainly be described as a...
“college”, with a number of “school” clusters. The number of planned growth initiatives will certainly add more operational challenges and demands on its finite resources and management, let alone its expanding diversity.

4. Establishment of National and International Partnerships: The Faculty and its stakeholders cannot ignore the reality of today’s “globalization” and “internationally-based economy”. Neither can we afford to overlook the fact that our professional programs cannot continue to provide Ontario and Canada with high quality graduates without the input and the support of institutions and corporations that will eventually employ these graduates.

5. Enhancing and Strengthening SRC Activities and Outcomes: Research excellence and productivity are intricately connected to the research-based graduate programs. This is particularly true in the various fields of engineering and science. As our Faculty’s mission statement indicates, the creation of knowledge through advancements in research in order to support societal needs, is a key Faculty objective.

6. Enhancement of the Students’ and Graduates’ Engagement and Satisfaction: The level of satisfaction of the program students, and of the program graduates with their program’s learning experience is certainly a key indicator of the quality of education the program provides to its clientele. Students’ engagement with their programs’ curriculum, its services and its educational environment, further provides appropriate constructive feedback for quality improvements.

Department of Architectural Science
Strategic Academic Plan 2008-2013

Objective 1  CACB Accreditation for the program in Architecture
Canadian Architecture Certification Board (CACB) Accreditation for the program in Architecture (4 year undergraduate + 2 year graduate) to be achieved by January 1, 2012.

Progress: this goal was achieved ahead of schedule, in 2010.

Objective 2  Department of Architectural Science: Graduate Programs in Construction Project Management
Establish graduate programs in Construction Project Management, to admit first cohort of students in the Fall Semester 2010.

Progress: the Department prepared and submitted a Letter of Intent for the new program in 2009. However, the proposal is currently on hold pending the allocation of additional graduate positions by the provincial government. Alternative proposals are currently being explored.
Objective 3  Department of Architectural Science: Resources to meet the needs of high quality programs in the Department.

Resources fall into 4 areas:

1. Physical Resources - to acquire additional space for the department and/or improve the existing space in the Architecture building to meet the needs of accreditation, enrollment, new programs and expanded research;
2. Human Resources - to increase the complement of faculty members to sufficiently deliver quality programs (3 positions in architecture, 1 in Building Science and 1 for the new program in Construction Project Management), and support staff;
3. Increase awards and scholarships for students in the department;
4. Improve the quality and size of student engagement space within the Architecture building.

The deadline to achieve the objective of Resources is 2013.

Progress: improvements to the Architecture building are ongoing. Since the plan was developed in 2008, we have since had a number of minor, but cumulatively significant, renovation projects take place in the building, as well as a significant increase in equipment (especially digital equipment). This year, $1.7 Million was allocated by the provost to upgrade the HVAC facilities in the building. In total, since 2010, $550,000 has been spent on renovations and digital equipment purchases. In addition, first-year student intake has been decreased from 130 students in 2008 to 115 students in 2009 and ongoing, allowing the program to “fit” within the existing building.

Since 2008, three additional tenure-track faculty members have been hired in architecture, one in building science, and one in project management. However, during that same period we have lost one in each of three specializations; as a result, we remain three positions short of our 2008 goal.

Awards and scholarships have been significantly increased in the Department.

Some improvements were made to student engagement space by the renovation of several small enclosed classrooms into open crit spaces. In addition, the Resource Centre has been re-visioned as a space to promote architectural culture, including a small informal exhibition area, lounge seating, current journals and so on; this revisioning process is not yet complete and will require additional funding. Funds have been allocated for a new professional-level gallery space, to be constructed during the summer of 2013.

Objective 4  Doctoral Program: Institute a Ph.D. program with one or more areas of focus, by September 2013.

The Department of Architectural Science will begin a series of departmental-level discussions intended to identify the focus or foci for doctoral programs in architectural science (combination of areas such as Build-
ing Science, Project Management and Architecture), and the feasibility of such programs, which will require approximately one year. Following this, the SGS has a well-established process for the implementation of new programs.

Progress: this objective is on hold pending Ontario government allocation of additional doctoral seats.

Objective 5 Increase the quality and quantity of SRC activities in the department.

Progress: since 2008, SRC activities in the Department have increased markedly. Faculty have been successful in grant competitions with SSHRC, NSERC and the Canada Council for the Arts, with external funding growing to approximately $475,000 per year. In 2012, a Communications and Digital Archive Specialist was hired whose duties include assisting in the preparation of grant proposals.

Objective 6 Improve Pedagogy/Teaching Excellence

Expand the knowledge and practice of more effective and innovative pedagogy for our graduate and undergraduate programs. Achieve and implement new practices by 2013.

Progress: this objective is ongoing, and difficult to measure. Perhaps most telling is the UDLES discussion that happened in the Department in 2011-12, which has led to a desire for a more professionalised and innovative teaching culture. In the coming academic year we will be operating a number of collaborative studios, innovative for us, which will be available for the visiting team to view. We have also instituted mechanisms for collaborative course design. Professors Vincent Hui and George Kapelos have both successfully obtained internal grants for innovative pedagogical projects, which will be offered in the coming academic year.

Objective 7 Architecture/Building/Construction Practicum (Co-op)

Initiate a program to open opportunities for industry and University collaboration for student research projects. This program would involve placing undergraduate students in architectural science into architectural firms, and consulting and construction firms in AEC industries, to complete a research project of a specified scope and time-line for credit in the Bachelor of Architectural Science program.

Progress: a preliminary report on a new Co-op option within our program has been written and presented to our Program Advisory Council, receiving unanimous support; it has also received the support of the Dean. We anticipate this will be passed by our Department Council, and submitted to Ryerson administration, within the coming academic year.
Objective 8  Department and Program Identity
Establish a positive and distinguishable identity that reflects the Department’s unique qualities and mission (as specified in the Department Mission Statement) and one that establishes a distinctive reputation. The date to accomplish this objective is 2013.

Progress: the UDLES process carried out within the Department in 2011-12 has initiated a serious discussion about Departmental Identity. In April 2012, the Architectural Course Union brought a motion to Department Council to form a committee to investigate changing the status of the Department to that of a School; this committee will report back to DC, and some action taken, before the accreditation visit in March 2013.

In addition, in January 2012 a Communications and Digital Archive Specialist was added to our staff complement, to allow us to disseminate our identity in a professional manner.

Over the course of the summer, we have begun to re-think our communications strategies, especially in relation to our website, which we are slowly transforming from a text-based site to a multimedia site.
2 Progress since the previous site visit

Accreditation is contingent on the assurance that deficiencies, both minor and serious, are being systematically addressed.

The APR must include:
- The program's summary of its responses to the previous team findings (VTR) as documented in the Annual Reports (AR). This summary must address the conditions identified as "not met", as well as the "causes of concern". It may also address the conditions identified as "met" or it may address "team comments".

The program takes very seriously the need to respond to deficiencies noted by the visiting team. The following is a summary of the program response, section by section. The program would like to note that as the previous visit was in 2010, we have only had two years to effect change; we therefore see ourselves as early in the process of addressing these issues.

Causes of Concern

1. Despite the long history of the Department producing highly employable graduates, there should be further efforts to develop a professional culture within the Department and this has ramifications for a series of courses and accreditation criteria. There is a lack of suitable courses and course content in professional practice, particularly in the areas of ethics, professional judgment and leadership. Ryerson is well placed to develop innovative coursework in professional practice.

Progress to date:

At the time of the last visit course material related to professional practice, ethics, professional judgment and leadership was primarily concentrated in the graduate program. Since then, courses in the undergraduate program have been modified to include early exposure to these important areas of study. In particular, ASC102 The Built World and ASC304 The Construction Project are now addressing these areas of concern. In this manner, students are exposed to this material repeatedly, at a variety of levels, significantly enhancing their understanding of architecture's role as a profession.

2. The team recognizes the valued tradition of Ryerson’s technical program. However, the development of the professional degree requires a broader education and greater emphasis on the Liberal Arts. Numerous shortcomings within the professional curriculum may exist because of the shortcomings within the Liberal Arts.

Progress to date:

With respect to Liberal Arts course offerings, the Ryerson program is consistent with other Canadian programs in architecture. However, the technical nature of the university’s institutional legacy is still felt in terms of the instrumental orientation of the program. In response to this traditional privileging of technical education, the Department has undertaken to enhance the status of the Liberal Arts within the program. This is being addressed by placing increased emphasis on learning and teaching methodologies and assessment strategies that reinforce Liberal Arts pedagogy: literature research, qualitative critical analysis, and term papers. A specific example can be found in the course ASC200 Sustainable Practices, which has previously focused on technical and quantitative aspects of sustainable design. For Winter 2013, this course is being revised to include critical perspectives on sustainability in all its manifestations - environmental, social, cultural and economic - and will address qualitative as well as quantitative analytical methodologies.
3. Generally, writing, research, and critical thinking abilities evident throughout the curriculum do not meet the expectations for accredited architectural programs; this has impact on many other performance criteria.

Progress to date:

The Department has identified a number of courses as particularly suitable for additional emphasis on writing, research and critical thinking. Reduced class sizes and increased Graduate Assistant (GA) support has provided faculty with greater opportunities to support the preparation of research papers, especially in courses that address cultural/theoretical aspects of the curriculum. As a result the number of courses assigning research papers has increased, and the expectations for student performance on those papers has also gone up. Additional GA support has allowed for a greater degree of feedback on work-in-progress, leading to improved performance on the part of students.

4. The undergraduate curriculum has an excessive course load, a very concentrated weekly timetable, and numerous assignments. Further, there is some concern about the length of the six-semester Masters program. The Department is encouraged to review the curriculum to address these concerns.

Progress to date:

A series of faculty retreats during the 2010-11 academic year specifically addressed the question of excessive workload. No reduction in the course load or weekly timetable has been recommended at this time, but significant progress has been made with respect to student assignments. Since the last visit, the total number of student assignments in the first three years of the program has been decreased by 23%.

The six-semester Masters program remains in place, but students have the opportunity to complete the program in five semesters. While a majority of students still elect to take the full six semesters, an increasing number of students are completing in five. In addition, the Master of Architecture Committee is examining a variety of options for reducing the overall length of the program, in particular for students who have completed Ryerson’s undergraduate Bachelor of Architectural Science Degree.

5. The strength of the applied aspects of the curriculum, particularly in building science, does not appear in the graduate program in any depth. There is significant potential for developing excellence in this area, building on the unique history of the Department.

Progress to date:

We have been working to integrate more tectonic and building science issues into the M.Arch. studio curriculum, and to increase collaboration between Building Science and Architecture. The second studio in the M.Arch. sequence has become more tectonic in its character. In 2013, Dr. Miljana Horvat will lead this studio, which will focus on environmental health issues from building science and architectural perspectives. We plan to offer this studio as a Building Science/Architecture collaboration in the future.
6. The workshop is not adequate in size to serve the current number of students.

**Progress to date:**

The workshop has been expanded by approximately 650 m2 in order to accommodate additional workspace and additional digital fabrication equipment. In addition, we have had a planned decrease in the student population of 20% since the last visit, which has helped to ease the demand on this facility.

7. It is important that the approved upgrades to the building’s HVAC system be addressed immediately, particularly with respect to the area dedicated to digital fabrication.

**Progress to date:**

Upgrades to the ventilation system in the Digital Fabrication Lab are under way at the time of writing and should be completed by September 2012. Funds have been secured and engineering design work has been completed for a major overhaul of the building HVAC system as a whole; construction is planned to take place during the summer of 2013.

**Conditions Not Met**

12.1 Verbal and writing skills

Ability to speak and write effectively on subject matter contained in the professional curriculum.

Evidence throughout the curriculum shows the impact of this deficiency. Despite students taking required liberal arts and science electives, there was not adequate evidence of university level writing skills. While a few courses required and achieved adequate levels of writing the writing of properly researched and referenced term papers was not evident at a consistent level throughout the course work. Students demonstrated strong verbal skills.

**Progress to date:**

The Department has identified a number of courses as particularly suitable for additional emphasis on writing properly researched and referenced term papers. Reduced class sizes and increased Graduate Assistant (GA) support has provided faculty with greater opportunities to assign and support the preparation of research papers. The increased GA support has allowed for a greater degree of feedback on work-in-progress, including abstracts, annotated bibliographies, and iterative drafts of papers. Some courses - notably ASC103 The Built Context - include assignments that require students to consult with the University’s Writing Centre, familiarizing them with the expectations and requirements of properly researched and referenced university level papers starting in their first semester in the program.
12.3 Research skills

Ability to employ basic methods of data collection and analysis to inform all aspects of the programming and design process.

While limited data collection and analysis may occur within the curriculum, there is insufficient evidence that the research skills are developed enough to inform all aspects of the programming and design process. Research methods are minimally explored. Additionally, clarity of process and accepted norms for research documentation falls short of expectations. This shortcoming is related to SPC 12.4. As the graduate program develops, research abilities will be an essential element for success.

Progress to date:

A variety of courses, notably studios, are placing increased emphasis on research as a fundamental aspect of the programming and design process. Specific research exercises within studios support the development of analytical skills and require students to clearly articulate their interpretations of data and its applicability to their design process. In some cases the level of documentation remains short of expectations, but we are seeing improvement in this area across the program.

12.4 Critical thinking skills

Ability to make a comprehensive analysis and evaluation of a building, building complex, or urban space.

Evidence throughout the curriculum shows the impact of this deficiency. The visiting team noted a general ability to observe and describe existing conditions using text, drawings, physical/digital models or other means. However, the team also noted a lack of general ability to move beyond the descriptive, to identify the meaning and significance of what is observed or expressed. Further, regarding textual or visual argument, the team observed a weakness in determining whether there is adequate justification to accept a result or conclusion as valid.

Progress to date:

This is closely linked with item 12.3, Research skills, and is being addressed as noted in the response to that item, in particular with respect to the analysis and interpretation of data. More work needs to be done in the early years of the program to provide students with a stronger vocabulary with which to analyse and interpret, and move beyond the merely descriptive. In the fall 2012 semester, new curriculum is being introduced in the first semester ASC101 Communications Studio which will help support this ambition.

12.9 Use of precedents

Ability to provide a coherent rationale for the programmatic and formal precedents employed in the conceptualization and development of architecture and urban design projects.

While precedents are presented in various courses, there was insufficient evidence of the systematic analysis of precedents and their application to design.
Progress to date:

The definition of this particular SPC has been substantially revised since the last visit. Our students carry out numerous analytical exercises entailing the analysis of a building, building complex, or urban space. As noted above, however, the challenge is to have them transcend the merely descriptive. This is supported in a number of courses, including studios, that require students to analyse and interpret various aspects of architecture using the vehicle of precedent analysis.

12.12 National and regional traditions
Understanding of the national traditions and the local regional heritage in architecture, landscape, and urban design, including vernacular traditions.
While there is some content in the third history course, and many assignments dealing with Toronto in the curriculum, the teaching of this subject is not adequately presented. It is noted that there is an elective course on this subject.

Progress to date:

This particular SPC no longer appears in the 2010 Conditions for Accreditation, and we interpret it to now form part of A7 Cultural Diversity and A8 History and Theory. This content is addressed in the history courses (especially the third course, as the others deal primarily with the pre-colonial era) and will also find significant expression in ASC200, Sustainable Practices, which is being revised for Winter 2013. This is further supported by the undergraduate Collaborative Exercises, in which all students must participate, and which often focus on design projects that address issues of local, regional and national significance.

12.35 Architects’ leadership roles
Awareness of architects’ leadership roles from project inception, design, and design development to contract administration, including the selection and coordination of allied disciplines, post-occupancy evaluation, and facility management.
The leadership roles of architects is not directly addressed in course materials or assignments, other than indirectly through the organizational model of the integrated studio.

Progress to date:

Following the last CACB visit the Department undertook a detailed review of courses intended to address this area of study and has significantly enhanced the discussion of architects’ leadership roles in the curriculum. Previously, course material related to architects’ leadership roles was primarily concentrated in the graduate program, in particular AR8101 Studio in Critical Practice, AR8102 Seminar in Critical Practice and AR8104 Seminar in Contemporary and Future Practice. Since then, courses in the undergraduate program have been revised to include discussion of architects’ leadership roles, notably ASC102 The Built World, ASC200 Sustainable Practices and ASC304 The Construction Project.
12.37 Ethics and professional judgment

Awareness of the ethical issues involved in the formation of professional judgments in architecture design and practice.

Not directly addressed in course work. No sense of procedures, transparency, self governing processes, or critical/ethical thinking.

Progress to date:

Similar to item 12.35 above, course material related to architects' leadership roles is primarily found in AR8102 Seminar in Critical Practice and AR8104 Seminar in Contemporary and Future Practice within the graduate program. Courses in the undergraduate program have been revised to include discussion of ethics and professional judgment, notably ASC102 The Built World, ASC200 Sustainable Practices and ASC304 The Construction Project, among others.
3.1 Program Response to the CACB Perspectives

Programs must respond to the relevant interests of the constituencies that make up the CACB: educators (CCUSA), members of the practising profession, students and interns, provincial associations representatives (CCAC) and public members. Together these constituencies, each of which brings specific concerns to the accreditation process, comprise the broad range of perspectives that frame a professional education in architecture. The CACB encourages each program to address these perspectives in a manner consistent with its scholastic identity and mission. In this section of the APR, the program must discuss how it addresses each of the following five perspectives.

One of the most fundamental concepts underlying the Ryerson program in architecture is the belief that the making of architecture is always a collective activity. The program recognises that the professional architect never acts alone, but always in numerous collectivities, of which he or she is often required to take on a role of leadership.

This notion of the collective is found throughout the program, from the tripartite structure of the undergraduate program, which sees Building Science, Project Management, and Architecture as three fingers on one hand, to the Collaborative Exercise, which seeks to bring students into close contact with a diversity of voices and ways of thinking. This philosophy extends to the emphasis on integration and cross-disciplinarity in Phase III of the undergraduate program to the focus on critical practice, social responsibility, and wide-ranging collaboration in the Master of Architecture program. The program is fortuitously situated in the centre of Canada’s largest and most diverse city, reflecting the department’s mission to address societal needs and concerns for sustainability. These perspectives are also viewed through the emphasis of our program on architectural practice and the determination on the part of faculty members to engage in the future construction of the city.

In this focus on the collective is evident in each of the five CACB Perspectives on architectural education.

A. Architecture Education and the Academic Context

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

Training in architecture and related disciplines has been at the heart of Ryerson’s mission since its founding in 1948. It is difficult to imagine another discipline whose aims come closer to the Ryerson motto, *Mente et Artificio* – with mind and hand. This motto is most clearly embodied in the studio model of education, which exists in other disciplines at Ryerson but is most central to architecture.

Today, Ryerson has become a dynamic university with 25,000 undergraduate students, and approximately 2,500 graduate students in six Faculties. The architecture program builds on and intends to increase its symbolic role as the heart of Ryerson.

The program has been designed in such a way as to take advantage of special expertise at the University. Opportunities have been built into the program for students to come into close contact with other parts of the University through collaborative exercises, elective courses, and graduate areas of specialization. Ryerson has a number of innovative, unique, or unusual programs, many of which intersect with aspects of the built environment (Interior Design, Urban and Regional Planning, Social Work, Justice Studies, Theatre) or aspects of design (Fashion, Photography, Image Arts).
Although not exhaustive, the following are several examples of activities that specifically support the mission of the Department of Architectural Science. Faculty members from other disciplines in the University are currently teaching core undergraduate courses in our curriculum, specifically in the areas of physics and arts & contemporary culture. In the new curriculum, all undergraduate students are required to satisfy 18 credit hours (6 classes) in general education. This requirement for electives may be fulfilled in any of the disciplines within the University. Faculty members in the Department of Architectural Science direct and teach in the Chang School, Ryerson University’s large and diverse Continuing Education program. In the Fall semester of 2012, we are offering an upper-year undergraduate option studio in collaboration with studios in both the School of Urban and Regional Planning and the School of Interior Design; our M.Arch. studio in the same semester is running parallel with a studio on the same theme in the SID. Graduate seminars are open to students in any discipline; our students often take courses in other disciplines, while students from other areas (particularly engineering disciplines) frequently take part in our courses. In recent years, the department has included faculty from sociology and urban planning as guest lecturers and studio critics.

Student teams have participated in the last two Nuit Blanche exhibitions, coordinated at Ryerson by the Faculty of Communication and Design (FCAD). The Department hosts a number of special events, including a guest lecture series, symposia, and so on, which are generally open to the Ryerson community; in 2010 our guest lecture series included Nobel-prize winning poet Dereck Walcott, and was produced in conjunction with the Faculty of Arts. At the time of writing, we are negotiating to include film director Guillermo del Toro in this year’s lecture series, in conjunction with FCAD. Faculty members who teach in the program are forging research connections with other parts of the University, and are participating in the development of new and unique programs, such as the proposed Master of Interior Design. The Department has many faculty members who conduct collaborative and interdisciplinary research such as the Carrot City team, which operates across a number of disciplines.

The Department of Architectural Science is one of the largest of the six departments in the Faculty of Engineering and Architectural Science (FEAS), which is headed by a Dean. The Faculty has 9 undergraduate, 15 Masters and 5 Doctoral programs, located in numerous buildings on Ryerson’s campus; on August 1, 2012, a new Faculty of Science was formed to include Science programs previously housed in FEAS. As part of FEAS, the Department enjoys support from the Faculty and collegiality with the other departments. The Chair represents the Department on the Dean’s administrative team. Faculty members from the Department of Architectural Science sit on the Faculty Promotion Committee and Faculty Tenure Committee that evaluate promotion and tenure applications, and also serve on a variety of Faculty and University Committees; Architectural Science faculty members regularly sit on the University Senate and, currently, on the Board of Governors.

Finally, the program is fundamental to an understanding at Ryerson, led by President Sheldon Levy, that the built environment matters.
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. Given its particular mission, the APR may cover such issues as: how students participate in establishing their individual and collective learning agendas; how they are encouraged to cooperate with, assist, share decision-making with, and respect students who may be different from themselves; their access to the critical information needed to shape their futures; their exposure to the national and international context of practice and the work of the allied design disciplines; and how students’ diversity, distinctiveness, self-worth, and dignity are nurtured in the academic environment.

One stated goal of the program is to educate leaders for the AEC industry. In order to lead effectively, it is necessary to possess the vision, skills, and will of the strong individual, in order to set directions for the industry to follow; but it is also necessary to understand one’s position and roles within the collective, and the responsibilities that come with leadership.

Although the majority of our students enter the undergraduate program from high school, they come from a wide diversity of ethnic, financial, linguistic and cultural backgrounds. The diversity of the student population increases over the course of study, as students choose to develop their own areas of expertise through the choice of specializations (Architecture, Building Science, or Project Management), through traditional electives, and through collaborative exercises which become increasingly self-directed as students progress through the program. In the graduate program, students are encouraged to choose an area of investigation outside of the traditional realm of architecture, and to incorporate this area into the preparation of the M.Arch. thesis. All of these mechanisms are aimed at developing strong individuals who bring their own areas of expertise, their own individual perspectives to architectural practice, and individuals who understand the value of self-directed, and hence life-long, learning.

In order for such strong individuals to act effectively in the world, however, they must understand how to operate within a collective. The program strives to develop the skills for collective or collaborative work in students throughout the program, by means of projects carried out in teams and through the collaborative exercises. At two particular moments in the program, Phase III of the pre-professional program (the Integration Studio) and term 2 of the graduate program (the collaborative studio), collective work becomes central to the program. It is important that students, upon graduation, be able to assume many different roles within the collaborative, multi-disciplinary teams in which architects practice today.

Students must also learn to act responsibly within the collective. To this end, the program strives to inculcate in students the need to act in an ethical manner, in accordance with the needs of society. The graduate program therefore focuses on critical practice, examining the conditions and contexts of architectural production, and on a broad model of collaboration.

Initiatives are beginning within the Department towards setting up a number of mechanisms aimed at increasing students’ understanding of their roles within and responsibilities towards the various collectivities within which architecture is practiced. These include a number of opportunities for student mobility, particularly in the fourth year of undergraduate and first year of graduate studies. In recent years, groups of students have travelled to Brazil, China, Turkey, Germany and Israel. Opportunities for study abroad within the pre-professional program include study in Israel and Italy, and a reciprocal exchange program with the Fachhochschule Frankfurt-am-Main, Germany, which has included, in Europe, tours of Berlin, and of France and Switzerland to visit the work of Le Corbusier, and, in North America, visits to Montreal, Chicago and the Northeastern United States.
For the past two years, Ryerson has been a part of Future City Lab, an international association of architecture schools as well as related “expert” firms, whose goal is to imagine the sustainable city of 2050. This has produced opportunities for student travel and exhibition as well as for connecting students to their counterparts abroad.

Under review for implementation is a limited and optional co-op program to take place within the pre-professional program. The graduate program has been envisioned as an innovative experience involving collaborative and critical practice. With this intent, several initiatives have begun. Each graduate student is required to document two collaborative experiences joining a design team (each consisting of approximately 90 hours of activity). In most cases this design team will be focused on a specific project such as a design competition. The design collaboration must involve faculty members or local practitioners. Currently, a number of students are participating in a project cataloguing Toronto’s modern architectural heritage, organized by the OAA.

The Department of Architectural Science provides opportunities for students to assume leadership roles in the governance of the unit. Student representatives serve on the Department Council that is the decision making body for departmental policy and procedures. Students are also represented on search committees for the Department Chair.

The Department of Architectural Science at Ryerson University has three very active student organizations. The Architectural Student Union (ASU), the Canadian Architecture Students Association (CASA), and a chapter of the American Institute of Architecture Students (AIAS). These groups plan visits to professional offices, construction sites in the GTA, trips to cities in Canada and the United States, and publish a magazine of student work entitled 325. In an effort to increase mobility and the experiences of our students, several studios include travel to cities in North America.
C. Architecture Education and Registration

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

Ryerson’s professional program in architecture is still very young - we only achieved accreditation in 2010. As a result, we do not as yet have any graduates of our professional program who have achieved licensure. However, a large proportion of our graduates have gone on to become intern architects (37 active interns as of August, 2012, out of a total of 69 graduates), and an increasing number of our students are student associates of the OAA.

Ryerson’s program in Architectural Science has always understood professional licensure and registration as an important career path for its graduates, while recognizing that educating students to take up other roles in the AEC industry is also important. Indeed, the Bachelor of Architectural Science degree program, like the Bachelor of Technology degree program before it, has long served as a de facto pre-professional degree, with many graduates going on to earn professional Master’s degrees at other institutions and eventually becoming licensed architects. Although hard statistics have not been kept, anecdotal evidence would suggest that some 25% of graduates of the B.Arch.Sci. eventually attain architectural registration.

Furthermore, the program maintains, and is working to increase, an active working relationship with the OAA, through our lecture and exhibition series and other events. The OAA also provides an annual student award to the program as well as the OAA Medal for the top-ranked graduate. This year, we have expanded the relationship into the curriculum, with a proposed studio to study the OAA building from the point of view of both building science retrofit and heritage preservation.

We are continuing to develop a culture of professionalism within the program. Students are exposed to the requirements of internship and continuing education at a number of points in the curriculum as well as through information panels posted at important spots in the building. The responsibility for professional conduct is a core value presented at the very beginning of the program, stressed throughout the program, and emphasised through the “office” scenario in the Integration Studio in the third year of the B.Arch.Sci. program, while the leadership roles of architects in the community are absolutely core to all three studios in the M.Arch. sequence.
Architectural practice has been rapidly evolving in recent years in response to significant pressures coming both from within and outside the profession. If we look forward a decade or so to imagine the profession our graduates will have to contend with, we can expect it will look something like this:

- Buildings will be less defined by their formal or material aspects and more by their performative capabilities. Cross-disciplinary research will become a critical aspect of architectural practice.
- Architectural production will be driven less by traditional and established methods and more by technology-driven innovation. Forms of practice and project delivery methods will be transformed to reflect the effects of networks of practice and collaborative media.
- The image of the architect as a producer of buildings will be replaced by that of the architect as a coordinator of complex and multidisciplinary processes and teams, often operating through global and virtual networks.
- Architecture’s disciplinary boundaries will be redefined in terms of process and methodology rather than scale. The traditional middle ground of general consulting firms will give way to trans-disciplinary consulting, on the one hand, and specialist sub-consulting on the other.
- The challenges of our communities (undergoing massive change from mass migration, climatic modification and evolving infrastructural needs) will come to occupy a more significant place within architectural culture.

We see our role at Ryerson as assuming a proactive rather than reactive approach to preparing students for this new world of the profession. We want our graduates to be strong individuals, capable of life-long adaptation to shifting technologies, leaders in the profession and in the community. The program has identified several clear strategies for fostering student development:

- An emphasis on collaboration throughout the program, across program disciplines, across the University, and in the community;
- An intense engagement with new and emerging technologies;
- Embracing and fostering student-led initiatives and projects.

Most instructors in the Department are licensed architects. Indeed, licensure in either Architecture or Engineering is normally a requirement for tenure in the Department. Several of our full-time faculty, and most of our sessional instructors, maintain active practices.

We have a long history of engaging members of the architectural profession in the program as guest
critics and as external examiners for M.Arch. theses (each panel has two externals - one academic and one professional. Members of the profession are also common visitors in classes, as invited speakers, as advisors on student competitions, and so on.

We also have some initiatives in place to foster and nourish our connections to the profession. First, we host a series of lectures and exhibitions, all of which are open to the profession and can serve as continuing education opportunities. One of our student societies, the AIAS, annually organizes a “firm crawl” during which students visit the offices of local firms. In our M.Arch. program, students are asked to carry out a Collaborative Competition in which they work on a team with a practitioner on work of a speculative nature such as a design competition; although in practice most students have worked with Ryerson faculty, we are increasing our efforts at external collaborations. In the summer of 2012, a number of Ryerson students participated in the Culture of Outports project, a design-build exercise located in Brigus, Newfoundland, organized by ERA architects; we anticipate more school/profession collaborations in the future.
E. Architecture Education and Society

The program must demonstrate that it not only equips students with an informed understanding of social and environmental problems but that it also develops their capacity to help address these problems with sound architecture and urban design decisions. Given its particular mission, the APR may cover such issues as: how students gain an informed understanding of architecture as a social art, including the complex processes carried out by the multiple stakeholders who shape built environments; the emphasis given to generating the knowledge that can mitigate social and environmental problems; how students gain an understanding of the ethical implications of built environment decisions; and how a climate of civic engagement is nurtured, including a commitment to professional and public service.

A fundamental determination in the construction of the program is a firm belief in architecture as a social art. Architects not only act always within collectivities, in collaboration with other professionals, owners, and stakeholder groups, but also act on those collectivities, producing buildings that can radically change the nature of the built environment and therefore, by extension, the nature of society.

It is critical therefore that the architect deeply understands the nature of society: its structures, its needs, and the means of acting on them. The program introduces the student to the study of society in the first phase of the pre-professional program, which focuses on context. The goal of this phase is to bring students, of increasingly young age and from increasingly diverse backgrounds, to a preliminary level of understanding of the societal role of architecture. In the graduate program and senior undergraduate years, students are also exposed to faculty from other disciplines to encourage a deeper understanding of the architect’s impact on society.

The location of the program in the very centre of Canada’s largest and most diverse city presents an ideal opportunity to give students first-hand experience with the complexities of building in the contemporary city. Through lectures, symposia, charrettes, competitions, and targeted studio projects and specific classes, students come to understand the multiplicity of stakeholder groups and their competing requirements and issues. These opportunities are enhanced by the increasing engagement of faculty members with stakeholder groups (Yonge Street Mission, Ladies of the Lake, Annex Residents Association, Toronto Cancer Prevention Coalition) and in political issues regarding the built environment. This engagement with Toronto community issues reaches a new level of intensity in the collaborative studio in the graduate program, which involves direct consultation with community stakeholders.

The program also understands part of its mission to be assisting in the education of the general public with respect to the nature and needs of the built environment. This is one reason, inter alia, why the Department maintains programs directed to students who do not intend to become professional architects. In another strategy aimed at furthering this aspect of the program mission, the program seeks continually to open up its doors to the general public, through a public lecture series, conferences and symposia, and exhibitions. The goal is to make of the Architecture Building a space for public discussion of the built environment, in all its manifestations.
3.2 Program Self-Assessment

The program must provide an assessment of the degree to which it is fulfilling its mission and achieving its strategic plan. The CACB encourages absolute candor in conducting and reporting the self-assessment so that, if well done, it will largely anticipate the VTR.

The APR must include:
- A description of the program’s self-assessment process;
- Faculty, student and alumni assessments of the program’s overall curriculum and learning context, as outlined in the CACB Perspectives.

Feedback may be obtained through such techniques as surveys and focus groups, but individual course evaluations are not deemed sufficient to provide insight into the program’s substantive focus and pedagogy.

The Department of Architectural Science engages in an ongoing process of self-assessment, making use of both formal and informal mechanisms to ensure that its programs are performing in a manner consistent with Ryerson University’s institutional mission, the Department’s mission and goals, and the CACB Perspectives.

Assessment Processes: Formal Mechanisms

A variety of formal procedures for program self-assessment are in place at Ryerson University.

Academic programs at Ryerson University are required to conduct formal periodic program reviews, typically on an eight-year cycle. Periodic program reviews serve primarily to help ensure that programs achieve and maintain the highest possible standards of academic quality and continue to satisfy societal need. They also serve to satisfy public accountability expectations through a review process that is transparent and consequential. The process is endorsed by the Council of Ontario Universities (COU) and monitored by the Ontario Universities Council on Quality Assurance (Quality Council). Academic programs at Ryerson are also aligned with the statement of undergraduate and graduate degree-level expectations adopted by the COU.

The periodic program review results in a self-study report, which addresses the following areas: program history; program outcomes; development since previous program review; societal need; admission criteria; academic quality; academic quality indicator analysis; resources; strengths; weaknesses and opportunities; and developmental plan.

The self-study report is subject to a variety of reviews and approvals at various levels within the University. At the departmental level, a draft report must be approved by Department Council, which consists of all full-time faculty members, a representative of part-time sessional faculty members, student representatives from each of the programs offered by the department, and an alumnus. The draft report is then presented to the Program Advisory Council (see below for details) and the Dean of the Faculty in preparation for an external evaluation by a Peer Review Team (PRT), comprised of two faculty from the relevant discipline or profession from another university, and one additional reviewer from outside the discipline. The PRT conducts a site visit and prepares a report documenting its findings, which is incorporated into the self-study report. The revised report is submitted to the Dean of the Faculty, who submits it to the Vice Provost, Academic, who in turn submits it to the Academic Standards Committee (ASC). The ASC reviews the report and either approves, conditionally approves, refers the report to the Dean for further action, or rejects the review. The ASC makes its recommendation to the University Senate, which is responsible for final academic approval.

Program Self-Assessment - Bachelor of Architectural Science Program

The Department of Architectural Science submitted a Periodic Program Review self-study report for the undergraduate Bachelor of Architectural Science program to the Dean of the Faculty in the spring of 2011. The report was approved by Senate with a number of recommendations, including the preparation of an Under-
graduate Degree Level Expectations (UDLEs) analysis, to be submitted in June 2012. Department Council established an elected committee of faculty, students and an alumnus to prepare the follow-up report, which was conducted during the 2011-2012 academic year and was submitted by the due date.

In response to the PPR self-study report submitted in spring 2011, the ASC prepared a report (#W2011-3; May 2011) that summarized its findings, including its assessment of program strengths and weaknesses. Highlights of this report appear below:

Strengths:
- The program’s goals and learning objectives are appropriate and the program is strong;
- The program attracts a large pool of high-quality applicants;
- Graduates are well prepared to enter the work force in a wide variety of positions;
- Students feel a high level of satisfaction with the program;
- There is an extraordinarily strong student culture in the program;
- The full-time faculty are dedicated, highly committed professionals;
- The program governance provides scope for a high level of student participation in governance and curriculum development.

Weaknesses:
- The ASC report identifies a number of weaknesses primarily associated with the old program (phas ed out beginning in 2007), which have been alleviated, at least to some extent, in the new curriculum. These include: curricular gaps and overlaps; excessive student workload; overcrowding in studios; insufficient studio contact hours; divergence of the three options; student demand for co-op and study abroad options;
- Computer technology is not integrated into the current program in any systematic way;
- The teaching workload for Ryerson faculty is higher than is typical in architecture programs in Ontario;
- The Department requires additional administrative staff;
- The Architecture building suffers from a number of limitations including: deferred maintenance (HVAC); limited studio space; infrastructure to accommodate computing, IT and audio-visual; lack of space for faculty SRC activities; a dedicated gallery space; a student lounge; and improved security systems.

Further to the observations included in the main body of the ASC report and summarized above, the ASC identified a limited number of specific recommendations for the Department to address in a follow-up report.

The recommendations included in the ASC Evaluation Section of the report are summarized as follows:
1. That a full Undergraduate Degree Level Expectations (UDLES) analysis of the program be completed and presented in a follow-up report;
2. That progress in rectifying weaknesses identified in the CACB Visiting Team Report of 2010 be presented in a follow-up report;
3. That the program re-consider the narrow focus on literature in the semester 1 liberal studies courses;
4. That the program review the constrained nature of the curriculum and the limited range of professionally-related courses;
5. That the Department monitor the courses in the fourth year specializations and how these contribute to program coherence in a follow-up report;
6. That the program continue to refine its curriculum to address excess student workload.

Follow-up Report

In June 2012 the Department submitted a follow-up report responding to the ASC review. Regarding the program weaknesses identified by the ASC, the Department noted that curricular gaps and overlaps were considered in the preparation of the new curriculum, and ongoing review and self-assessment of the curriculum is expected to help mitigate the development of gaps and overlaps moving forward; excessive student workload has been reduced through a detailed analysis of workload and a concerted effort on the part of Department faculty to revisit assessment strategies; overcrowding in studios has been mitigated by reduced intake into the undergraduate program; insufficient studio contact hours have been expanded by 50% in the new curriculum; divergence of the three options has been considered in the preparation of the new curriculum, especially in the third year Integration Studios, which have run for three years and which are currently the subject of a detailed review; student demand for co-op and study abroad options is being addressed in that the Department is examining the possibilities and implications of instituting a co-op program, and has, in recent years, enhanced study abroad offerings (National Survey of Student Engagement results indicate that our students are participating in study abroad options at three times the rate of students in the University at large).

Concerns regarding the integration of computer technology in the program are being addressed in considerable detail. The Department views this as a work-in-progress, as technology, both in terms of equipment and software, is evolving at an ever-accelerating pace. A computing committee composed of faculty with expertise in this area worked closely with Davis Marques, the Department’s former IT Lead Hand, to establish strategies and initiatives to ensure the Department is addressing this important dimension of our students’ education.

Teaching workload has improved with the establishment of the new curriculum, and is now in line with that at other Ontario universities (once course + one studio, or two courses, per semester) and progress is being made in relation to administrative staff.

The inadequacy of the Department’s physical resources remains a serious concern. The University has allocated funds for the upgrade of the Architecture Building’s VAC system and the construction of a gallery/exhibition space within the building (details are provided below in the discussion of physical resources), but
the requirement for additional space for students and for SRC activity remain important concerns that are not addressed by the planned upgrades.

With respect to the recommendations emerging from the Evaluation section of the ASC report, the Department believes that in most instances these recommendations have been satisfactorily addressed or are in the process of being addressed.

Recommendation 1: as part of the requirement contained in Recommendation 1, the preparation of a complete UDLES analysis, the Department reviewed and updated the Program Goals for the Bachelor of Architectural Science. The goals were reviewed and refined early in the Fall 2011 semester, presented at a faculty meeting (October 13, 2011) as well as circulated to students and alumni. The revised Program Goals that formed the basis of the UDLES analysis are:

By the end of this program, students should be able to:

1. Design and document a comprehensive building project of moderate scale and complexity.

2. Critically analyze buildings, other aspects of the built environment, and related texts; communicate that analysis in written and graphic form.

3. Analyse, design and integrate building technologies in the context of building projects.

4. Engage in the discourse of architectural culture and theory in relation to a broader understanding of historic, current and evolving human culture.

5. Apply principles of collaborative management to the development of the built environment within the context of the AEC professions.

6. Make appropriate use of established and emerging technologies and processes in all areas of the curriculum.

7. Demonstrate achievement in an area of specialization within Architectural Science beyond basic proficiency.

These program goals were then mapped in relation to the undergraduate curriculum, following the format recommended by the Learning and Teaching Office, clearly indicating the level at which each program goal was delivered within the courses (Introduction, Reinforcement, Proficiency).

The UDLES analysis prepared in response to Recommendation 1 reveals that the program is fundamentally sound, achieving both its program goals and the Undergraduate Degree Level Expectations, with some concerns emerging around the issue of existing and emerging technologies. The committee concluded that, while most of our students are clearly achieving proficiency in this area, this is largely achieved through a
system of extra-curricular support rather than by a systematic process within the curriculum proper, making it difficult to ensure that these skills are adequately developed by all of our graduates.

Recommendation 2: the Department has made significant progress in addressing those areas identified by the CACB as having not met expectations as defined in the Student Performance Criteria. Since receiving the CACB Visiting Team Report in June of 2010, the Department has developed a variety of strategies in response to these deficiencies in an effort to have them be corrected or substantially improved in time for our next CACB visit in March 2013. This is addressed in detail in Section 2. Progress Since the Previous Site Visit.

Recommendation 3: the Department is willing to broaden the list of liberal elective courses offered in the first semester of the program, has expanded the offerings from four to seven, and is open to expanding this further still.

Recommendation 4: the Department notes that what the ASC describes as the internal focus of the program is necessary in light of the breadth of material necessary to an education in architecture. The Department further notes that the nature of architecture as an area of study is inherently interdisciplinary, and the focus is therefore less narrow than might appear, and that, in relation to comparator programs, the Bachelor of Architectural Science offers a broad program of study.

Recommendation 5: the Department is monitoring the courses in the fourth year specialization, and acknowledges that since this new curriculum is only in its second year, it is very early to evaluate its effectiveness. However, the UDLES analysis suggests that it is accomplishing what it is intended to do, which is to provide our students the opportunity to establish fundamental proficiency in relation to program goals by the end of third year, so that they may move beyond proficiency in a more focused aspect of the field of architectural science in preparation to either enter the industry or continue their studies in graduate school.

Recommendation 6: the Department has undertaken a concerted and collective effort to reduce overall student workload, emphasising depth and quality over quantity with respect to student assessments. To date, this has resulted in a reduction of 23% in the number of assessments in the first three years of the program.

The complete Periodic Program Review Self-Study Report and the Follow-Up Report are included in the Appendices to this document.

**Periodic Program Review - Master of Architecture Program**

The Master of Architecture Program was launched in September 2007, and has not yet been the subject of a formal Periodic Program Review. A formal review of and self-study report concerning the Master of Architecture program will be conducted, based on the University’s schedule, in 2016.
External Review

In addition to the formal mechanisms described above, which are primarily conducted internally by Departmental and University Committees, the Department of Architectural Science also consults with a Program Advisory Council (PAC), which includes representatives of industry, the professions, the alumni association, the academy and others. In its capacity as an advisory body, the PAC is consulted regarding the program’s success at achieving and maintaining the highest possible standards of academic quality and relevance to the professions and industry it serves.

Current members of the Program Advisory Council are listed below.

MOHAMMED ATTALA
Construction Administrator,
Design and Construction Services
Toronto District School Board

TANIA BORTOLOTTO
Principal, Bortolotto Design Inc.

TONY CELETTI
Managing Partner, In Vision Inc.

ROBERTO CHIOTTI
Principal, Larkin Architecture

PAUL H. COCKER
Chairman & CEO, McKay-Cocker

TOM EMODI (PAC Chair)
Associate, Young and Wright

PAUL HASTINGS
Paul Hastings Architect

Surveys

Ryerson University has three mechanisms for surveying student opinions. Ryerson Performance Indicators have been developed to provide a set of annually updated measures of University performance over a wide range of issues of interest to the Board of Governors and are aligned with issues central to the mission of the University. There are thirty-two indicators that are classified into four primary categories that correspond to oversight of Strategic Direction, Financial Capacity, Effective Management and University Profile. The
National Survey of Student Engagement (NSSE) is used to measure the extent to which students are engaged actively in learning. These surveys are done annually in the spring and the latest report issued was in March 2012, documenting data collected in Winter 2011.

Some aspects of the NSSE results are summarized here. The results for Architectural Science show surveys taken of students in the first year and fourth year of the undergraduate program, and compare them to results for the Faculty of Engineering, Architecture and Science and the University at large for these two respective years. A summary analysis of the survey results indicate that Architectural Science students express higher rates of participation and/or satisfaction than Ryerson University students at large in the following areas, among others:

- Made a class presentation;
- Worked with other students on projects during class;
- Put together ideas or concepts from different courses when completing assignments or during class discussions;
- Worked harder than you thought you could to meet an instructor’s standards or expectations.

The survey results also indicated that Architectural Science courses place less emphasis on learning through memorization of facts, ideas or methods, and more emphasis on analysis, synthesis and making judgments relative to the University at large. Architectural Science students also indicate much higher rates of participation in Study Abroad opportunities (by fourth year, 29% of Arch. Sci. respondents compared with 8% for the University at large), and report higher levels of satisfaction with the quality of their relationships with other students.

On the other hand, Architectural Science students report less activity in community service and volunteering than the University population at large, which is consistent with their reporting much higher workload outside of class time than the rest of the University (47% of fourth year Arch. Sci. students report spending over 26 hours per week on academic activities outside of class, compared with 16% for the University at large). Finally, in response to the question of what “you believe your university most needs to address to improve the student academic/learning experience in the classroom, 62% of fourth year Arch. Sci. students selected “Improving the quality of classrooms or lecture halls”, while only 19% of Ryerson University students at large identified this item.

Assessment Processes: Informal Mechanisms

Informal mechanisms operate on an ongoing basis, and include regular meetings of the Administrative Team, comprised of the Department Chair, the Assistant Chair Student Affairs, each of the Program Directors and the Administrative Coordinator. This group is responsible for administering the operations of the program, which involves ongoing discussion of how the programs are performing in relation to the stated mission and
goals of the Department and the University.

The Administrative Team also organizes faculty retreats to discuss program performance, which include discussions related to curriculum, program structure, pedagogy, assessment strategies, student performance, and so on. Retreats are typically held in August, when faculty return from summer absences, and may occur at various times during the academic year. During the 2010-2011 academic year, three retreats (in October, January and March) were organized to address student workload and related issues arising from the VTR prepared as a result of the March 2010 accreditation visit, resulting in a variety of initiatives aimed at addressing concerns raised in the report.

A further retreat was held in August, 2012 that focussed on the idea of twenty-first century learning, and how that idea could have ramifications throughout all areas of operation in the program - technology integration, internationalization/mobility, research activities, the continued development of a program profile and identity, and of course curriculum. Subsequent retreats will continue to raise discussion of ideas, as well as curricular logistics.

The retreats held in 2010-2011 were primarily concerned with matters related to the four-year undergraduate Bachelor of Architectural Science Program. The Master of Architecture Program is reviewed on an ongoing basis by the Master of Architecture Program Committee, which consists of faculty teaching in the program as well as student representatives. The M.Arch. Program Committee typically meets twice in each of the fall and winter semesters; in 2011-2012, the Committee met in September, December, January and March. Major topics of discussion included admissions procedures, new elective courses, the nature of the Master’s thesis project and alternative models for the program structure; mechanisms and proposals for funding of visiting faculty.

**Curricular and Program Issues**

**Curricular Development**

In September 2007, the Department instituted a completely revised curriculum at the undergraduate level as well as a new professional graduate program. Although the program itself is both intentional and coherent, delivering the program in a coordinated and balanced manner initially proved challenging. In the early years, some instructors noted that horizontal coordination across years and vertical coordination across the program was not sufficient.

The Department put in place an administrative structure which allows for improved curricular oversight to avoid drift. In the spring of 2012, the Undergraduate Program Director established working groups to review areas of the program that seemed to require special attention, namely, the Building Science specialization,
the History and Theory suite of courses, the Integration Studios and related courses, and the Collaborative Exercises. The working groups will work throughout 2012-13 to review these areas of the curriculum and make recommendations for revision as deemed necessary. The Administrative Team is also looking to reinforce the role of the Studio Masters, who are responsible for horizontal coordination within their semesters and for vertical coordination among themselves. In addition, in 2012-13 we will begin the next phase of the UDLES process, which involves reaching down into the Learning Objectives of each course to understand more fully the role of the course within the overall program framework.

Integration of Information Technology

As noted in the self-study report summarized above, computer technology has not yet been well integrated into the program. Although students become highly skilled in computer techniques by the third or fourth year of the undergraduate program, expectations are not clear or explicit in most cases.

The Department has taken steps to improve this situation through a number of initiatives. The use of digital technology in the design studios is addressed at the outset of the program, with the introduction of 3D modeling software in ASC101 Communications Studio. This initial exposure is supported by online tutorials and extra-curricular workshops that allow students to enhance their skills in this area; however, there is no systematic ongoing instruction in this area within the curriculum. Emerging technologies are rapidly evolving, and prone to rapid obsolescence. Consequently, skills development is best addressed on an ongoing basis, which poses certain challenges to the curricular structure of university programs. In addition, our curriculum is already very extensive, and there are questions about the appropriateness of taking valuable time away from other aspects of the curriculum to address this kind of skills training. Further, it is evident that our students are achieving high levels of proficiency in the use of computing technologies, at least to the degree that would be expected for them to function at an entry level in industry, and to a degree that is consistent with, or exceeds, the skills exhibited by graduates of comparator programs, particularly in the area of digital fabrication. In addition, students in their final year of study have opportunities to enhance these skills in elective courses such as ASC734 Advanced Digital Design and ASC755 Digital Tools, as well as in courses that make use of Building Performance Modeling software. However, since this degree of specialized exposure to emerging technologies is available to self-selected students rather than the entire student body, there are opportunities for improvement in this area of our program. This is being reviewed by the computing committee, which is exploring various initiatives in addition to those already being delivered in the form of tutorials and workshops. Most importantly, the committee is exploring methods for delivering instruction on Building Information Management (BIM), an area of particular challenge for many programs like ours. Most of these solutions involve the delivery of training via online tutorials and extra-curricular workshops.
Student Workload Too High – Too Many Assignments

The issue of excessive student workload was raised during the CACB accreditation visit in March 2010, but the Department had been aware of the issue for some time. In part, this phenomenon is a vestige of the University’s history as a Polytechnic Institute, with an emphasis on skills development and training. As part of the transition to a university culture, with greater emphasis on critical and independent thinking and research, the Department has revised the curriculum to address these objectives by reducing the quantity of student workload and placing greater emphasis on depth and quality, without sacrificing the students’ development of the fundamental disciplinary knowledge. While this has posed some challenges with respect to workload, the Department has taken some very significant steps in this regard.

At the time that the curriculum was revised beginning in the fall of 2007, the Department reduced the overall number of courses within the undergraduate curriculum. This required the careful calibration of material in order to ensure that students in the new program would be adequately prepared for entry into industry, but also engaged in the critical and rigorous academic culture of the University in general and graduate study in particular. As a result of this restructuring, the overall number of courses taken by students in any given semester were reduced by one or two courses per semester (this varied depending on the semester), accompanied with an increased emphasis on the design studio (increased from two to three credits per semester). The intention was to reduce the overall number of courses and therefore of assessments, while maintaining the deep immersion in disciplinary knowledge required of a professional program in architecture (and related disciplines).

While the reduction in overall courses within the program represented a significant milestone, concerns about student workload remained, as expressed by the CACB Visiting Team in 2010. As a result, in the fall of 2010 the Department embarked on a detailed analysis of the core curriculum in years 1, 2 and 3 of the undergraduate program (year 4 was not reviewed in detail, since it is a year of specialization, and therefore not common to all students). The analysis revealed that although the overall number of courses had been reduced in relation to the previous program, the large number of assessments within each individual course continued to constitute a very high student workload.

The analysis examined a number of parameters in relation to student workload: the total number of assessments within each course; the total number of assessments in any given semester; and the total number of assessments within the first three years of the undergraduate program. In addition, the analysis also examined the nature of assessments (i.e., tests and exams, research papers, design projects, analytical exercises etc.) in an effort to identify areas that might reveal particular concentrations of activity – for example, does the program have too many of one particular type of assessment, and too few of another – in order to help provide direction for proposed reforms or revisions to the current assessment scheme.
The analysis was conducted on the material included in the CACB visit of March 2010, and consisted of courses offered in Fall 2009 and Winter 2010.

The analysis revealed that in the first three years of the undergraduate program, based on courses as they were offered in the academic year 2009-2010, students were required to complete 161 separate assessments (this figure does not include assessments related to Liberal Elective courses, which vary between students). This works out to an average of roughly 54 assessments per year, or 27 per semester – roughly 5.75 per course.

The analysis considered not only the overall number, but also the type of assessments, and revealed that assessments were more highly concentrated in some areas of the curriculum than others. Further analysis revealed that there were particular courses that included considerably more assessments than others; keeping in mind that some courses benefit pedagogically from multiple iterations of certain exercises, the Department concluded that while a small number of individual courses could justify a large number of smaller assessments, in most cases students would benefit from fewer assessments that required them to consider material in greater depth, rather than a larger quantity of more superficial assessments.

As a result of this analysis, the Department held a series of three curricular retreats in the 2010-2011 academic year, with the intention of addressing the issue of excessive workload. Faculty developed a variety of strategies in an effort to reduce overall workload without compromising learning.

One important strategy was the examination of existing assessments to eliminate any redundancy that might be occurring between courses. One phenomenon that emerged from this analysis was the tendency for certain courses to require students to apply knowledge from the course in the context of a design exercise for that course. The Department proposed that the application of knowledge gained in lecture courses in the context of design should occur in the design studio, not in the lecture courses. This required considerably greater coordination between the design studios and concurrent lecture courses, but was seen as an important step toward reducing overall student workload.

This higher level of coordination has the additional benefit of creating greater synergies between different courses, and also making the material taught in courses more relevant to the students in their work for the design studio, allowing them to see the applicability of knowledge gained in courses in the context of their own design projects.

In order to determine the effectiveness of this and other strategies adopted to reduce student workload, the Department conducted a similar analysis based on the same courses as they were constituted in the Fall 2011 and Winter 2012 semesters. The analysis revealed that in the first three years of the undergraduate program, based on courses as they were offered in the academic year 2011-2012, our students were required to complete 124 separate assessments (this figure does not include assessments related to Liberal Elective courses,
which vary between students). This works out to an average of roughly 41 assessments per year, or just over 20 per semester – roughly 4.4 per course. This represents a significant overall reduction from the 2009-2010 year – a total of 37 fewer assessments, or roughly 23% fewer assessments overall.

The Department considers this to be a significant achievement, and continues to explore opportunities for reduction of overall student workload. In particular, we believe that there are further opportunities for greater coordination between lecture and studio courses, allowing for the reduction of assessments related to lecture courses, and ensuring that knowledge gained in lecture courses can be applied in the context of studio projects, reducing redundancy and encouraging a more highly integrated, holistic approach to the students’ education.

Too Many Students

Since the Fall semester of 2009, our intake of first year students has been 112-115, down from a high of 169 in 2004 and 140 in the 2008. Now that this reduced number has made its way through the program, stress on faculty, space and other resources has been significantly reduced.

Study Abroad Opportunities

The creation of more comprehensive and stable study-abroad opportunities has evolved over the past few years. The majority of these opportunities have taken the form of studios abroad offered as part of the fourth year undergraduate Architecture Option Studios (ARC720), and graduate studios (AR8105), typically offered in the spring semester. Destinations have included Israel, China, Brazil, and Turkey. Some studios have also offered brief travel opportunities over the Study Week (Amsterdam, Las Vegas, Venice). In fall 2012, during the fall semester Study Week, faculty will take a group of students to Venice for the 13th Biennale of Architecture to participate in the Biennale Sessions. At the time of writing of this document, Ryerson is the only North American university participating in this exciting opportunity.

Shorter study tours not associated with studios, and open to undergraduate students having completed their second year of studies, have included trips to Italy and Germany. In addition to these group opportunities, the Department also has exchange agreements with other universities that permit individual students to pursue a semester of study at another institution, including Coventry University in the UK and the École Nationale Supérieure d’Architecture Paris La Villete in France. Dr. Ian MacBurnie has been appointed Mobility Coordinator in order to assist the program in developing these opportunities.

In the August 2012 retreat, it was agreed that although both the quantity and quality of student mobility opportunities in the program is significant, we should work to increase both the number of opportunities and the accessibility - for financial and other reasons - of the opportunities. Further, we are aware of the need to develop clear policies around all aspects of student mobility.
Student Demand for Co-op Program

The Department has been examining the opportunities for and implications of establishing a co-op program. Professor Vincent Hui had been conducting research on this matter and is preparing a detailed proposal for implementation. This will be conducted with the assistance of Ryerson’s Co-operative Education Office, which administers all co-op programs offered by the University. The report will be presented for consideration to Department faculty and Department Council during the 2012-13 academic year.

Resource Issues

Human Resources: New Faculty

Since the last CACB visit in 2010 the Department has made several appointments to the full-time, tenure-track faculty: one in 2010 (Cheryl Atkinson), one in 2011 (Dr. Leila Farah), and one in 2012 (Dr Paul Floerke). Dr. James Norrie also joined the Department in 2012, transferring from the University’s Ted Rogers School of Business. However, during this same time, three full-time faculty members have left the Department, representing a net gain of one position (the current complement is 28). We anticipate adding two or three positions over the next two years; at the time of the last visit, an analysis showed that a faculty complement of 31 was appropriate for the Department.

Human Resources: Faculty Workload

Historically, the teaching workload for Ryerson faculty members in had been 20-25% higher than is typical in architecture programs in Ontario. This extra teaching workload, of course, impacted negatively on the ability of faculty members to conduct SRC activities or carry out administrative duties.

Since 2010, revisions to the Ryerson Faculty Association’s collective agreement with the University, combined with the revisions to the undergraduate program introduced in 2007, have resulted in an overall reduction in the teaching workload that is in keeping with sector norms in Ontario. Currently a typical teaching load for our faculty is one course and one studio per semester.

However, a number of faculty members in our department are engineers rather than architects, or engineer/architects. As they tend to hold research grants from NSERC, they are in direct competition for funding with faculty in engineering departments, where workloads are traditionally lighter than in architecture departments. The program has a concern that the long-term maintenance of an engineering-based research career may not be possible under current workloads.
Human Resources: Administration

The Department Office is currently staffed by an Administrative Coordinator, who supervises three assistants; one Departmental Assistant, and two Administrative Assistants. In addition, the Department has appointed a Communications and Digital Archive Specialist. We are hoping to add one more position, to assist with special projects such as our non-academic admissions review sessions. One to two more positions may be required to support the Departmental Systems Technician in order to accommodate increasing technical needs, especially with digital fabrication; our Lead Hand position has been vacant since May 2012, and is likely to be filled at around the time of the upcoming visit. The wood/metal shop is currently staffed by two full-time technicians. The Department’s graduate programs are administered by a Program Administrator, who looks after both the M.Arch. and the Building Science programs. Departmental staffing is under ongoing review.

Financial Resources

Program funding has increased significantly over the past few years and now seems adequate for the operation of a professional program in architecture. However, we have an ongoing concern about maintaining this position, especially with recent budget cuts as a result of the economic downturn. Despite the financial structures under which the University has been operating this year, the upper administration has remained highly supportive of our program and has continued to allocate resources to us.

Library

The library has improved its collection significantly in the past few years. With the addition of the Student Learning Centre designed by Snøhetta and Zeidler Partnership Architects, currently under construction, we anticipate that the library will become an even more accessible and critical part of campus life. The architecture collection, while not exhaustive, is satisfactory for our needs, and continues to grow.

IT Resources

We have continued to expand our IT and digital fabrication resources incrementally over the past few years and will continue to do so in the future. We believe that our resources minimally meet the needs of a professional program at this time, but note that such needs will continue to increase rapidly in the coming years.

Physical Resources: Architecture Building

The Ryerson Architecture Building, designed by the Ron Thom partnership in the late 1970s, is now over thirty years old. A number of improvements were realized when the M.Arch. program was established in 2007; since the last CACB visit in 2010, the University has carried out additional improvements to and renovations of the building.
All studios have been upgraded with secure (card-key) access, upgraded electrical service and data infrastructure, both wired and wireless. Upper level studios have been equipped with new furniture, but old and obsolete furniture, designed for manual drafting, is still used in lower level studios and requires replacement in the coming years.

Workshop facilities have been expanded, especially with respect to the Digital Fabrication lab, which is equipped with laser cutters, a 3D printer and a CNC router.

Installation of air extraction equipment for the Digital Fabrication Lab is scheduled for completion in summer 2012.

Crit spaces throughout the building have been equipped with hardwired, dedicated digital projectors.

Design work has begun on a new, secure, professional-level gallery space; architects have been hired and schematic design will proceed over the course of fall 2012. Fundraising for this project has been completed and construction is anticipated for summer 2013.

Numerous faculty offices have been equipped with updated furniture.

A complete overhaul and upgrade of the building’s VAC systems has been approved for funding by the University. At the time of writing of this document, consulting engineers are working on the design of the system, with construction anticipated for summer 2013. The work is expected to double the current system’s cooling capacity, including provision of air conditioning to studio spaces, with all existing units either replaced or balanced, and all existing ductwork cleaned.

Despite these significant improvements to our Physical Resources, there are still significant deficiencies, notably with respect to SRC facilities for faculty and graduate students, and student lounge and study spaces within the building, both of which are extremely difficult to accommodate within the Architecture Building, which is already used to full capacity. We have begun a study, led by students, on the future purpose and form of the Resource Centre, which may be able to alleviate some of these remaining deficiencies.

Scholarly, Research, and Creative Activity

A culture of SRC activity is rapidly expanding in the Department. Prior to 1993, when Ryerson Polytechnic Institute became a University, SRC was not considered part of the mandate of faculty members. A glance at figure 3.5.1 will show that SRC outputs have increased dramatically in recent years, with faculty receiving substantial grants from major funding agencies including NSERC, SSHRC, MITACS and the Canada Council for the Arts.

Policy: A departmental SRC policy, approved by the University during the 2006-07 academic year, is currently under committee review for updating.

Concentration: The majority of the SRC outputs have been produced by a small number of faculty members; roughly one quarter of full-time faculty members continue to pursue little if any SRC activity. Associated with this is a lack of ready-made research programs for new faculty.
members to fit into, and of SRC mentorship opportunities. However, since a majority of new faculty appointments have completed PhDs, they bring with them a record of research and are meeting with considerable success in securing research funding.

- Facilities: research facilities include the REAL lab, the Building Science Lab, a lab in Eric Palin Hall and a lab in the Mutual Street Building for faculty research. However, space for SRC, for both faculty and research assistants, remains woefully inadequate.
- Workload: The heavy teaching workloads previously noted have been somewhat alleviated, allowing faculty to focus more on SRC.

Strong Student Culture

Finally, a word must be said about the extraordinarily strong student culture in the program. With three major student societies – the Architecture Course Union (ACU), the Project Management Institute (PMI), and the only Canadian chapter of the AIAS – as well as a fourth, a fledgling chapter of CASA – students are continually active with charettes, road trips, conferences, symposia, and, of course, parties.
3.3 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 Appendix A-1, which explains the parameters of an accredited professional degree program. Candidate programs must include, as well, the exact language found in this appendix on the parameters of candidacy status.

The APR must include the following information:
- The program description as it appears in university academic calendar or any other institutionally authorized printed or digital materials.
- Evidence that all faculty and incoming students have been provided with a printed or digital copy of the Guide to Student Performance Criteria (In the event of a change in these criteria, the revised inventory must be re-issued to all faculty and students).

Ryerson University, The Faculty of Engineering, Architecture and Science, and the Department of Architectural Science are committed to providing clear and comprehensive information to the public, the students and the faculty regarding the programs offered by the Department. The various media of communication that are used to this end are coordinated to assure that the interests of all stakeholders are accommodated.

Information in the Undergraduate Calendar

The 2012/2013 Ryerson University Full- and Part-Time Undergraduate Calendar (http://www.ryerson.ca/calendar/2012-2013/ ) describes the Bachelor of Architectural Science as follows:

The goal of the Bachelor of Architectural Science program is to educate students for a wide range of professional roles in the construction industry. The program emphasizes studies in design, technology, and management. The long-standing reputation of the program rests in part on this unique emphasis of the curriculum.

The first three years of the program provide students with a common foundation. The final year offers three different options, Architecture, Building Science and Project Management. The initial years place students in a position to make informed choices of option, and they are encouraged to do so as early as possible.

The curriculum is structured around four themes: introduction and context, preparation (tools and elements), integration and concentration/specialization/transition. The first semester provides students with an introduction and sets the context for their education in architectural science. Semesters two, three and four prepare students for advanced studies through an exploration of the tools and elements necessary for further studies. Semesters five and six provide a comprehensive integration of the multiple components of an undergraduate education in architectural science. In the final two semesters, students select from one of the three options available – architecture, building science or project management – and undertake intensive work in their chosen specialization. In addition, the program requires a number of courses in liberal studies, as well as a range of professional electives, offered by the Department and other Departments at the University and the application of this knowledge to the solution of a wide range of architectural and environmental problems.

The architectural science program promotes an integrated approach to architectural science, through studio and lecture courses. Students have the opportunity to apply theory learned in the lecture courses to studio projects which engage with real-life problems in design, construction, management and the environment.

As enrollment in each program option may be limited, placement of students in fourth year program options is determined by academic performance to best suit their career goals and academic strengths.

The Architecture option offers a technical base with a focus on architectural design principles. Through
lectures, seminars, and hands-on studio workshops, students learn program planning, design, presentation techniques, and contract documentation.

The Building Science option offers a more detailed technical base of studies including the selection and design of building construction assemblies, the evaluation of their suitability and performance, and construction and technical drawings.

The Project Management option examines the managerial and economic aspects of construction projects, including the planning, organization, management, supervision and control of the process.

Graduates of this program will find career opportunities in:

- the design, documentation, and management of projects in architectural, engineering, environmental management and planning firms
- the production, marketing, sales, research, development, testing, and evaluation of building products or systems in material fabrication, product manufacturing and construction firms
- office and field supervision in trade, general construction organizations
- development and management of real estate/planning/conservation feasibility studies; environmental and management strategy planning
- local, regional, provincial, federal and international government agencies
- post graduate education and research.

Information on the Yates School of Graduate Studies Website
(http://www.ryerson.ca/graduate/architecture/)

The Master of Architecture Program is described as follows:

Architects today operate in an increasingly complex and dynamic environment. In addition to possessing strong technical skills, the architectural profession requires strong, independent, critical thinkers, who nonetheless are comfortable acting in an increasingly collaborative industry. As issues around the nature environment increase in importance, architects must be willing and able to take on leadership roles within society. By focusing on a critical study of architectural practice, both in its contemporary forms and in its future potential, Ryerson's program will provide students with the opportunities for intellectual growth needed to develop these leadership faculties. The program is a two-year, six-semester, studio-based course of study designed for students with a strong technical background in architecture.

Information about Professional Accreditation

All public information concerning professional accreditation consists of the following text:
The Ryerson program in Architectural Science has been granted full accreditation by the Canadian Architectural Certification Board (CACB).

In Canada, all provincial architecture associations 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 Bachelor of Architecture and the Master of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established education standards.

This text can be found in the Undergraduate Calendar in the section concerning professional accreditation (http://www.ryerson.ca/calendar/2012-2013/pg8.html), on the Yeates School of Graduate Studies Architecture page (http://www.ryerson.ca/graduate/architecture/index.html), the Department Web site (http://www.arch.ryerson.ca/?page_id=8), the Web page for the Master of Architecture Program (http://www.arch.ryerson.ca/?page_id=300) and any printed material describing the program.

Information on the Faculty of Engineering and Architectural Science Website (http://www.ryerson.ca/feas/about/)

The Faculty of Engineering and Architectural Science Web site provides information on all departments and programs housed within the Faculty. The FEAS Web site provides links directly to the department and program Web sites, which provide detailed information.

Information on the Department Website (http://www.arch.ryerson.ca/)

The Department Web site provides general information about the Department as a whole, as well as detailed information concerning each of the programs offered within the Department.

Based on the material found in the Undergraduate Calendar described above, information on the Undergraduate program can be found at http://www.arch.ryerson.ca/?page_id=14

Information on the M.Arch. program can be found at http://www.arch.ryerson.ca/?page_id=300

Printed Material

The Department also provides printed material for distribution at a variety of recruitment events and locations. Printed material related to the M.Arch program is simply a print version, verbatim, of the material on the Web site. Printed material related to the Undergraduate Program is included in general recruitment literature prepared by the University, and consists of abbreviated variations of the material found on the Web site.
3.4 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. Where policies in place are specific to the School or professional program, these should be clearly stated, as well as the means by which they are communicated to current and prospective faculty, students and staff.

The APR must include:
- Procedures in place used to achieve equity and diversity in School operations and activities.

The University’s Discrimination and Harassment Prevention Policy is referenced in the 2012/2013 Full- and Part-Time Undergraduate Calendar and is published in full on the University website http://www.ryerson.ca/equity/dhpspolicy/ The Discrimination and Harassment Prevention Policy introduction is as follows:

Ryerson University is committed to fostering a collegial study and work milieu that is free of discrimination and harassment and one in which all individuals are treated with respect and dignity. Every member of the Ryerson University Community has a right to equal treatment with respect to employment and, with respect to the receipt of education services and related services and facilities without discrimination or harassment on the basis of the following grounds: race; ancestry; place of origin; colour; ethnic origin; citizenship; creed; sex; sexual orientation; age; record of offences*; marital status; family status; disability; gender identity or gender expression.

* The protection for record of offences applies only in the area of employment.

Throughout this Policy the above listed grounds will be referred to as the “prohibited grounds”.

A right to freedom from discrimination and harassment is also infringed where someone is treated unequally because she/he is in a relationship, association or dealing with a person or persons identified by a prohibited ground of discrimination.

Discriminatory and harassing behaviours are offensive, degrading and illegal. Every member of the Ryerson University Community is responsible for creating an environment which is free of discrimination and harassment. Individuals acting on their own and/or on behalf of the University and the University itself can be held responsible under this Policy and in law for discriminatory and harassing acts. Those found to have engaged in such conduct on the basis of a prohibited ground will be subject to discipline. Those found to have been harassed or discriminated against on the basis of a prohibited ground will be entitled to a remedy.

In addition to its publication in the Undergraduate Calendar, this policy is published both in the Department’s web-based Student Handbook, distributed to all incoming students, and is referred to annually at a faculty meeting. In 2011 all faculty completed training on the Accessibility for Ontarians with Disabilities Act (AODA) Customer Service Standard, and in April 2012 all full-time faculty participated in a university-wide seminar for the Workplace Civility and Respect policy http://www.ryerson.ca/about/governors/pdf/WorkplaceCivilityandRespect2011.pdf

Accessibility Statement of Commitment
http://www.ryerson.ca/content/dam/accessibility/policies/accessibility_statement_of_commitment.pdf

Ryerson University is committed to providing accessible goods and services that allow persons with disabilities to fully participate in community activities. Ryerson strives to ensure that persons with disabilities:
have an equal opportunity to access Ryerson University goods and services; are provided service in a manner that respects their dignity and independence and, where possible, without the need for adaptation, and; are offered alternative measures, including trained staff support, where necessary, so they may obtain and use goods and services.

Ryerson University is committed to compliance with the Accessibility Standards for Customer Service and the Accessibility for Ontarians with Disabilities Act, 2005 (AODA).

**Academic Accommodation of Students with Disabilities**
http://www.ryerson.ca/senate/policies/pol159.pdf

The University provides academic accommodations for students with disabilities in accordance with the terms of the Ontario Human Rights Code and the Accessibility for Ontarians with Disabilities Act (“AODA”). This occurs through a collaborative process that acknowledges a collective obligation to develop an accessible learning environment that both meets the needs of students and preserves the essential academic requirements of the University’s courses and programs. This policy reflects the shared responsibility of students with disabilities, instructors, Departments/Schools, Faculties, the Access Centre and administrative staff to exercise flexibility and creativity in the provision of academic accommodations.

**Accommodation Policy for Persons with Disabilities**
http://ryerson.ca/content/dam/about/governors/pdf/AccommodationPolicyforPersonswithDisabilities.pdf

This policy for employees works to ensure that each person with a disability will be considered individually, on a case-by-case basis, in order to determine accommodation requirements.

**Ryerson University Library & Archives Accessibility for Persons with Disabilities: Customer Service Policy**
http://library.ryerson.ca/info/policies/aoda/

The Ryerson University Library and Archives (RULA) is committed to providing equal access to services and collections to all students, faculty and staff of the University. RULA provides services that respect the dignity and independence of persons with disabilities. This commitment is consistent with the library’s Strategic Plan, Building on Success, 2008-2013.
Discrimination and Harassment Prevention Policy

Ryerson University is committed to fostering a collegial study and work milieu that is free of discrimination and harassment and one in which all individuals are treated with respect and dignity. Every member of the Ryerson University Community has a right to equal treatment with respect to employment and with respect to the receipt of education services and related services and facilities without discrimination or harassment on the basis of the following grounds: race, ancestry, place of origin, colour, ethnic origin, citizenship, creed, sex, sexual orientation, gender identity and gender expression, age, record of offences, marital status, family status, disability.

Guide to Accessibility Standards for Customer Service
http://www.ryerson.ca/content/dam/accessibility/policies/customer_service_compliance_guide.pdf

The purpose of this guide is to provide assistance to those who are responsible for services provided by the university to customers, as defined by the AODA. The Guide addresses the following areas of compliance: Policies, Procedures and Practices; Communication; Notices; Events; Feedback.

The RAAC
http://www.ryerson.ca/accessibility/policies/

The Ryerson Accessibility Advisory Committee (RAAC) is a group which includes representation from all faculties, various administrative departments, and students. The Accessibility Report summarizes information from RAAC’s consultation with the Ryerson community, provides an update on efforts and initiatives by Ryerson to address the priorities identified in the previous year’s Accessibility Report, and provides an update on Ryerson’s continued preparations for the AODA.

Accessibility Reports
Ryerson is currently in the process of launching a new accessibility initiative and will be transitioning from an annual ODA reporting structure to a multi-year plan as per AODA requirements commencing 2013. Therefore the 2010-2011 Accessibility Report will be the final report in this format.

Employment Equity Policy
http://www.ryerson.ca/content/dam/about/governors/pdf/EmploymentEquity.pdf
Accommodation Of Student Religious, Aboriginal And Spiritual Observance
http://www.ryerson.ca/content/dam/senate/policies/pol150.pdf

Ryerson is a community which celebrates diversity and places a high value on inclusion and respect for differences. Ryerson recognizes that the religious, Aboriginal or spiritual observances of students may conflict with their academic obligations and could potentially lead to a disadvantage if an accommodation is not arranged. Ryerson also accepts that sincerely held beliefs by members of the same religious group or Aboriginal peoples (from different nations) often engender different types of commitments for observance practices. In accordance with the principles of the Ontario Human Rights Code, which requires accommodations based on creed, this policy outlines how accommodations for the religious, Aboriginal or spiritual observances of Ryerson students will be determined.

Workplace Civility and Respect
http://www.ryerson.ca/content/dam/about/governors/pdf/WorkplaceCivilityandRespect2011.pdf

Ryerson University is committed to creating a culture of respect and civility that is free of harassment, where all members of the community share a commitment to academic freedom, open inquiry and the pursuit of knowledge.

Incivility and disrespect in the workplace can be a barrier to effective communication, coaching, and performance. The impact can be severe as it may result in employee turnover, low productivity, reduced morale, diminished loyalty, and physiological impacts such as stress and depression that can lead to increased absenteeism. Incivility can escalate and may lead to more severe behaviours including harassment and violence.

This Policy establishes the University’s commitment to the maintenance of a civil workplace. Through this Policy, the Guide to Civility and the Discrimination & Harassment Prevention Policy, the University maintains a comprehensive harassment prevention policy and program as required by the Occupational Health and Safety Act.
Equity and Diversity with regards to Faculty

The program’s faculty is widely diverse in terms of national origin, with over half of the full-time faculty being first-generation immigrants to Canada. The faculty is also diverse in terms of race, ethnicity, creed, age, and sexual orientation, although no detailed statistics are kept in these areas. In terms of gender, eight current full-time faculty members are female (approximately 30%). These attributes are not considered in any decisions made in the Department, whether regarding teaching assignments, tenure and promotion decisions, or distribution of funding.

Ryerson University’s policy on Employment Equity addresses the issue of under-represented groups at the University. The core of the policy, which is included in its entirety in an appendix, is as follows:

**POLICY**

Ryerson University is committed to actively seeking and attracting qualified individuals of diverse backgrounds while affirmatively addressing the historic under-representation of Aboriginal Peoples, people with disabilities, visible minorities and women.

The University is committed to actively promoting employment equity within the Ryerson community and to promoting a climate that is favourable to the successful integration of members of designated groups.

The University shall ensure that there are no discriminatory barriers in the selection, development and training, promotion, and retention and termination of employees. The University will make reasonable accommodations to enable employees to compete on an equitable basis.

Equity and Diversity with regards to Students

Social equity for students begins at Ryerson with the admissions process. Admission decisions are made strictly on merit; criteria such as race, ethnicity, creed, national origin, gender, age, physical ability, or sexual orientation are neither recorded nor used in any way in the process.

A number of entities are in place which helps students with a diversity of needs or backgrounds to find a welcome, caring, and accommodating environment at Ryerson. Among these are:

**The Access Centre**: the mission of the Access Centre is to provide student-centred services and supports to students with disabilities according to the Ontario Human Rights Code to facilitate academic success and access to the university.
Positive Space: a coalition of students, faculty and staff whose mission is to create and maintain a safe, welcoming, affirming and inclusive work, study and living environment for members of the Ryerson community of any gender or sexual identity.

RyeSAC Sponsored Student Groups: organizations run by and for students, many of which are organized around national, ethnic, or religious identity, and supported through the Ryerson Student Administration Council (RyeSAC).

Financial Equity
In order to produce a socially equitable program, it is important to go to some lengths to lower the financial barriers which may prevent some students from attending University. Ryerson has a number of scholarship and bursary programs in place which seek to assist students from traditionally under-represented groups, or simply those without sufficient resources to finance their studies.

- The BMO Financial Group Diversity Scholarships at Ryerson University provides enhanced access to post-secondary education for traditionally underrepresented groups including women, visible minorities, international students, students with disabilities and aboriginal students.
- Ryerson Tuition Bursaries, non-repayable awards given on the basis of financial need and intended to assist students who, in spite of their own best efforts, are experiencing difficulties in meeting tuition and other reasonable educational expenses while attending Ryerson in the current academic year.

General financial aid and scholarships are discussed elsewhere in this report.

Governance and Departmental Council
The primary mechanism by which faculty, students and staff have access to the formulation of policies and procedures is through the Departmental Council. The Council is an advisory body which may initiate policy recommendations on any matter pertaining to the operation of the Department. Departmental Council membership is made up of all full-time members of the Department faculty; students equal in number to one half the total faculty, representing each program in the Department; and one alumnus.
3.5 Human Resources

A Students

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 time to program administration, administrative and technical support staff, and faculty support staff. Student enrolment in and scheduling of design studios must assure adequate time for an effective tutorial exchange between the faculty member and the student. A maximum student/faculty ratio between 12:1 and 15:1 is considered acceptable. The total teaching load should be such that faculty members have adequate time to pursue research, scholarship, and practice to enhance their professional development.

- Students: Description of the students’ educational backgrounds and the program’s selectivity, retention, and time-to-graduation rates since the last accreditation sequence.

Historically, the Ryerson program was unusually large in terms of student enrolment, reaching its highest numbers in 2003, when 165 students were admitted into the first year of the undergraduate B.Arch.Sci. program. Since that time the Department has undertaken a planned decrease in undergraduate admissions, in part to accommodate the new graduate programs within the same physical resources; in each of 2004 and 2005, approximately 150 students were admitted to first year, with 140 students admitted in 2006. In September 2007, the first year of the ‘new’ undergraduate curriculum, and in September 2008 approximately 130 students were admitted in each year. Since September 2009 admissions into the first year of the B.Arch. Sci. degree program have been set at 112.

Of all first year students admitted to the program in September 2011, 86.3% were from Ontario with the majority residing in the GTA, 2.6% came from elsewhere in Canada and 11.1% were from outside of Canada. In September 2012, 89.7% were from Ontario with, as in the previous year, the majority residing in the GTA, 4.3% came from elsewhere in Canada and 6% were from outside of Canada.

70% of students admitted in September 2011 came to Ryerson directly from an Ontario Secondary School, with approximately 30% transferring from other, non-secondary institutions; for 2012, those figures are 62.4% and 37.6%, respectively. Students coming from Ontario Secondary Schools come with a distinguished academic record. Of students admitted in 2011 from Ontario Secondary Schools, 100% of students admitted had an average above 80%, which is up from 76.3% in 2007. This clearly shows how rapidly Ryerson’s ability to draw excellent students is growing.

Anecdotally, the program’s ability to draw the best possible students appears to have increased with the establishment of graduate programs and the achievement of professional accreditation.

Although the large majority of students in the program reside in Ontario and have graduated from Ontario Secondary Schools, the student population is highly diverse in terms of national origin and ethnicity. This aspect of the program is discussed further in section 3.4, Social Equity.

Retention rates in the undergraduate program are among the highest in the University, with a student in the program having a likelihood of 91.4% to still be in the program a year later, and 79% to still be in the program three years later. For students admitted in Fall 2008, 63.3% graduated by spring 2012, i.e. in the minimum four-year time frame for completion of the program. While some students take longer than the four-year minimum to complete their degrees, based on previous experience it is expected that approximately 75% of the 2008 cohort will eventually complete their degrees.

Since its inception in Fall 2007 a total of 168 students have enrolled in the M.Arch. program, with a maximum of 28 students being admitted into the program each year. The first students completed the program in 2009. In addition to pursuing an accredited degree within our own M.Arch. program, many graduates of
Teaching and other responsibilities

the Ryerson B.Arch.Sci. program have gone on to complete professional Master of Architecture degrees at other institutions. The current enrolment in the M.Arch. program is made up of three main groups: recent graduates of the Ryerson B.Arch.Sci. (46 students); graduates from Ryerson with at least three years of work experience (4 students); and graduates of other programs in Canada (4 students) and abroad (4 students). In each successive year a higher proportion of excellent recent Ryerson graduates join the program. This makes the admission process more competitive but we continue to value the mix of academic backgrounds as an important feature of our M.Arch. program and strive to admit as many excellent applicants as possible to maintain that mix.

Currently, the Department of Architectural Science consists of twenty-eight full-time faculty. Twenty-two of these faculty members are tenured, with six others holding tenure-track positions. Five faculty members hold the rank of Professor, nineteen that of Associate Professor; the remaining four faculty members hold the rank of Assistant Professor.

Educational credentials, in terms of degrees earned, vary widely among the faculty. Fifteen faculty members hold PhDs, while one other is currently engaged in doctoral studies. Twenty faculty members hold professional degrees in Architecture. Several have significant prior and ongoing experience in practice.

Ryerson University’s Department of Architectural Science believes that professional credentials, in addition to academic credentials, provide additional strength to the core faculty, given the orientation of the Master of Architecture towards critical practice. Historically, Ryerson University’s Department of Architectural Science required that members of the teaching faculty become licensed architects in Ontario (OAA Members) or members of the Professional Engineers of Ontario (PEO) prior to their making an application for tenure. As the Department shifted its hiring strategy to include PhDs in architecture, this requirement has been reformulated and the requirement of licensure in Ontario modified. For those with a PhD, licensure is now desired, not required, and licensure need not be specific to Ontario. As a result, new hires in architecture with PhDs often have professional qualifications in a variety of jurisdictions outside of Ontario (including Québec, the United Kingdom, Germany and the United States). For those faculty members with a background in engineering, a professional designation in engineering (P. Eng.) has been a requirement for tenure.

There are currently two vacant positions in the Department resulting from the recent departure of two faculty members who accepted positions at other institutions. It is anticipated that these vacancies will result in searches in the 2013-14 academic year.

Full-time faculty at Ryerson are members of the Ryerson Faculty Association (RFA), which carries out collective bargaining with the University. Faculty workload is recognized in the RFA collective agreement as comprising three distinct areas: Teaching; Scholarly, Research, and Creative Activities; and Service to the

Human Resources

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University and to the Profession.

In recent years the University underwent a comprehensive review of teaching loads as compared to like disciplines at other Universities. Ryerson has adopted these ‘sector norms’ and the 2011 collective agreement for RFA limits the maximum number of courses taught across the University to five per year (3 + 2), and the maximum number of contact hours per week to twelve. In the Department of Architectural Science, this translates, for most faculty members, to two courses per semester (2 + 2), of which one is a nine-hour studio.

Scholarly, Research, and Creative (SRC) activities are relatively new at Ryerson, and are receiving a large amount of attention. Within the Department of Architectural Science, this is reflected in the increased number of external grants awarded to faculty in recent years, representing funding from many major external agencies, including SSHRC, NSERC, the Canada Council for the Arts and MITACS.

During the 2011-12 academic year, faculty within the Department of Architectural Science received $473,363 in grants from external sources, as compared with roughly $391,585 in 2010-11 and $347,780 in 2009-10. Despite this increased success at securing external grants, these tend to be concentrated among a portion of the faculty, with others relying on internal grants to pursue their research. It is notable that several probationary faculty members have been successful at securing external grants, suggesting that these successes should continue to build as junior faculty solidify their research portfolios. Quite apart from the faculty’s increasing success at securing funding, there are also some notable accomplishments worth mentioning with respect to research outcomes. In recent years, Department faculty members have delivered SRC projects of significant profile, including an exhibition at the Venice Biennale of Architecture (Polo, 2008), a Professional Prix de Rome (Ripley, 2009), an international exhibition and major publication on urban agriculture, Carrot City (Gorgolewski and Komisar, 2010) and the Ryerson Mobile Architecture App (Hui, 2012).

Faculty also take on service roles within the Department, University, profession, and community. While many service roles are filled by appointment of the Chair or the Dean, and others are elected, many service commitments (especially to the community and the profession) are carried out on a voluntary basis.

In general, faculty spend 50% to 70% of their time teaching; 20% to 40% engaged in SRC activities; and 10% to 20% in service.

Every individual course and instructor is evaluated by students by means of the Faculty Course Survey, a University-wide evaluation process, conducted in the final weeks of each semester. Students have the option of completing their evaluations online or in class, and the results are tabulated and communicated to each faculty member and compared statistically across each Faculty and the University at large. The results are referred to in evaluations of faculty performance in connection with applications for tenure and promotion. The surveys consist of a series of standard questions with responses ranging from “Strongly Disagree” to
"Strongly Agree"; in addition online evaluations allow students to add specific comments that can be helpful to faculty seeking to improve the effectiveness of their courses and teaching methods

## Tenured Faculty 2012-13

### Professors Emeriti

<table>
<thead>
<tr>
<th>Name</th>
<th>Courses and Research Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.D. Middleton</td>
<td>M.C. Miller J. Paivio A.M. Schrecker P. Sears</td>
</tr>
<tr>
<td>J. Shukla</td>
<td>T. Sparling J. Spence-Sales W.D. Stainton M. Tameanko</td>
</tr>
<tr>
<td>D. Tsow</td>
<td></td>
</tr>
</tbody>
</table>

### Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>Research Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hitesh Doshi</td>
<td>Research interests: Building Science; Green Roof Design.</td>
</tr>
<tr>
<td></td>
<td><em>Structures II; Integration Studio</em></td>
</tr>
<tr>
<td>Masha Etkind</td>
<td>Research interests: Architectural History and Theory; Conservation and Preservation.</td>
</tr>
<tr>
<td></td>
<td><em>Heritage Preservation; Ideas, Technologies and Precedents II; Architecture Option Studio</em></td>
</tr>
<tr>
<td>Dr. Mark Gorgolewski</td>
<td>Research interests: Sustainable Design.</td>
</tr>
<tr>
<td></td>
<td><em>Studio in Critical Practice; Sustainable Rating Systems; Sustainable Housing</em></td>
</tr>
<tr>
<td></td>
<td><em>Design Studio I; Architecture and Public Policy; The Built World</em></td>
</tr>
<tr>
<td></td>
<td><em>Fire Safety; Research Studio Abroad; Bodily Comfort Systems</em></td>
</tr>
</tbody>
</table>

Ryerson University
Department of Architectural Science
Architecture Program Report
September 2012

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### Associate Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>Research interests</th>
<th>Courses Offered</th>
</tr>
</thead>
</table>
| **Dr. John Cirka**       | Research interests: Architectural Design; Computer Representation.  
                          | Studio in Critical Practice; Tectonics and Materiality                        |
| **Dr. Miljana Horvat**   | Research interests: Building Science; Building Envelope Systems.  
                          | Building Envelope Systems; Studio in Collaborative Practice                   |
| **Vincent Hui**          | Research interests: Digital Media.                        | Communications Studio; Design Studio III; Digital Tools                         |
                          | The Built Context; Design Studio II; Architecture Option Studio                |
| **Dr. June Komisar**     | Research interests: Architectural Design; Architectural History and Theory.  
                          | Research Studio and Seminar Abroad; The Small Building; Communications Studio  |
                          | Seminar in Contemporary and Future Practice; Integration Studio                |
| **Dr. Ian MacBurnie**    | Research interests: Architectural Design; Urbanism; Housing.  
                          | Research Seminar Abroad; Integration Studio; Theories of Urbanism              |
| **Dr. James Norrie**     | Research interests: IT Management, Game Theory.            | Business Practices in the AEC Industry                                         |
| **Dr. Paul Poh**         | Research interests: Project Management.                    | Project Management Studio; Project Management Theory                           |
| **Marco L. Polo**        | Research interests: History, Theory, Criticism; Canadian Architecture.  
                          | Canadian Architecture since 1945; Design Studio II; Sustainable Practices      |
| **Dr. Ramani Ramakrishnan** | Research interests: Building Science; Acoustics.  
                          | Light and Sound In Architecture; Building Science Studio                       |
| **Colin Ripley**         | Research interests: Architectural Design/Practice; History and Theory.  
                          | Seminar in Critical Practice; Design Studio III                                |

Ryerson University  
Department of Architectural Science  
Architecture Program Report  
September 2012
Dr. Kendra Schank Smith  
*Past Chair*

Research interests: History and Theory of Architectural Representation.  
Research Studio Abroad; Architectural Writing

Vera Straka

Research interests: Building Science; Structures.  
Sustainable Rating Systems; Structures I; Building Science Studio

Edward Wójs

Research interests: Architectural Design.  
Design Studio II; The Building Project; Architecture Option Studio

Arthur Wrigglesworth  
*Interim Assistant Chair, Student Affairs*

Research interests: Architectural Design; Computer Representation.  
Architecture Research Studio; Principles of Detailing

Baruch Zone

Research interests: Architectural Design.  
Communications Studio; Design Studio I; Documentation and the Construction Contract

**Tenure-Track Faculty Members 2012-13**

**Associate Professors**

Dr. Jane Hao

Research interests: Project Management.  
Project Economics I; Project Management Studio; Globalization and the Construction Industry

Dr. Albert C. Smith

Research interests: History; Theory and Criticism; Representation; Models.  
Architecture Option Studio; Design Studio II; Architectural Representation

**Assistant Professors**

Cheryl Atkinson

Research interests: Health Care Architecture; Architectural Design  
Integration Studio; Glass in Architecture

Dr. Leila Farah

Research interests: Urbanism; Urban Agriculture; Landscape Design  
Design Studio II; Site Development and Planning

Dr. Paul Floerke

Research interests: Theory; Processes; Building in existing Contexts (1960s-70s)  
Integration Studio; The Construction Project

Dr. Russell Richman

Research interests: Building Science; Sustainable Low-Energy Buildings.  
Integration Studio; Building Science Studio; Building Performance and Simulation

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Instructors 2012-13

Andrew Batay-Csorba  Architecture Option Studio
Robert Coelho      Principles of Detailing
Jeff Geldart       Integration Studio
Michelle Grant     Design Studio II, III
Frank Hamilton     Communication Studio; Design Studio I
John Ingrao        Design Studio II; Integration Studio
Stanislav Jurkovic Communications Studio; Design Studio I
Olena Kobets-Singkh Communications Studio; Design Studio I
Christine Leu      Design Studio I
Brigitte Luzar     Communications Studio; Studio in Collaborative Practice
Alistair Mackenzie Information Systems
Julie Ourceau      Design Studios I, II
Dimitri Papatheodorou Design Studios II, III
Viswam Ramasubramanian Communication Studio; Design Studio I
Dr. Tulsi Regmi     Economics for Project Management
Scott Serli        Design Studio II; Design Studio III
Evan Webber        Studio in Critical Practice
C Administration

- Administration: Description of the distribution of effort between administration and other responsibilities for each position.

The Department and the program are administered by full-time, tenured faculty who have accepted administrative duties of a larger or smaller scope. Larger administrative roles are accompanied by a reduced teaching load. The major current administrative roles are laid out in the following table.

<table>
<thead>
<tr>
<th>Position</th>
<th>Load</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chair</td>
<td>1 course/year</td>
<td>Colin Ripley</td>
</tr>
<tr>
<td>Assistant Chair, Student Affairs</td>
<td>1 course/term</td>
<td>Jurij Leshchyshyn</td>
</tr>
<tr>
<td>Program Director, B. Arch. Sci.</td>
<td>1 course/term</td>
<td>Marco L. Polo</td>
</tr>
<tr>
<td>Program Director, M. Arch.</td>
<td>1 course/term</td>
<td>Dr. John Cirka</td>
</tr>
<tr>
<td>Program Director, M.B.Sc./M.A.Sc.</td>
<td>1 course/term</td>
<td>Dr. Mark Gorgolewski</td>
</tr>
</tbody>
</table>

In addition, administrative release is given for a number of purposes, such as developing new graduate programs.

D Staff

- Staff: Description of the responsibilities for each position.

Departmental staff are members of OPSEU Local 596. For the purposes of this APR, all staff members are considered to be dedicated to the program. Current staff positions in the department are listed in the following table.

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Coordinator</td>
<td>Susan Galbraith</td>
</tr>
<tr>
<td>Administrative Assistant</td>
<td>Joanne Yolleck</td>
</tr>
<tr>
<td>Administrative Assistant</td>
<td>Darren Ocampo</td>
</tr>
<tr>
<td>Undergraduate Program Assistant</td>
<td>Elise Caron</td>
</tr>
<tr>
<td>Departmental Assistant</td>
<td>Rochelle Urovitz</td>
</tr>
<tr>
<td>Program Administrator, M.Arch./M.BSc./M.A.Sc.</td>
<td>Elizabeth Hallowell</td>
</tr>
<tr>
<td>Communications and Digital Archive Specialist</td>
<td>Prachi Khandekar</td>
</tr>
<tr>
<td>Lead Hand Technical Specialist</td>
<td>Vacant</td>
</tr>
<tr>
<td>Assistant IT Network Administrator</td>
<td>Leo Roytman</td>
</tr>
<tr>
<td>Senior Workshop Technician</td>
<td>Frank Bowen</td>
</tr>
<tr>
<td>Assistant Workshop Technician</td>
<td>Blaine Edwards</td>
</tr>
</tbody>
</table>
3.6 Human Resources Development

University Framework

Programs must have a clear policy outlining both individual and collective opportunities for faculty and student growth within and outside the program.

- The program’s policy regarding human resource development opportunities.

The Department of Architectural Science believes strongly in the importance of the provision for opportunities for development of all members of the Department - students, faculty and staff. Opportunities are made available through and governed by a set of University policies and local practices and traditions.

The cornerstone of development policies in the Collective Agreement between the University and the Ryerson Faculty Association. Article 7 of the RFA contract, which is excerpted below, spells out the obligations of the University in this regard (this excerpt has been edited for clarity).

Obligations of the University

The University acknowledges the primary responsibility of providing an administrative structure and climate in which effective teaching and Scholarly, Research and Creative activities may take place. The University further acknowledges the desirability of a suitable physical environment for faculty members.

Toward this end, every possible opportunity will be provided for personal academic growth and development. Changes affecting faculty members will be made only after consideration of, and discussion with, those involved, and after adequate notice has been given to them. Every attempt will be made to respect the dignity and integrity of the members of the Faculty and to provide an administrative climate in which members of the Faculty may function as responsible persons.

Similar provisions hold in the other collective agreements at the University. HR development opportunities can be found in many divisions of the University, such as the Learning and Teaching Office, the Office of Research Services, and the Human Resources Learning and Development Office (http://www.ryerson.ca/hr/learning/).
Policies, procedures, and criteria for appointment, promotion and tenure, as well as the allocation of merit increases and paid leaves (sabbaticals) are governed at Ryerson by the RFA contract. Please note that the procedure outlined below is in place for the first time in the current academic year.

Brief synopses of the processes follow.

- Appointments to the full-time faculty are made by the President on the recommendation, through the Dean, of the Department Hiring Committee (DHC). The DHC is made up of six tenured faculty members from the Department, of whom four are elected by the Department, one appointed by the Chair, who sits ex officio on this committee, and one chosen by the committee.

- The Department Evaluations Committee, or DEC, reviews probationary faculty annually, both through in-class evaluations and through a review of the faculty member’s annual report. All faculty members are required to report annually on their teaching, SRC, service, and outside professional activities. The DEC issues a formal, written evaluation of the annual report of each probationary faculty member.

- The DEC also reviews probationary faculty members for transfer to the tenured faculty at the appropriate point in time (typically after five years of service). Eight criteria are spelled out in the RFA contract for this review, as follows.

  i) teaching competence as demonstrated both in the classroom and in carrying out the principles of effective course management;
  ii) competence and currency in his/her own discipline;
  iii) capacity for curriculum development;
  iv) demonstrated commitment to the professional collegial life of his/her Department/School;
  v) fulfillment of his/her obligations as a faculty member under Article 7.3 (Obligations of Faculty Members);
  vi) satisfaction of such conditions of probation as were specified in his/her letter of appointment;
  vii) progress in overcoming weaknesses identified in the teaching and/or year-end assessments; and,
  viii) demonstrated capacity for, and commitment to, the Teaching, SRC and Service components of the duties and responsibilities of faculty members described in Article 10 (Workload Provisions - Mode II).

In 2012, one faculty member in the Department has been transferred to the tenured faculty, following one transfer in 2011; three more are coming up for tenure review in the next year.

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• Promotion to Associate Professor is now automatic along with tenure. Promotion to Full Professor is reviewed by a faculty-wide (FEAS) committee.

The University also has a number of initiatives which provide development opportunities to faculty, including the Learning and Teaching Office, which operates a faculty conference each May as well as a large number of workshops on topics related to the profession of teaching.

Leaves of Absence
Article 6 of the RFA Collective Agreement contains detailed provisions on the matter of leaves of absence. The basis for this is the understanding that “the taking of leaves of absence by members of the Tenured Faculty for the purpose of academic refreshment or expansion of experience is to the benefit of the University and its students.” Faculty members may take leaves of absence with pay (sabbatical) as well as leaves without pay. In addition the Collective Agreement contains within it provisions for faculty members to undertake faculty exchange leaves (Article 6.10), for the purpose of participating in a Faculty exchange program with another institution with whom Ryerson University has an exchange agreement.

Again, while the details of the arrangements for leaves are confidential, at any one time, it is typical for from 2 to 3 members of the Department’s tenured faculty to be on leave in an academic year. Among the activities of faculty on leave have been educational enrichment (PhD studies), intensive research and the preparation of manuscripts for publication. Individual information on faculty leaves can be found in the curricula vitae of faculty in Volume II of this APR.

SRC Activities
Ryerson University is committed to supporting its faculty members in the development and execution of Scholarly Research and Creative (SRC) Activities.

The collective agreement between the University and the Ryerson Faculty Association (RFA) addresses the matter of SRC, particularly through the provision of a professional development reimbursement fund (RFA Agreement, Article 18) and through the provision of leaves of absence for research and academic renewal (RFA Agreement, Article 6).

Professional Development Reimbursement Fund
Article 18 of the Collective Agreement “recognizes that the duty of faculty members ... to maintain academic and professional competencies will ... necessitate the incurring of expenses.” Annually faculty members
receive an allowance ($1,600 for 2009–2010), which can be allocated to travel, study leave, conference attendance, registration for professional societies’ meetings, memberships in professional organizations, books / subscriptions for scholarly journals, expenses related to teaching and for academic / research assistants. Faculty members are allowed to keep up to $3,000 in their professional development fund at any time. While the information on the disbursement of funds is confidential and remains a matter between the individual faculty member and the Department Chair who authorizes each faculty members’ expenditures under this fund, suffice it to say that all faculty members use the proceeds of this fund for the full range of identified purposes.

Office of Research Services

The Office of Research Services (ORS) is Ryerson’s central research administration office and point of contact for the federal granting councils (NSERC, SSHRC and CIHR), government ministries, industry, associations and foundations which typically provide financial support for university scholarship, research and creative activities (SRC). Both grants, which support the direct costs of ongoing research programs of faculty members, and contracts, which fund research with specified deliverables, are developed, approved and administered within the framework of University, funding agency, and federal regulations by faculty in close consultation with the ORS.

The ORS has a staff complement, which provides the following support to faculty:

• identify funding sources and research opportunities for Ryerson faculty
• publicize opportunities and research-related events to the Ryerson research community
• liaise with funding agencies on behalf of Ryerson researchers
• assist in the development, submission and tracking of grant proposals and contracts
• ensure ethical considerations are addressed and certification provided as required
• receive notifications
• establish and administer research accounts, providing direct assistance to faculty in structuring budgets and managing research accounts
• assist in ensuring contractual compliance
• compile University research reports

Internal Funding Available to Faculty from ORS

In addition to the facilitation of funding from outside agencies and granting bodies, the ORS offers funding for the Faculty of Engineering, Architecture and Science. The following are the internal funding programs available to faculty members:
Research Assistant Program

The program provides employment to full-time undergraduate Ryerson students with proven financial need in career-oriented, academically relevant, Ryerson SRC programs. Students must meet financial need guidelines and be an Ontario resident. The program is offered in the summer and during the academic year. Summer grants are valued at $7,500 including benefits, while fall/winter grants are worth $4,000: 75% ($3000) funded by the Ontario government and 25% ($1000) funded by the faculty member’s school/department or research project. Both programs are peer reviewed and aimed at providing support to faculty research through funding for research assistants.

Ryerson SSHRC Institutional Grant (SIG)

The SIG for Research and International Travel provides funds up to $7,000 to Ryerson faculty members pursuing research in the social sciences and humanities for small research seed projects and travel assistance to faculty presenting papers at scholarly international congresses or workshops or at conferences of international learned societies. Funds for this program are provided by SSHRC, Office of Research Services, Office of International Affairs, and the Associate Vice President Academic.

Ryerson SIG Travel

Ryerson University through the ORS provides travel assistance for up to $2,000 to faculty presenting papers in a field supported by SSHRC at scholarly international congresses or workshops outside Canada and the continental USA.

Ryerson Creative Fund

This fund provides a small number of grants up to $5,000 support to faculty members who engage, or wish to engage, in creative activity, where it can be demonstrated that such activity is relevant to their discipline and also to encourage faculty to explore potential alternative sources of funding. Normally only full-time tenured, tenure-track, or Limited Term faculty members are eligible for support.

Ryerson New Faculty SRC Development Fund

This fund provides up to $10,000 funding to new faculty within the first 2 years of their tenure or probationary appointment in the Faculties of Arts, Business, Communication & Design, Community Services or the Department of Architectural Science to establish and implement an SRC program. This initiative does not fund “stand alone” projects that are not part of a larger plan.
Ryerson International Research Fund (RIRF)

This fund is a joint initiative with the Office of International Affairs and is intended to foster international research collaborations. The Ryerson International Research Fund (RIRF) provides seed funding to develop proposals for externally funded international research initiatives that are a priority to their academic units, and that are consistent with the stated goals and objectives of the University’s Academic Plan. Successful applicants are to use this seed funding to develop an international research project proposal at a minimum value of $100,000. There are two awards: $20,000 per award with required matching funds of $10,000 cash or in-kind.

Dean’s Fund to Assist SRC for New Faculty

The Dean of the Faculty of Engineering, Architecture and Science makes funds available to newly-hired RFA faculty in amounts of up to $20,000 per faculty member. These funds are intended to support faculty members to initiate research projects, purchase equipment, travel and hire/support ongoing research. Applications are made by faculty and are reviewed based on a research plan presented.

Support for Travel: Dean and Chair’s Travel Funds

Through the offices of the Dean of the Faculty of Engineering, Architecture and Science and the Chair of the Department of Architectural Science funding is available on a competitive basis to assist faculty members with travel costs to attend conferences to present papers, which have been accepted and approved through peer review. The Dean offers up to $1,000 for international travel and $750 for travel in North America. The Department Chair offers up to $500 for international travel and $250 for travel in Canada.

Ryerson University’s Department of Architectural Science believes that its faculty members with professional credentials, in addition to academic credentials, will provide additional strength to the core faculty, given the critical practice orientation of the Master of Architecture. Until recently, Ryerson University’s Department of Architectural Science has required that members of the full-time teaching faculty be licensed architects in Ontario (OAA Members) or members of the Professional Engineers of Ontario (PEO), prior to their making an application for tenure. As the Department shifted its hiring strategy to include PhDs in architecture, this requirement has been reformulated and the requirement of licensure in Ontario modified. For those with a PhD, licensure is desired, not required, and licensure is not specific to Ontario (OAA Member). As a result, new hires in architecture with PhDs also have professional qualifications in a variety of jurisdictions outside of Ontario (Quebec, the United Kingdom and Massachusetts). For those faculty members with a background in engineering, a professional designation in engineering (P. Eng.) has been a requirement for tenure. Faculty members with professional licensure in architecture are subject to the regulations of their provincial regulatory body.

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Maintaining Professional Currency

- Evidence of how faculty activities encourage currency in the knowledge of changing demands of practice and licensure.
Off-Campus Activities
- Evidence of the program’s facilitation of student opportunities to participate in field trips and other off-campus activities.

Part time (CUPE) faculty members are annually requested to provide the department with documentation of their currency.

The program is committed to providing opportunities for students to participate in field trips and other off-campus activities. These opportunities have been growing in the past few years, and remain a point of emphasis for future development. In addition to the items listed below, the AIAS student society traditionally sponsors at least one trip to a major American city each year.

Field Trips

Fall 2012:
ARC 720/AR8106, Venice Biennale M. Polo, A. Batay-Czorba
ARC 520, Chicago, Y.T. Leong

Spring/Summer 2012:
ARC 720, China, Z. Liao
Design build: Newfoundland, ERA Architects
Kultour-Germany, Y.T. Leong, J. Cirka
AR8105, Montreal, I. MacBurnie

Winter 2012:
ARC 820, Las Vegas, V. Hui
ARC 820, Netherlands, I. MacBurnie

Spring/Summer 2011:
Italy/Tel Aviv, M. Etkind
China, Z. Liao
Kultour-Philadelphia, M. Polo, Y.T. Leong
AR8105, Greece, G. Kapleos

Winter 2011:
ARC 820, Las Vegas, V. Hui

Spring/Summer 2010:
ARC720, Italy / Tel Aviv, M. Etkind
Kultour: Berlin, M. Polo, Y.T. Leong
AR8105, Brazil, J. Komisar
AR8105, China, Z. Liao
There are a number of student groups that have an official or unofficial affiliation with the Department of Architectural Science. The Architecture Course Union (ACU) is the Department’s representative student group on the Ryerson University student council. Other groups include the only Canadian chapter of the American Institute of Architecture Students (AIAS) and the Ryerson Student Chapter of the Project Management Institute (PMI). Recently, a chapter of CASA, the Canadian Architecture Students Association was organized in the department.

**Architecture Course Union (ACU)**

The Architecture Course Union is a group of students elected each year to represent the student body in executive meetings and issues related to the program. The ACU also organizes all the social and school-related events throughout the year for students to enjoy. All students in the Department are automatically members of the ACU, and welcome at all executive meetings.

**The Canadian Chapter of the American Institute of Architecture Students (AIAS)**

The American Institute of Architecture Students (AIAS) is a non-profit organization which aims to inspire students and intensify their passion for architecture; to make a difference in the community through unified action; to advance Ryerson Architecture internationally and to promote student involvement in the architecture world and its related disciplines. The AIAS hosts conferences, including the annual FORUM conference and several regional conferences, including the NorthEast Quad Conference, which was held at Ryerson in October 2008. The AIAS also organizes field trips, an annual "firm crawl" around Toronto, Charrettes, and competitions.

For over three decades, people have looked to Crit, the Journal of the AIAS, as the only source of published student work from across the continent. The theme of each issue provides a dialogue of current issues in architectural education and the profession. Student projects are published in an effort to highlight the best of the best in architecture schools. While the focus of Crit remains on students, feature articles about faculty members, professionals, schools, and practice-oriented issues are often highlighted in each issue. The AIAS News section of each issue provides readers with deadlines and announcements for AIAS competitions, programs, and opportunities; updates on chapter events, as well as other important news for architecture students.

Students in the program have access to a variety of means of financial support, in the form of scholarships, awards, bursaries, teaching assistantships, and research assistantships. Winners and works with the University to dispense award monies totaling $45,000.
G  Student Support Services
- Description of student support services, including academic and personal advising, career guidance, evaluation of progress, and internship placement (if applicable).

Counselling

Academic counselling is carried out in the first instance within the program, and is the responsibility of the Assistant Chair, Student Affairs. More in-depth counselling of an academic, personal, or career nature, is carried out by the Centre for Student Development and Counselling, under the auspices of Ryerson Student Services (see below for more information about RSS). The Centre provides a range of individual counselling and group programs in a professional and friendly environment. Counsellors are available to work with students on a one-to-one basis in relation to a variety of personal concerns and crisis situations. As well, the counsellors provide both group sessions and individual counselling for those experiencing uncertainty about their educational or career goals. All services of the Centre are free, confidential and delivered by highly qualified staff.

Students access the Centre for Student Development and Counselling by appointment. One counsellor from the Centre is seconded on a permanent basis to the Faculty of Engineering, Architecture and Science, and is the primary counsellor for students in the program. The Centre also provides individual and group counselling and workshops designed to aid students in their personal, career and academic development. One key to this is the Mentoring and Career Resource Centre located in Jorgenson Hall. This resource centre provides information about, and offers workshops on, career and educational opportunities and coordinates a mentoring system for students. Workshops offered by the Centre include:

- Discover Your Calling - Create Your Vision
  As a student it is natural to be reflecting on your direction and to be asking questions about what lies ahead. In this group you can discover how to tap into your passions and create balance and challenge in your life

- Applying to Graduate and Professional Schools: Part 1, Part 2
  This workshop will show you the steps to follow to ensure your qualifications are presented in the very best light when applying to competitive graduate and professional schools.

- Your Career Planning Starts Today, Not When You Graduate

- Your Career: Chance or Choice?

- Help - I’m Not Sure I’m in the Right Program

- Personal Counselling Groups
  - The Shyness Clinic
  - Lift the Depression
  - Interpersonal Therapy Group
  - Family Relationships: Leaving the Baggage Behind
  - WorryWart
  - Facing Loss
Guest Lecturers and Visiting Critics
- A list of guest lecturers and visiting critics brought to the program since the previous site visit.

Architectural Science Lecture Series
Winter 2012
Peter Yeadon, Decker Yeadon LLC (New York City and RISD)
Theo Deutinger, TD Architects (Rotterdam)

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Mindfulness-Based Stress Reduction
Relationship Lab: Learning Dating and Couple Skills
GBQT Men’s Group
Stress Reduction and Relaxation Series

Students in the program also benefit from Ryerson Student Services, which offers a wide variety of programs designed to promote the health and well-being of students. These programs are broken out into two broad areas.

1. Services supporting successful transitions and academic success:
   - Student Programs (transition to University)
   - Student Housing
   - Learning Success Centre
   - The Access Centre (for students with disabilities)
   - Tri-mentoring program
   - International Services
   - Aboriginal Student Services
   - The Career Centre

2. Services supporting student health and wellness
   - Sports and Recreation
   - Centre for Student Development and Counselling
   - Student Financial Assistance
   - The Health Centre
   - Health Promotion
   - Health Services

The program hosts a wide range of lecturers and visiting critics each year. Lectures typically happen as part of our public lecture series, financial support for which has been growing from industry and other partners, as a result of a concerted effort on the part of faculty members. Other lectures take place as informal, brown-bag lunch sessions, or in the context of courses.
Craig Applegath, Dialog™ Toronto, Rotterdam, Netherlands
Rene Daoust, Daoust Lestage, Montreal, Canada - Margery Winkler Endowed Lecture
Stephen Teeple, Teeple Architects Inc, Toronto, Canada

Fall 2011

United Visual Artists, UVA (London, UK)
Paul Fast, Fast + Epp (Vancouver, Canada and Frankfurt, Germany
Siamak Hariri, Hariri Pontarini Architects, Toronto, Canada
Giancarlo Mazzanti, Equipo de Mazzanti, Bogota, Colombia
Peter Maccallum, pmfoto, Toronto Canada

Winter 2011

Francisco Mangado, Mangado y Associados, Navarre, Spain
Craig Dykers, Snøhetta, New York, New York
Greg Curran, tt/cm2r Project Managers, Toronto, Canada
Bjarne Mastenbroek, SeARCH, Amsterdam, the Netherlands
Sara de Giles, MGM Arquitectos, Seville, Spain
Billie Tsien, Todd Williams Billie Tsien Architects, New York, NY

Fall 2010

“Universities as City Builders” with Will Alsop, Craig Dykers, Eb Zeidler, Sheldon Levy, Ken Greenberg
Thomas Auer, Transsolar, Stuttgart, Germany
Sanjit Manku, Agence Jouin Manku, Paris, France
Carme Pinós, Estudio Carme Pinós, Barcelona, Spain
Ateliermob, Lisbon, Portugal
Derek Walcott, 1992 Nobel Prize for Literature, St. Lucia
Brian Mackay-Lyons, Mackay-Lyons Sweetapple, Halifax, Nova Scotia

Winter 2010

Kelly Shannon, Catholic University of Leavun, Belgium
Francine Houben, Mecanoo Architecten, Delft, Netherlands
Bernardo Gomez Pimienta, BGP Arquitectura, Mexico City, Mexico
Fantastic Norway, Fanstastic Norway Architects, Oslo, Norway

Fall 2009

Marla Mossman, New York, USA
Michael Awad, Toronto, Canada
David Rokeby, Toronto, Canada
Philip Beesley, Philip Beesley Architect Inc., Toronto, Canada
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Guest Critics

Guest critics are typically invited to the school to participate in reviews of third year architecture studio and fourth year architecture thesis. Critics brought to the program in the last three years include:

<table>
<thead>
<tr>
<th>Critic Name</th>
<th>Institution/Company</th>
<th>Critic Name</th>
<th>Institution/Company</th>
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</thead>
<tbody>
<tr>
<td>Lou Ampas</td>
<td>Cool Earth Architecture</td>
<td>Jeff Hanning</td>
<td>Sweeney, Stirling, Finlayson Architects</td>
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<td>Michael Awad</td>
<td>University of Toronto</td>
<td>Pat Hansen</td>
<td>GH3</td>
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<td>Danny Bartman</td>
<td>Levitt Goodman Architects</td>
<td>Philip Hastings</td>
<td>Gow Hastings Architects</td>
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<td>Derek Ballantyne</td>
<td>TCH</td>
<td>Kevin Hutchinson</td>
<td>Montgomery Sisam Architects</td>
</tr>
<tr>
<td>Morteza Behrooz</td>
<td>PMAL Architects</td>
<td>Morris Ilnyak</td>
<td>Ontario Ministry of Finance</td>
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<tr>
<td>Neeraj Bhatia</td>
<td>Diamond and Schmitt Architects</td>
<td>Prish Jain</td>
<td>Tact Design</td>
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<tr>
<td>George Bizios</td>
<td>KPMB Architects</td>
<td>Kevin James</td>
<td>RAW Design</td>
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<td>Adrian Blackwell</td>
<td>University of Toronto</td>
<td>Victor Jaunkalns</td>
<td>MacLennan Jankauns Miller Architects</td>
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<td>Yves Bonnardeaux</td>
<td>BSN Architects</td>
<td>Bernard Jin</td>
<td>Teeple Architects</td>
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<td>Robert Boyd</td>
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<td>Onah Jung</td>
<td>Studio Jonah</td>
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<td>Ken Brooks</td>
<td>HOK Architects</td>
<td>Al Kably</td>
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<td>Sydney Browne</td>
<td>Diamond + Schmitt Architects</td>
<td>Mitch Kosny</td>
<td>School of Urban and Regional Planning</td>
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<td>Rob Cadeau</td>
<td>Architects Alliance</td>
<td>Paul Kulig</td>
<td>Planning Alliance</td>
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<td>Aziza Chaouni</td>
<td>FALD, University of Toronto</td>
<td>Derrick Lai</td>
<td>RAW Design</td>
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<td>Roberto Chiotti</td>
<td>Larkin Architect</td>
<td>Yam Lau</td>
<td>Department of Visual Arts, York University</td>
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<tr>
<td>Gregory Colucci</td>
<td>Diamond and Schmitt Architects Inc.</td>
<td>Brian Laye</td>
<td>FALD, University of Toronto</td>
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<td>Mitchell Cohen</td>
<td>Daniels Corp.</td>
<td>Jamie Lee</td>
<td>WZMH Architects</td>
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<td>Chris Couse</td>
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<td>Matthew Delean</td>
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<td>Joanne DiNovo</td>
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<td>Hilditch Architects</td>
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<td>IBI Group</td>
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<td>Adam Feldman</td>
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<td>Michael Longford</td>
<td>York University</td>
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<td>Patrick Fejer</td>
<td>Bregman and Hamman Architects.</td>
<td>Marie-Paule Macdonald</td>
<td>University of Waterloo</td>
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<tr>
<td>Luigi Ferrara</td>
<td>Centre for Arts &amp; Design and the Institute</td>
<td>Kym Maclaren</td>
<td>Ryerson University</td>
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<td></td>
<td>without Boundaries, George Brown College</td>
<td>Harold Madi</td>
<td>The Planning Partnership</td>
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<tr>
<td>Kregg Fordyce</td>
<td>Kregg Fordyce Architect</td>
<td>Ivan Martinovic</td>
<td>Martinovic Architect</td>
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<td>Sean Fraser</td>
<td>Ontario Heritage Trust</td>
<td>Leila Mazhari</td>
<td>DAS, Ryerson University</td>
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<td>Andrew Furman</td>
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<td>John McMinn</td>
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<td>Vivian Gabrail</td>
<td>HOK Architects</td>
<td>Farzam Mohajer</td>
<td>FALD, University of Toronto</td>
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<td>Daniel Gaito</td>
<td>TTC</td>
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<td>Glen Murray</td>
<td>Canadian Urban Institute</td>
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<td>Vincent Goetz</td>
<td>Diamond + Schmitt Architects</td>
<td>Pardeep Nagra</td>
<td>University of Toronto</td>
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<td>Cory Gray</td>
<td>Lancer Developments</td>
<td>Joe Nasr</td>
<td>Ryerson University</td>
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<td>Mitchell Hall</td>
<td>KPMB Architects</td>
<td>Barbara Nytko</td>
<td>GABA Holdings International Inc.</td>
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I Public Exhibitions
- A list of public exhibitions brought to the program since the previous site visit.

Exhibitions are typically mounted in the main atrium of the architecture building. Our exhibition program alternates between exhibits of student work and external or travelling exhibits. In recent years, almost all exhibitions in the main and lower atria have been made up of student work, with external exhibitions or work of faculty members being housed in the more secure Resource Centre gallery. In 2013, we will have a new, secure, professional level gallery for housing more significant exhibitions.

In the past three years, the following exhibits have been mounted in the Architecture building:

Main Atrium

**Summer 2012:**
- Process Work: Stop’s Night Market: Arthur Wrigglesworth

**Winter 2012:**
- Options Studio 4th Year
- Experiential Architecture

**Fall 2011**
- Graduate Competitions

**Winter 2011**
- Collaborative Exercise
Housing Competition: Baruch Zone
Year End Show: All Faculty

Fall 2010
MArch Thesis
Studies Abroad
Option Studios

Lower Atrium
Winter 2012:
Digital Tools

Resource Center
Winter 2012:
Cannon Design Travel Award: 10 Days in Japan (Michael Blois)

Fall 2011:
Atelier 3 AM

Winter 2011:
Cheryl Atkinson Work

Fall 2010:
ResTore Student Competition
Dimitri Papatheodorou Work
Taymoore Balbaa Work
3.7 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. The facilities must be in compliance with local building, fire, and life-safety codes.

The APR must include the following information:
- A general description, together with labelled 8-1/2-inch by 11-inch plans: indicating accessibility, of the physical plant, including seminar rooms, lecture halls, studios, offices, project review and exhibition areas, libraries, computer facilities, workshops, and research areas.
- A description of any changes under construction, funded, or proposed.

Context

Ryerson University suffers, as do many if not all Ontario universities, from space issues. Ryerson is perhaps the most urban of Ontario’s universities, with a campus that is integrated with the urban fabric in the very centre of downtown Toronto. Without a large, self-contained tract of land, expanding the campus has meant dealing with all the realities of development in the urban core. What is more, Ryerson’s major period of expansion in terms of both student population and new programs (including graduate programs) came during the 1990s and the early parts of this decade, at a time when government funding for the construction of university facilities was notably absent. By 2003, it was estimated that the University had access to only 60% of the space required for its student population.

In recent years, the University has been taking aggressive measures to rectify this situation. New buildings have been constructed for Engineering and Computing, Graphics Communication Management, Continuing Education, and the School of Business, as well as a new Student Centre. The former Sam the Record Man site on Yonge Street is the home of the future Student Learning Centre. Some administrative offices (School of Graduate Studies and Office of Research Services) have moved into rented offices at 1 Dundas St. W., adjacent to campus, freeing up space for academic use. The University has entered into an agreement with AMC Theatres to use the new cinemas at 10 Dundas St. E. as lecture halls during daytime hours. The renovation of the Image Arts building is now complete, supported in part by $32.9 million in Federal and Provincial funding. In the meantime, Ryerson has completed a master plan for campus expansion, carried out by a team headed by Toronto architects KPMB.

In the meantime, Ryerson has completed a master plan for campus expansion, carried out by a team headed by Toronto architects KPMB. The physical situation of the architecture program should be seen in this context. When Ryerson became a university in 1993, Architectural Science was in a far better position in regards to physical resources than most other programs on campus, with a purpose-built building, designed by a distinguished architect only a dozen years before. Priorities for the University, naturally, had to do with easing the difficulties of other programs that were not in as good a position. Recently, however, the University has begun to re-invest in the Architecture Building, as discussed below, and to at least discuss a major renovation or new facilities for the program.

We understand for example that unsuccessful applications have been made in the last year by the University for Federal and Provincial funding for a major renovation of our facilities. While our facilities continue to have deficits, significant strides have been made in the past three years, and we are confident that this trend will continue.

The Architecture Building

The Department of Architectural Science has occupied its present building on the Ryerson University Campus, designed by the Thom Partnership, since 1981. The building was designed to house a program in architecture, and although the requirements of such a program have changed significantly in the intervening
years, it remains an exciting and functional environment in which to study architecture. Recent and ongoing renovations and upgrades to the building serve to renew its functional capacity.

The building is four storeys in height and organized around two open atria, which provide interconnection and visibility to the school community. The building is served by a single elevator, which was replaced in the summer of 2009. Accessible entrances are on the lower level, while the main entrance off Church Street is to the second floor. A recent accessibility audit shows that all spaces in the building meet accessibility requirements.

Although a number of upgrades and renovations have been carried out over the last few years in order to make the building function as a twenty-first century school of architecture, the basic infrastructures of the building - particularly building envelope and environmental control systems - are in need of replacement. A small greenhouse facility on the fourth floor used for food security research requires major repair or glazing replacement to eliminate leaks into faculty offices immediately below during heavy rains. The building has been placed on the University’s list for building improvements.

**Studio Space**

The provision of sufficient space for each student in the design studio has been a significant issue for our program in the recent past. Enrollment increases in the late 1990s and the early parts of this decade made our studios more and more crowded. Reduced intake numbers were implemented when our M.Arch. program began, with the reduced enrollment into all four years of the B.Arch.Sci. being complete this year, resulting in sufficient studio space for all students. Our next issue will be to provide appropriate space for specialized studios with needs that differ from the traditional architecture studio. In addition, in response to positive pressure from the University in terms of space usage, we are planning to reconsider the format and equipage of our studio spaces in order to maximize their usefulness.

The building currently includes 2400m2 of studio space, including two former classrooms that have been converted to studio use. Our current student population in studio programs is approximately 460, giving an average of 5.2m2 per student. Graduate students have more room than undergraduates, with approximately 6m2 per graduate student.

First and Second year studios are located on the top floor of the building, the Third year Integration Studio is located on the third floor, and Graduate studios are located on the second floor. Fourth year studios are distributed on all four floors of the building – Architecture studios on the top two floors, Project Management on the second floor, and Building Science on the ground floor.

All studios are access-controlled by card access or lock and key. We are in the process of replacing old furniture, designed for hand drafting, with new furniture that meets the current needs of our program. We have
opted for simple tables rather than workstations or custom desks in order to encourage students to arrange their space to suit their working methods and to allow collaborative work to be supported.

In addition to the studio space, we have a number of ancillary spaces that function as breakout spaces or as review spaces. These are all equipped with digital projectors and pin-up space.

**Lecture Halls and Seminar Rooms**

Most classrooms within the building have now been taken over for studio space, research labs, or graduate student offices. This has not caused an operational problem since we have good access to classroom space elsewhere on campus and have improved the ability to hold impromptu meetings in the studio, in crit spaces, and in the Student Engagement Centre.

We have two lecture spaces in the building large enough to hold an entire class. ARC 108, on the lowest level of the building, is used for large scheduled classes. The Pit, above 108 on the second floor, is not used for scheduled classes but is the pivotal dedicated space for special events within the department, including the guest lecture series, student award night presentations, thesis presentations, films and departmental meetings. With carpeted tiered seating in an amphitheatre-like configuration this venue can accommodate 180 people. A rear aisle ramp leads from the upper atrium level to the front of the presentation area for universal accessibility. Both ARC108 and The Pit are equipped with digital presentation systems.

**Student Resource Areas**

The building contains a well-equipped and organized woodshop with limited metalworking facilities. The shop, like most spaces in the building, is not as large as we would like but makes up for this in its organization. The workshop is divided into three distinct areas: construction area, assembly area and office. The construction area, primarily used for fabrication, contains an assortment of power tools, including a table saw, a lathe, table planers, power sanders, routers, drills and working surfaces. Other equipment includes an arc welding booth and a spray paint booth. There is a materials storage area from which students may purchase wood and engineered wood products, metal and acrylic for model and furniture construction. The assembly area provides clean space for students to safely construct and store work in progress, especially important for larger projects being assembled as a team effort. Since the last visit, new equipment has been added to our Digital Fabrication Lab adjacent to the workshop space. A CNC 3-axis milling table (5’x10’) and an industrial laser cutter have been installed. Work on a new ventilation system to ease the significant fume dispersal from the lasercutters will be completed in the early Fall of 2012. Space issues in the shop have been partially addressed through the construction of a new Building Science Lab across the hall, which will take material and assembly testing functions out of the shop. This Lab now houses a wind tunnel. Beside this new space, and across
Level 3 - Faculty Floor

- Studio
- Resources
- Faculty+Administration
- Lecture+Exhibition

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Physical Resources
Section 3.7 Page 80
the hallway from the Digital Fabrication Lab, is a former windowless classroom that has been earmarked as a future immersive realities lab.

Computer facilities are primarily housed in the third floor computer lab. This space, overlooking the upper atrium, has 38 Dell workstations loaded with standard software suites. A few more computers are located in the Student Engagement Centre and the graduate studio spaces. The vast majority of students now use their own laptop computers for most everyday computing tasks. The entire building is now served by a wireless networking system while the studios are provided with outlets for high-speed wired connection. The widespread use of laptop computers in recent years is placing pressure on the Department’s computer facilities for rendering purposes. Discussions on the specifications for a render farm have been initiated to ease this bottleneck.

The Student Engagement Centre, located on the lower level of the building, is a multi-purpose space in which students can meet informally, carry out group work, have access to printers and scanners, and consult limited resource materials. This space is in transition from its previous role as a Resource Centre (Branch Library) and still has a small and mostly obsolete book collection that is slowly being removed. In its place, a lounge area has been installed with a small collection of current periodicals. The space also contains a temporary exhibition area, which can house travelling exhibitions in a secure manner until such time as our gallery renovations are complete. The existing collection of technical manuals, building codes and zoning bylaws are slowly being supplanted by internet-based resources, and will be maintained until this transformation is complete. A student committee has been struck to investigate a future direction for this space.

**Exhibition Areas**

The building has an array of spaces that are used for the display of student, faculty, and external work in a formal or more informal manner. The upper and lower atria routinely have displays of student work, with the upper atrium housing a series of exhibitions from outside the school. This space is limited by the lack of security and oversight; although we have not had any significant issues in regards to vandalism or theft of exhibition objects, we are not able to display artifacts that have a significant value.

In the short term, we have established a temporary secure gallery in the Student Engagement Centre that benefits from the secure nature of the space and regular staff oversight. Fund raising has been completed and plans are underway for the construction of a permanent gallery space adjacent to the upper atrium that, although relatively small, will have professional-level facilities for mounting regular exhibitions; the visiting team will have the opportunity to review drawings for this space, which is expected to be constructed in the summer of 2013.
Other spaces, such as the hallway outside faculty offices, are used for ongoing exhibition of faculty work. Circulation areas adjacent to the atria also support exhibition of overflow student work during reviews.

**Administrative Offices**

Immediately off the upper atrium, on the second floor of the building, directly opposite the Pit, behind a floor to ceiling glazed entry screen, the administrative staff deals with the daily business of the student body and the visiting public. This area was renovated during the summer of 2009. The receptionist/secretary, administrative assistants and assistant chair for student affairs are located in the open general office area while the chair of the department has a secure office. The photocopy, mail and supply room is located directly off the general office area. Contiguous with the office area, the David Mason faculty lounge is furnished with sofas and chairs for relaxation and casual discourse, an eating table for eight faculty, a preparation and serving counter, bar fridge and microwave oven.

A second administrative area has been constructed for Graduate Studies at the north end of the same floor. This contains office spaces for the M.Arch. and M.B.SC. Program Directors as well as their Program Administrator.

Offices are also provided on the lower level for the various student organizations active in the Department.

**Faculty Offices**

Each full-time faculty member is provided with an office. There are 25 offices on the third floor of the building, all approximately 12 m² in size except for corner offices that are slightly smaller. All have windows, phone and network connections. Furnishings include a desk and chair, shelving, a counter along the window wall, secure filing cabinets and guest chair. The offices can easily accommodate individual appointments and counselling with students. The Ryerson Embodied Architecture Laboratory [ARC 305], a facility for faculty research and collaborative studies, is adjacent to the faculty office area.

Contained with the office area is a communal space designated for use by sessional faculty. This area is divided by acoustic screens into semi-private workstations which each include a counter, shelving, seating and a phone connection. A seminar room for meetings with students is also provided. A small room allocated to part-time staff for marking and storage is located within the faculty area. Office space for sessional faculty remains an issue in the building.

**Research Areas**

At the time of construction of the Architecture Building, Ryerson was not yet a University, and research was not on the agenda in any significant way. Until recently, the building did not contain any spaces designated for research.
specifically for faculty research. The need for research spaces has now become a very significant additional pressure on the building.

The REAL lab, opened in 2008 as a result of a successful CFI application by a group of tenure-track faculty, provides basic accommodations for research assistants as well as computer and printing facilities. The Building Science Lab, opened in 2009, provides a space and some equipment for the more technically oriented research in the department. Beside the Building Science Lab, in ARC 115, is a space designated to become an Immersive Realities Lab, although work on that space has not begun in any serious way. Two small rooms on the third floor of the building have been designated as Team Rooms for faculty engaging in design competitions. A few faculty members have been successful in the past in securing space on campus outside of the Architecture Building for their research projects.
3.8 Information Resources and Information Technology

The architecture librarian and, if appropriate, the staff member in charge of visual resource or other nonbook collections must prepare a self-assessment demonstrating the adequacy of the architecture library. The library collection must contain a wide variety of print, visual, and electronic media, and be adequate in size, scope, content (both current, and retrospective), and availability for a professional degree program in architecture. The collection must include at least 5,000 different Library of Congress NA or Dewey 720-729 titles along with technical and support volumes to provide a balanced architecture collection as described by the Art Libraries Society of North America and the Association of Architectural School Librarians. Its staff and services should be adequate and appropriate to support the goals, objectives, and curriculum of the architecture program. Visual resources and other non-book materials are considered an integral part of an architecture education, and students must have ready access to these materials. Access to other architecture libraries in the region is not a substitute for an on-site library.

Library self-assessment

The APR must include:
- The type of architecture library serving the program;
- The adequacy of the architecture library;
- The library collection must contain a wide variety of print, visual, and electronic media, and be adequate in size, scope, content (both current, and retrospective), and availability for a professional degree program in architecture.
- The collection must include at least 5,000 different Library of Congress NA or Dewey 720-729 titles along with technical and support volumes to provide a balanced architecture collection as described by the Art Libraries Society of North America and the Association of Architectural School Librarians. Its staff and services should be adequate and appropriate to support the goals, objectives, and curriculum of the architecture program.
- Visual resources and other non-book materials are considered an integral part of an architecture education, and students must have ready access to these materials.
- Access to other architecture libraries in the region is not a substitute for an on-site library.

Ryerson University Library and Archives Report


There have been some changes and advancements to the Ryerson University and Archives (RULA) since the 2009 report. The following information will update the last report. The Library continues to be committed to working closely with the Department of Architectural Science to provide quality learning and teaching experience for the students and professional collaboration with faculty.

1. LIBRARY COLLECTIONS

1.1. Context

RULA, the Ryerson University Library and Archives, is a central library, located in a high visibility area of the Ryerson University campus. The Library building contains the holdings of the library, special and archival collections and provides access to the print, audio, visual, geospatial data and electronic resource material. The Library is considered to be a unique and dynamic library, which has grown and adapted to an ever-expanding university population. Collection space and storage has been a very real challenge, necessitating removal of materials that have been assessed as lower priority for retention. RULA continues to rely on our robust provision of “free” interlibrary loan service to acquire on an “as need” basis materials that are not in our resident collection while continuing to acquire new content. Electronic format materials are the preferred option; however, the librarian acknowledges that visual/image content is of particular relevance to Architecture. Electronic resource access through participation in provincial and national resource sharing consortia has resulted in an increase, over the past years, in journals and other scholarly resources to support the Architecture programs.

The librarians work diligently to evaluate and acquire content that is relevant to support the learning needs of architecture students and liaise with faculty to acquire content to support curriculum. Sustained financial commitment from the University is essential so that the Library can continue to provide our current level of service, and in particular, as graduate programs are introduced and expanded, to allow for improvement and innovation in library collections and services. It would be valuable to increase the percentage of University budget allocated to the Library. Ryerson University remains behind many comparative Canadian universities in its percentage of overall university operating budget allocation for library expenditures. (a factsheet at end of this document provides selected details).
1.2. Subject Coverage

Current and retrospective materials are collected in a wide range of architectural subjects, including design, history, theory, criticism, preservation and restoration, housing, community design, urban design, computer applications, and professional practice. The collections also include landscape architecture, planning, building and construction, and project management. The librarians monitor current and emerging topics for collection relevance. Recent areas for attention have included, LEED, sustainability, environmental design, standards, codes and global issues. The collection continues to be dynamic; new content is added through library purchase, faculty requests, and selected donations. The collection exceeds the minimum (5000+ items in call number “NA”) accreditation standards. The architecture materials continue to be heavily used; for example, of the 10,800+ new books added to the collection in 2011-12, the NA’s received the 3rd highest circulation rate, following BF (psychology) and PN (film). (information as obtained from internal Library Collections report, July, 2012). Table 2. Below, illustrates book collection numbers in selected LC call number areas as of May, 2012.

The Library journal collection includes both print and electronic titles. In a recent Serials Analysis report (using Ulrich’s Serials Analysis System), 2012 results show Ryerson Collection to have strengths in comparison to peer groups (primarily undergraduate institutions). Ryerson Library also has a relatively strong unique title collection. Table 2.b. shows the highlights of the analysis.

1.3. Policy Statements

The Library collecting levels are based on a set of guidelines and standards as set by the American Library Association. In a comprehensive collection review done in 2000, the Library collection was assessed to be generally supportive of undergraduate level with medium support for independent study. Subsequently, the Architecture librarian has been gradually renewing efforts to build the collections in areas that were identified as requiring higher level or additional content as course or program changes are implemented. The Architecture librarian is a member of AASL (Association of Architecture School Librarians) and monitors standards and recommended sources for collection relevance and enhancement. A Ryerson Library collection development policy is available at: http://library.ryerson.ca/info/collections/policies/colldev/general-policies/

The policy outlines mission, selection process, type of materials and includes description is approval plan acquisitions. Recently the Library has undertaken a PDA (patron driven access) procedure by which materials (selected publisher/supplier sources) are automatically added to the collection based on user request. The policy outlines strategy for review and maintenance of the collections. The continuous review of library materials is necessary as a means of maintaining an active collection of value to users.

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2. STAFF

2.1. Structure

RULA (consisting of the Library, Special Collections and Archives) is a team-based organization, and operates within a collegial environment. The structure and reporting relationships are reviewed and adjustments may be made over time. For example, a recent modification has included the development of a Library Information and Technology Services team.

The complement of staff consisting of a combination of Librarians, Library Technicians, and support staff work closely with each other and the Ryerson community to ensure excellent access to resources and services. The Library Council meets monthly for decision and policy determination according to the Library goals, objectives and strategic planning.

The Library, through the Chief Librarian, reports to the Provost and V-P Academic. The Chief Librarian is ex-officio status on University Senate and Board of Governors and also participates at the APG (Academic Planning Group). Librarians serve on University Senate and are members of integral academic committees.

2.2. Numbers, Staff and Professional

RULA staff includes approximately 30 FTE professional librarians, 15 library technicians, and a strong support staff complement. Additional staff members, including student assistants, are hired on a contract basis as needed. The Library is committed to proving quality services and aspires to maintaining staff levels comparative to academic libraries in Canada. Total staffing at all levels is approaching 100 FTE. In some instances the ratio of staff and librarians to student FTE is lower than in comparator academic libraries.

2.3. Professional status

Ryerson librarians, including the Architecture Librarian, have Graduate library degrees from ALA-accredited universities, complying with the Canadian standard for professional librarian positions. The current Architecture Librarian has 30+ years experience working as Librarian, in various positions, at Ryerson. Career Librarians are members of the Ryerson Faculty Association. Librarians share reference desk service, and subject liaison with faculties, schools and departments, collaborating within RULA and working closely with faculty, contributing in the broader Ryerson academic context.

2.4. Support staff

Library staff members have generally reached a high level of education. Library Technicians must have at
least a library technician diploma. Many of the support staff have achieved high levels of post-secondary education. Ryerson students are hired for a few short term contracts. As well, the Library provides co-op work experience to students from the MLS programs and provides learning support for field placement to students of community college Library Techniques programs. The Library has an active training and development committee and provides and supports training and development opportunities for all staff.

3. FACILITIES

3.1. Space

The Ryerson Library was built in 1960's for a much smaller community of faculty, staff and students. Needing to serve a population of approximately 28,000 student FTEs in 2012, it has become very apparent that, although functional, the Library has become inadequate to accommodate a growing collection and to properly provide service to the developing graduate and research based university. Storage limitations forced a recent weeding of material from the collection. The Library does not have off-site storage nor compact shelving systems. Librarians must continually select materials to be removed in order to accommodate new collections. There is much more aggressive selection of electronic content over print format. The new Student Learning Centre (SLC) will improve the learning space for our growing student population. The Ryerson Library is committed to providing equal access to services and collections to all students, faculty and staff of the University. Where self-use of library facilities and/or services are difficult or impossible, the Library will make special provisions, in conjunction with the Access Centre as needed, to permit users with disabilities to examine sources, retrieve materials, and access services.

3.2. Equipment

The Library’s equipment includes networked printers, scanners, a number of photocopiers, including colour copier located on a number of floors. Services can be accessed by users Ryerson one-card. Some services, including the scanners are available without cost to users. In addition to the >400 computers within the Library, the Ronald Besse Learning Commons on the main floor of the Library includes a fully equipped, presentation-ready teaching lab to provide library instruction sessions. Two additional teaching rooms are available for research skill training, accommodating classes of up to 45 students. The Library is wireless-ready, and provides laptops for loan. The Commons provides access to computer hardware and software in a variety of spatial configurations to address these needs. Expertise is provided by trained Library Technicians and Librarians as well as regularly-scheduled (peer) student computer support lab advisors. Learning and teaching student services are located within the Library.
3.3. Furnishings

The Library is continuously modifying the existing building space in order to provide additional seating, individual study space, group study rooms and computer work spaces.

Lighting and electrical supply are adequate. Heating and ventilation have undergone recent improvements. The Library is conscious of providing a safe and comfortable environment for learning.

4. Summary

The Library continues to strive for, and to provide, exceptional services to a primarily undergraduate student population. As graduate level programs are expanding, collections and services must keep stride with the changing requirements for advanced level resources, and most particularly for independent study and research activity for graduate students and faculty of the Department of Architectural Sciences.

The Library is proceeding to operate within Strategic Plan for 2008-2013 titled Building on Success.

The Library as a primary partner in the new state-of-the-art SLC, Student Learning Centre, (located adjacent to the existing Library Building), is positioned to continue to be a central learning and teaching component of Ryerson University.
A-3 Library statistics report

Table 1. Library Collection expenditures

<table>
<thead>
<tr>
<th>Type of Collection</th>
<th>Volumes 2010-11</th>
<th>Expenditures 2008-09</th>
<th>Expenditures 2009-10</th>
<th>Expenditures 2010-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books/Monographs/e-books</td>
<td>634,423</td>
<td>*$1,123,140</td>
<td>*$1,142,450</td>
<td>$743,030 $98,769</td>
</tr>
<tr>
<td>Periodicals - Print subscriptions</td>
<td>1434</td>
<td>$413,936</td>
<td></td>
<td>$396,913</td>
</tr>
<tr>
<td>Periodicals - e-subscriptions e-journals in aggregators</td>
<td>32,707 81,623</td>
<td>Included in Electronic Resources</td>
<td>Included in Electronic Resources</td>
<td>Included in Electronic Resources</td>
</tr>
<tr>
<td>Maps</td>
<td>33,065</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Microform (fiche &amp; film)</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Audio Visual</td>
<td>3573 9049</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Electronic Resources (Including serials)</td>
<td></td>
<td>$2,470,000</td>
<td></td>
<td>$2,628,549</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$3,867,261</strong></td>
</tr>
</tbody>
</table>

*. OCUL statistics http://www.ocul.on.ca/node/397
<table>
<thead>
<tr>
<th>Library of Congress : LC Call number</th>
<th>Number of titles</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>BH - Aesthetics</td>
<td>1862</td>
<td>1918</td>
</tr>
<tr>
<td>HD1-100 - Management</td>
<td>12,782</td>
<td>13,498</td>
</tr>
<tr>
<td>N - Visual Arts</td>
<td>4030</td>
<td>4624</td>
</tr>
<tr>
<td>NA - Architecture</td>
<td>8784</td>
<td>10,052</td>
</tr>
<tr>
<td>NC - Illustration, Drawing</td>
<td>1581</td>
<td>1696</td>
</tr>
<tr>
<td>NK - Decorative and Applied Arts</td>
<td>4079</td>
<td>4353</td>
</tr>
<tr>
<td>SB - Landscape Architecture</td>
<td>2468</td>
<td>2672</td>
</tr>
<tr>
<td>TA – Civil Engineering</td>
<td>10246</td>
<td>11,136</td>
</tr>
<tr>
<td>TH - Building Construction</td>
<td>3261</td>
<td>3728</td>
</tr>
<tr>
<td>TJ - Energy (includes solar)</td>
<td>4719</td>
<td>5090</td>
</tr>
</tbody>
</table>
Table 2.b. Library-to-Peer Group Serials Analysis: Architecture
Ryerson Library: All ISSNs (Print+Online) May 2012, Peer Group: 4 Year Academic, FTE 10,000 - 19,999

<table>
<thead>
<tr>
<th>Ulrich's Subject</th>
<th>Ryerson Library List Count</th>
<th>Ryerson Titles Matching Peer Group</th>
<th>All Peer Group Titles for This Subject</th>
<th>Ryerson Matching Titles as % of Peer Group</th>
<th>Titles Unique to Ryerson</th>
<th>Peer Group Titles Ryerson Does not Hold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>220</td>
<td>57</td>
<td>80</td>
<td>71.25%</td>
<td>163</td>
<td>23</td>
</tr>
<tr>
<td>Art</td>
<td>347</td>
<td>129</td>
<td>250</td>
<td>51.60%</td>
<td>218</td>
<td>121</td>
</tr>
<tr>
<td>Building &amp; Construction</td>
<td>235</td>
<td>73</td>
<td>97</td>
<td>75.26%</td>
<td>162</td>
<td>24</td>
</tr>
<tr>
<td>Management</td>
<td>874</td>
<td>269</td>
<td>312</td>
<td>86.22%</td>
<td>605</td>
<td>43</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>192</td>
<td>61</td>
<td>83</td>
<td>73.49%</td>
<td>131</td>
<td>22</td>
</tr>
<tr>
<td>Gardening &amp; Horticulture</td>
<td>62</td>
<td>23</td>
<td>57</td>
<td>40.35%</td>
<td>39</td>
<td>34</td>
</tr>
</tbody>
</table>

Table 3. Library Staff, 2010-11

<table>
<thead>
<tr>
<th>Position Type</th>
<th>Number of Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Librarians</td>
<td>30</td>
</tr>
<tr>
<td>Support Staff</td>
<td>57</td>
</tr>
<tr>
<td>Casual (FTE)</td>
<td>14</td>
</tr>
<tr>
<td>Total (FTE)</td>
<td>101</td>
</tr>
</tbody>
</table>
A Library factsheet showing Ryerson Library in “the bigger picture” follows; this factsheet was prepared to support Ryerson Engineering Program Accreditation and gives an overview of the Ryerson Library in the Canadian context. Data was collected in 2011 based on source collection and publication dates at time of viewing. See notes below the table for sources.

### Collections Snapshot
**Source:** CARL statistics – 2008-2009 data

<table>
<thead>
<tr>
<th>Local Collections</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Volumes</td>
<td>607,895</td>
</tr>
<tr>
<td>E-monograph Titles</td>
<td>89,944</td>
</tr>
<tr>
<td>Volumes added</td>
<td>69,649</td>
</tr>
<tr>
<td>Cartographic materials</td>
<td>28,821</td>
</tr>
<tr>
<td>Audio materials</td>
<td>8,625</td>
</tr>
<tr>
<td>Film and videos</td>
<td>12,801</td>
</tr>
<tr>
<td>Current serials – print</td>
<td>1,759</td>
</tr>
<tr>
<td>E-serials titles</td>
<td>33,512</td>
</tr>
</tbody>
</table>

### Expenditures

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print Monographs</td>
<td>$1,179,812</td>
</tr>
<tr>
<td>Electronic monographs</td>
<td>$267,402</td>
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<tr>
<td>Serials</td>
<td>$476,457</td>
</tr>
<tr>
<td>Electronic resources</td>
<td>$2,993,333</td>
</tr>
</tbody>
</table>

### Teaching and Learning Snapshot

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>#liaison librarians</td>
<td>23</td>
</tr>
<tr>
<td># research interviews</td>
<td>58,250</td>
</tr>
<tr>
<td># class sessions</td>
<td>335</td>
</tr>
<tr>
<td># students participating in total</td>
<td>12,009</td>
</tr>
</tbody>
</table>

### External Rankings
**Source:** GLOBE AND MAIL

<table>
<thead>
<tr>
<th>Libraries</th>
<th>Result</th>
<th>Avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of holdings</td>
<td>B+</td>
<td>A-</td>
</tr>
<tr>
<td>Availability of study space</td>
<td>C+</td>
<td>B-</td>
</tr>
<tr>
<td>Hours of Operation</td>
<td>B+</td>
<td>A-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Libraries</th>
<th>Total Library Expenditure</th>
<th>% University budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ryerson</td>
<td>13,010</td>
<td>3.7%</td>
</tr>
<tr>
<td>National avg</td>
<td>7,635</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

### Library Services and Spaces
**Spaces for learning and research**

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># Accessible workstations</td>
<td>8</td>
</tr>
<tr>
<td># Study room capacity</td>
<td>256</td>
</tr>
<tr>
<td># Graduate study spaces</td>
<td>60</td>
</tr>
<tr>
<td>Turnstile count (sample day)</td>
<td>10,083</td>
</tr>
<tr>
<td>Writing Centre</td>
<td>¹</td>
</tr>
<tr>
<td>Math Assistance Centre</td>
<td>¹</td>
</tr>
</tbody>
</table>

---

Ryerson University
Department of Architectural Science
Architecture Program Report
September 2012

**Information Resources and IT Resources**

**Section 3.8 Page 93**
Enrolment FTE Activity (all counts per FTE)
Source: CUDO – 2008/2009 data
FTE as reported to CARL: 18,344
Inputs (see App. 1 for National Benchmark comparison)

<table>
<thead>
<tr>
<th># librarians/FTE</th>
<th>30/.001</th>
</tr>
</thead>
<tbody>
<tr>
<td># liaison librarians/FTE</td>
<td>28/.001</td>
</tr>
<tr>
<td># staff/FTE</td>
<td>94/.005</td>
</tr>
<tr>
<td>Total Library budget/FTE</td>
<td>$11,441,755 / $623</td>
</tr>
<tr>
<td>Total acquisitions budget/FTE</td>
<td>$4,917,004 / $268</td>
</tr>
<tr>
<td>Total staffing budget/FTE</td>
<td>$5,559,862 / $303</td>
</tr>
<tr>
<td>Electronic resources budget/FTE</td>
<td>$2,993,333 / $163</td>
</tr>
<tr>
<td># study spaces/FTE</td>
<td>.013</td>
</tr>
</tbody>
</table>

Outputs

<table>
<thead>
<tr>
<th>Turnstile counts/FTE***</th>
<th>10,083</th>
</tr>
</thead>
<tbody>
<tr>
<td># participants in library instruction/FTE</td>
<td>.65</td>
</tr>
<tr>
<td># reference questions/FTE</td>
<td>3.17</td>
</tr>
<tr>
<td># reserve loans/FTE</td>
<td>96,610 / 5.26</td>
</tr>
<tr>
<td># interlibrary loans borrowing/FTE</td>
<td>12,020 / .65</td>
</tr>
<tr>
<td># interlibrary loan lending/FTE</td>
<td>7,123 / .39</td>
</tr>
<tr>
<td># books circulated annually/FTE</td>
<td>349,449 / 19.04</td>
</tr>
<tr>
<td># e-serials/FTE</td>
<td>33,512 / 1.82</td>
</tr>
<tr>
<td># full text downloads/FTE (scholarsportal)</td>
<td>N/A (yet)</td>
</tr>
<tr>
<td>SCOT – journal counts</td>
<td>N/A (yet)</td>
</tr>
</tbody>
</table>

Technology Services

| Scanners | 4 |
| Photocopiers | 11 |
| Computers / laptops for loan | 482 |
| Viewing / borrowing equipment | Laptops, headphones, DVD players |
| Specialized software available in Geospatial Map and Data Centre | ArcGIS 9.x/8.x, ArcView 3.x, MapInfo, DMTI Geopinpoint Suite |

Convenient & Accessible Services

| Hours of service | 8am-12am (M-F); 10am-12am (Sat/Sun) |
| Wireless | √ |
| 24/7 access via proxy | √ |
| Single sign on | √ |
| Mobile Web APPs | √ |
| Online communication via Chat, Blogs, facebook, twitter | √ |
| Ereserves | √ |
| Self-check-out | √ |
| AODA compliant | √ |
| Integrated one-card | √ |

Notes

1. http://www.carl-abrc.ca/projects/statistics/statistics-e.html Most recent year may not be online; obtain from local office charged with data collection.

2. http://www.caubo.ca/resources/publications/financial_information_universities See section on: GENERAL OPERATING EXPENDITURES by FUNCTION: by PROVINCE and by UNIVERSITY (use both total and percentage figures for institution and national averages)

3. Numbers must be obtained locally; may not be possible to match to other categories’ reporting year unless data maintained on an annual basis.

4. http://www.cou.on.ca/Statistics/CUDO.aspx Select link to home institution. It is important to use CUDO data for benchmarking purposes and data integrity. Use most current year available, or the year that matches the CARL stats being used.

Information Resources and IT Resources
Section 3.8 Page 94
3.8 Information Resources and Information Technology

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.

The APR must include:
- A description of the hardware, software, networks and other computer resources available to students, faculty and staff.
- A current action plan outlining recurring levels of staff support, renewal of hardware and infrastructure and student software access, as well as anticipated modifications to current installation.
- Demonstrate sufficient funding to execute the action plan.

Hardware, Software, Networks and other Computer Resources

A wide variety of computing and audio/visual resources are provided to students and faculty to support learning, teaching and research within the Architecture building. Information technology resources include:

1. Wireless and Wired Internet Access – Internet connectivity is provided by Ryerson Computing and Communication Services. Wireless network access is available for students, faculty and staff throughout the Architecture building. Wired network access is available in the design studios through the perimeter raceways.

2. Department Server Room, Switches, Servers – Primary department computing infrastructure, including router, switches and physical servers are installed in equipment cabinets in the ARC 303B server room. Equipment is protected by two UPS power backup units.

3. Network File Storage and Backup – A total of 12TB of network file storage is currently available. All department users are allocated network file storage. Students are provided with a maximum quota of 20GB of network file storage. Faculty and staff users are provided with a maximum quota of 80GB. A number of public network sharedrives are provided to facilitate course work, archiving, research, file sharing, and outreach through the department web site. File storage is backed up to a secondary file server, housed in an off-site data center.

4. Workstations – Student workstations are available in the ARC 100 Resource Center, ARC 116 Fabrication Lab, ARC 118 Building Science Studio, ARC 200B Graduate Studio, ARC 200G Graduate Studio, and ARC 303 CAD Lab. A total of 40 CAD workstations are provided in the ARC 303 CAD Lab. The workstations are configured for high end computer graphics, simulation and analysis. A total of 13 business class workstations are available in other locations throughout the building. Student workstations are refreshed on a three year cycle. New workstations are generally introduced into the ARC 303 CAD Lab and ARC 200 Graduate studios; existing workstations are then migrated to secondary locations throughout the building. Each faculty member is allocated $3000 in funding every three years for the purchase of computer hardware and software. Choices about hardware and software are left to individuals. Staff workstations are upgraded as required, generally following a three year refresh cycle.

5. Software – The department maintains a wide variety of software applications for use in architectural design, building science and project management. Software is refreshed on an annual basis. Mathworks MATLAB, Oracle Primavera, and Sophos Antivirus are available to students and faculty for free through existing university and department subscriptions. A full list of software applications appears below.

6. Overflow Computing Labs – At certain times of the year, demand for workstations in the department sometimes exceeds availability. In such cases, students are directed to university managed, drop-in
computer labs in nearby buildings. Kerr Hall West (KHW) 71 is a large, drop-in computer lab that is accessible to undergraduate and graduate students. The lab has 120 business class workstations and 30 high-end CAD workstations for design and engineering work. Arrangements have been made with CCS to maintain AutoCAD, Revit, Rhino, and V-Ray for Rhino on workstations in this lab. KHW 71B is a secured classroom and CAD Lab, within the KHW 71 facility. The classroom has 30 high-end CAD workstations. Graduate students from the department are provided with key-code access to the room, and may use the lab when classes are not in session.

7. Printing, Copying, Scanning – Networked multi-function devices and black-and-white laser printers are located throughout the building. Print devices support letter, legal and tabloid paper for colour, black-and-white, single and double sided output. Printing devices are accessible from all department workstations and through the wireless network. To use the printers, users must have a valid department network account. Each network account has an associated credit balance, against which prints are charged. The printing system is both Windows and Mac compatible. Photocopying and scanning services are available at all department multi-function devices. Users must have a valid department network account and Ryerson OneCard. Photocopies are charged against the user’s account balance; scanning services are provided for free. Scans may be sent to an email address, to a USB stick, or publicly accessible folder on the network.

8. Network Rendering – Distributed network rendering is supported for Autodesk 3DSMax, AutoDesSys Form-Z, and V-Ray for Rhino and Sketchup in the ARC 303 CAD Lab. Rendering services are managed by a dedicated server but executed by desktop workstations.

9. Digital Fabrication Support – Workstations have been provided in the ARC 116 Digital Fabrication Lab to operate equipment, and students are able to check and manipulate files in advance of sending them to output devices. MasterCAM and other specialty software applications for digital fabrication are available in the ARC 303 CAD Lab, so that students can prepare work files as part of their regular design work flow, and prepare files in advance of visiting the fabrication lab.

10. Oracle Primavera Database Server – For project management students, a shared enterprise Oracle Primavera database is accessible from department workstations where the Primavera client has been installed.

11. Department Web Server – A web server is maintained in house, and is used to host the department web site, wiki, project related domains for faculty and student projects.

12. File Sharing – An SFTP server is maintained in house, and is used to facilitate file sharing between researchers and external collaborators.
13. Virtual Private Network – Virtual Private Network (VPN) provides faculty and staff with remote access to department network services.

14. Presentation A/V and Computing Support – Projectors are installed in classrooms and break-out spaces throughout the building. Free standing video display kiosks, a cart mounted LCD TV, gallery TV, and projectors, speakers are available to support presentations. Some teaching spaces have been equipped with presentation speakers.

15. Audio/Visual, Computing Accessory Lending Service – Audio/video and computing accessories are available to students and faculty through a short term lending service, located at the ARC 100 Resource Center. Current inventory includes laptops, projectors, wireless presentation remotes, digital cameras, digital video camera, photography lighting kit, audio recorder, microphones, mixers, computer mice, various computer and A/V cables and adapters, scientific equipment.

16. Specialty Computing Services – The university provides access to specialized computing services, such as compute clusters, on a project-by-project basis.

Staff Support
Staff support provided for Information Technology includes one full-time I.T. staff member, designated as Lead Hand Technical Specialist (at the time of writing this position is vacant), one part-time assistant I.T. network administrator, and one part-time work-study student. The Lead Hand Technical Specialist is responsible for the operation and management of all department I.T. and audio/visual services. The part-time Assistant Network Administrator provides support for network infrastructure, desktops, and special projects. Part-time student workers provided assistance in the day-to-day maintenance of printing and other network services, desktop hardware, and audio/visual devices.

Student Surveys
The Information and Communications Technology committee has been active in developing plans for new or revised services, and in measuring outcomes. A survey of students has been executed every two years, to assess student perceptions of I.T. and audio/visual service levels and quality; student needs for training. The surveys have identified a desire on the part of students to increase proficiency in the areas of parametric modeling. In response to the first survey, a series of workshops was organized to provide targeted training opportunities for both students and faculty:

<table>
<thead>
<tr>
<th>Date</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>June, 2010</td>
<td>Rhinoceros 3D, Level 1 (Faculty training)</td>
</tr>
<tr>
<td>July, 2010</td>
<td>Rhinoceros 3D, Level 1 (Faculty training)</td>
</tr>
<tr>
<td>August, 2010</td>
<td>Digital Fabrication (Rhinoceros 3D, Grasshopper)</td>
</tr>
<tr>
<td>August, 2011</td>
<td>Digital Fabrication (Rhinoceros 3D, Grasshopper)</td>
</tr>
<tr>
<td>September, 2011</td>
<td>Integrated Parametric Modeling &amp; Analysis Workshop (Autodesk Vasari)</td>
</tr>
</tbody>
</table>
Funding

The projected annual capital cost to maintain I.T. and audio/visual services is approximately $150,000. To date, mean capital expenditure through the I.T. cost center has been $100,000 per annum. Because I.T. services overlap with other core department services, some I.T. related expenditures (ie. fabrication lab, graduate workstations and software, research funding, some audio/visual) are accounted for elsewhere in the operations budget. Where funding above the mean has been required to maintain services, one time budget allocations have been negotiated and made.

Action Plan

Current major action items identified by the ITC committee include:

1. Computer Lab Refresh – Workstations in the ARC 303 CAD Lab will be refreshed with new CAD workstations in the summer of 2013. Existing ARC 303 workstations will replace existing second tier workstations throughout the building. New workstation purchases will focus on supporting real-time desktop rendering and, in targeted circumstances, computational fluid dynamics simulation.

2. Dedicated Video Editing Workstation – A video editing workstation will be established to enable students to do video production work for courses, and for faculty to create desktop video tutorials as support material for courses. This approach has been trialed to great success with desktop training videos produced to date for Rhinoceros 3D, V-Ray for Rhino, Revit, AutoCAD, Indesign, Photoshop, and Illustrator.

3. Leased Network Plotter – Student accessible network plotter, integrated into the existing in-house print management system. This will provide students with 24 hour access to high quality large format printing output, through the department wired and wireless network, at a discounted rate.

4. Integration of In-Housing Printing with OneCard Service – The university is implementing a new print management service that integrates all network printing operations with the OneCard credit system. Integration of this service with the existing in-house printing services will enable students to purchase and have immediate access to print credits 24 hours a day, reduce administrative work, increase portability of credit purchases and transparency of transactions.
5. Student Technical Proficiencies Map – The department Information and Communication Technologies committee has been developing a map that charts the expected development of student technical skills vis-a-vis computing. This map will enable both students and faculty to chart student development against the benchmark plan.

6. Dedicated Network Rendering Service – A dedicated multi-platform, render que management service. Students with laptops are able to submit jobs through a web interface to the que, for execution on idle desktops located in dedicated university labs. The service expands access to the existing network rendering service.

**Software Titles**

<table>
<thead>
<tr>
<th>Adobe</th>
<th>Acrobat Professional</th>
<th>Autodesk</th>
<th>SketchBook Designer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adobe</td>
<td>Acrobat Reader</td>
<td>Autodesk</td>
<td>Vasari 2.0</td>
</tr>
<tr>
<td>Adobe</td>
<td>Creative Suite, Master Collection</td>
<td>Autodesk</td>
<td>Vault</td>
</tr>
<tr>
<td>Athena Institute</td>
<td>Impact Estimator</td>
<td>AutoDesSys</td>
<td>Bonzai 3D</td>
</tr>
<tr>
<td>Autodesk</td>
<td>3D Map</td>
<td>AutoDesSys</td>
<td>FormZ</td>
</tr>
<tr>
<td>Autodesk</td>
<td>3DS Max Design</td>
<td>Chaos Group</td>
<td>V-Ray for Rhino</td>
</tr>
<tr>
<td>Autodesk</td>
<td>AliasDesign</td>
<td>Chaos Group</td>
<td>V-Ray for Sketchup</td>
</tr>
<tr>
<td>Autodesk</td>
<td>AutoCAD</td>
<td>CNC Software</td>
<td>MasterCAM</td>
</tr>
<tr>
<td>Autodesk</td>
<td>AutoCAD Architecture</td>
<td>Codec Guide</td>
<td>K-Lite Mega Codec Pack</td>
</tr>
<tr>
<td>Autodesk</td>
<td>Composite</td>
<td>Design Builder</td>
<td>Design Builder</td>
</tr>
<tr>
<td>Autodesk</td>
<td>Inventor</td>
<td>Dimension</td>
<td>Catalyst</td>
</tr>
<tr>
<td>Autodesk</td>
<td>NavisWorks</td>
<td>Fraunhofer</td>
<td>WUFI 4</td>
</tr>
<tr>
<td>Autodesk</td>
<td>Revit Architecture</td>
<td>Google</td>
<td>Chrome</td>
</tr>
<tr>
<td>Autodesk</td>
<td>Revit MEP</td>
<td>Google</td>
<td>GTalk</td>
</tr>
<tr>
<td>Autodesk</td>
<td>Revit Structure</td>
<td>Google</td>
<td>Earth</td>
</tr>
<tr>
<td>Autodesk</td>
<td>ShowCase</td>
<td>Google</td>
<td>SketchUp Pro</td>
</tr>
<tr>
<td>Autodesk</td>
<td>Simulation CFD</td>
<td>IES</td>
<td>Virtual Environments</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Mathworks</th>
<th>MATLAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>McNeel &amp; Associates</td>
<td>Grasshopper, various plug-ins</td>
</tr>
<tr>
<td>McNeel &amp; Associates</td>
<td>Rhino 3D</td>
</tr>
<tr>
<td>Microsoft</td>
<td>Microsoft Expression Encoder</td>
</tr>
<tr>
<td>Microsoft</td>
<td>Office</td>
</tr>
<tr>
<td>Microsoft</td>
<td>Project</td>
</tr>
<tr>
<td>Microsoft</td>
<td>Skype</td>
</tr>
<tr>
<td>Mozilla Firefox</td>
<td>Firefox</td>
</tr>
<tr>
<td>Natural Resources Canada</td>
<td>EE4E</td>
</tr>
<tr>
<td>Natural Resources Canada</td>
<td>HOT 2000</td>
</tr>
<tr>
<td>Natural Resources Canada</td>
<td>HOT 3000</td>
</tr>
<tr>
<td>Natural Resources Canada</td>
<td>RETScreen</td>
</tr>
<tr>
<td>NEC</td>
<td>Image Express</td>
</tr>
<tr>
<td>Open Source</td>
<td>7-Zip</td>
</tr>
<tr>
<td>Open Source</td>
<td>ConTEXT</td>
</tr>
<tr>
<td>Open Source</td>
<td>DaySim/DIVA</td>
</tr>
<tr>
<td>Open Source</td>
<td>Filezilla Client</td>
</tr>
<tr>
<td>Open Source</td>
<td>Geco, Rhino plug-in</td>
</tr>
<tr>
<td>Open Source</td>
<td>Infrarecorder</td>
</tr>
<tr>
<td>Open Source</td>
<td>VLC Player</td>
</tr>
<tr>
<td>Open Source</td>
<td>WinSCP</td>
</tr>
<tr>
<td>Oracle</td>
<td>Primavera (client)</td>
</tr>
<tr>
<td>Oracle</td>
<td>Java</td>
</tr>
<tr>
<td>Oracle</td>
<td>Java SDK</td>
</tr>
<tr>
<td>Oracle</td>
<td>OpenOffice</td>
</tr>
<tr>
<td>PE International</td>
<td>GaBi</td>
</tr>
<tr>
<td>PHIUS</td>
<td>PHPP</td>
</tr>
<tr>
<td>Refworks</td>
<td>Refworks</td>
</tr>
<tr>
<td>Tech Unlimited</td>
<td>PlanSwift</td>
</tr>
<tr>
<td>TRNSYS</td>
<td>TRNSYS</td>
</tr>
<tr>
<td>US DOE</td>
<td>Comfen</td>
</tr>
<tr>
<td>US DOE</td>
<td>DOE-2</td>
</tr>
<tr>
<td>US DOE</td>
<td>EnergyPlus</td>
</tr>
<tr>
<td>US DOE</td>
<td>eQUEST</td>
</tr>
<tr>
<td>US DOE</td>
<td>OpenStudio Results Viewer</td>
</tr>
<tr>
<td>US DOE</td>
<td>OpenStudio Sketchup plug-in</td>
</tr>
<tr>
<td>US DOE</td>
<td>THERM</td>
</tr>
<tr>
<td>US DOE</td>
<td>WINDOW</td>
</tr>
<tr>
<td>WinEst</td>
<td>WinEstimator</td>
</tr>
</tbody>
</table>
High Level Network Map
3.9 Financial Resources

Programs must have access to sufficient institutional support and financial resources.

The APR must include:
- Program budget, endowments, scholarships, and development activities.

The Department’s overall budget has increased consistently year over year since 2007-08 (and before), despite the poor economic situation in the Province of Ontario and despite our (planned) enrolment decreases over the same period. Total Departmental budget growth is shown below.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time Faculty</td>
<td>2,920,080.72</td>
<td>3,182,871.44</td>
<td>3,540,193.73</td>
<td>3,780,788.38</td>
<td>4,097,835.91</td>
<td>4,583,788.00</td>
</tr>
<tr>
<td>Administrative Salaries</td>
<td>574,704.26</td>
<td>668,701.97</td>
<td>741,563.39</td>
<td>743,915.19</td>
<td>766,357.69</td>
<td>690,944.00</td>
</tr>
<tr>
<td>Sessional Salaries</td>
<td>418,856.39</td>
<td>482,665.49</td>
<td>713,033.07</td>
<td>835,346.08</td>
<td>757,566.12</td>
<td>640,000.00</td>
</tr>
<tr>
<td>Expendibles</td>
<td>424,330.66</td>
<td>586,856.35</td>
<td>553,257.43</td>
<td>570,766.76</td>
<td>311,829.58</td>
<td>610,000.00</td>
</tr>
<tr>
<td><strong>Total Budget</strong></td>
<td><strong>$4,337,972.03</strong></td>
<td><strong>$4,921,095.26</strong></td>
<td><strong>$5,548,047.62</strong></td>
<td><strong>$5,930,816.41</strong></td>
<td><strong>$5,933,589.30</strong></td>
<td><strong>$6,524,732.00</strong></td>
</tr>
<tr>
<td>Students</td>
<td>598</td>
<td>652</td>
<td>597</td>
<td>548</td>
<td>515</td>
<td>491</td>
</tr>
<tr>
<td><strong>Total per student</strong></td>
<td><strong>$7,254.13</strong></td>
<td><strong>$7,547.69</strong></td>
<td><strong>$9,293.21</strong></td>
<td><strong>$10,822.66</strong></td>
<td><strong>$11,521.53</strong></td>
<td><strong>$13,288.66</strong></td>
</tr>
</tbody>
</table>

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Department of Architectural Science  
Architecture Program Report  
September 2012
For the current academic year, the department’s budget breaks down as follows:

### 2012-13 DAS Budget

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time Faculty Salaries and Benefits</td>
<td>4,583,788.00</td>
</tr>
<tr>
<td>Administrative Salaries and Benefits</td>
<td>690,944.00</td>
</tr>
<tr>
<td>Sessional Salaries and Benefits</td>
<td>640,000.00</td>
</tr>
<tr>
<td>Teaching Assistant Salaries and Benefits</td>
<td>105,000.00</td>
</tr>
<tr>
<td>CACB Accreditation</td>
<td>75,000.00</td>
</tr>
<tr>
<td>Promotion</td>
<td>5,000.00</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>30,000.00</td>
</tr>
<tr>
<td>Program Costs</td>
<td>30,000.00</td>
</tr>
<tr>
<td>Building Costs</td>
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<td>Office Expenses</td>
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**Total Budget** $6,524,732.00

**Total Expendible** $610,000.00

This chart does not include administrative salaries or budget lines in the Yeates School of Graduate Studies or special projects funding. In the current year, we anticipate roughly $22,000 of external funding towards our Lecture Series and $97,000 of funding for other miscellaneous projects. In addition, we have $500,000 of approved funding (half from donors) to construct a new gallery space in the building in the summer of 2013.
Scholarships
The University has a large number of scholarships that are available to students entering the program. These include the following:

- **PRESIDENT’S NATIONAL ENTRANCE SCHOLARSHIP**
  - Number: 4-6 per year
  - Value: $5000 each (renewable based on a 3.50 CGPA and maintaining a full course load of 4 units/80% or higher in each term)

- **TERENCE GRIER ENTRANCE SCHOLARSHIP**
  - Number: 1 per year
  - Value: Full Tuition (non-renewable)

- **H. GRAHAM WALKER AWARDS**
  - Number: 2 per year (1 female and 1 male award)
  - Value: $2500 each

- **JOHN BROOKS COMMUNITY FOUNDATION SCHOLARSHIPS**
  - Number: 2 per year
  - Value: $1500 each (1 female and 1 male)

- **INTERNATIONAL STUDENT ENTRANCE ACHIEVEMENT SCHOLARSHIPS**
  - Number: 20 per year
  - Value: $1500 each

- **WEST INDIAN ALUMNI ADMISSION AWARDS**
  - Number: 3 per year
  - Value: $5000 each

- **ENTRANCE SCHOLARSHIP CANADA WIDE ELIGIBILITY (80% + Average)**
  - Number: Up to 50 per year
  - Value: $1500 each

- **GENERAL ENTRANCE SCHOLARSHIPS (80% + AVERAGE)**
  - Number: 400 AVAILABLE University-wide for programs that do not offer guaranteed entrance scholarships.
  - Value: $1500

- **GUARANTEED ENTRANCE SCHOLARSHIPS (90% + AVERAGE)**
  - Value: $4000 for all undergraduate programs.

Students in upper years of the program have access to a large number of awards, summarized in the following section.
In addition to external grants such as SSHRCC and OGS funds, students in the graduate program are eligible for Ryerson Graduate Scholarships and Ryerson Graduate Awards. RGSs are available to students who have a GPA of 3.67 or higher, and are valued at $7,000; RGAs are available to all students and can be valued at up to $6,000. The program disburses approximately $150,000 in RGS and RGA money annually. In 2012-13, we have our first winner of a SSHRC Fellowship.

Awards

Each year both new and returning students have the opportunity to compete for University Wide Awards, Faculty Wide Awards and Department Wide Awards. The Department of Architectural Science has a time-honoured tradition of student awards and scholarships, well supported by the private sector, organizations, foundations and individuals. These awards are presented for overall academic achievement and excellence, contributions and leadership to the Department and profession and outreach to the community. The awards focus on the undergraduate student population within the diverse areas of study encompassed by the program. The Departmental Award Committee determines award winners and works with the University to dispense award monies totaling $60,000; we currently have $477,000 in endowed student awards.

Bursaries

Students at the undergraduate or graduate level have access to a number of bursary funds administered by the University, including the Ryerson Tuition Bursaries, which provide funds based on financial need for tuition, housing, and other expenses to a maximum of $4000 per year.

Teaching Assistantships

Teaching Assistants at Ryerson are members of a CUPE unit. Salaries for graduate level TAs under the current contract are approximately $39 per hour. A TA appointment for one term of a typical lecture course is therefore valued at approximately $5200. In total, the program maintains an annual expenditure of approximately $100,000 on teaching assistantships.

Research Assistantships

In addition, many students work as funded Research Assistants currently either through project grants obtained by faculty members or through targeted Research Assistant programs administered by the University. A rough estimate of the available funds for research assistants is approximately $70,000 in the current academic year.
3.10 Administrative Structure

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.

The APR must include the following information:
- A description of the program’s administrative structure, a comparison of this structure with those of other professional programs in the institution, and a list of any other programs offered in a multi-discipline unit.

Ryerson University is incorporated as a post-secondary degree-granting institution in Ontario, by virtue of the Ryerson University Act, 1977 (as amended and dated 27 June 2002). It is governed by the Ryerson University Act and the General By-laws of Ryerson University.

Ontario University Quality Assurance Mechanisms

In Canada, education is a constitutional responsibility of the provinces and universities that derive their authority from provincial legislation. Canada does not have a system of institutional accreditation. Instead, the appropriate provincial charter plus membership in the Association of Universities and Colleges of Canada (AUCC) have historically stood in lieu of institutional accreditation. Ryerson University, through its charter (an act of the Ontario legislature), and membership in AUCC and the Council of Ontario Universities (COU) enjoys in all respects the Canadian equivalent of institutional accreditation. In addition, like all Ontario universities, Ryerson participates in system-wide quality assurance processes.

Each Canadian university is autonomous in academic matters including the determination of its own quality assurance policies and procedures. In addition, as the result of their longstanding commitment to a common framework of standards across provincial jurisdictions, Canadian universities have a shared understanding of the value of each other’s academic credentials.

Robust institutional quality assurance policies and processes are the foundation of the Canadian higher education quality assurance regime. In several provinces, system-wide processes provide a second level quality assurance. In Ontario, new “non-core”, i.e., professional and quasi-professional undergraduate programs, and all graduate programs, must be submitted individually to the Ministry of Training, Colleges and Universities in order to be approved for operating grant funding.

In addition to its AUCC membership, Ryerson, like the other Ontario universities, is a member of the Council of Ontario Universities (COU), which maintains two quality assessment processes. The Ontario Council on Graduate Studies (OCGS), an affiliate of COU, carries out appraisals of all new graduate programs in the province and periodic reviews of existing programs. OCGS certification is required by MTCU as one of the conditions for funding approval of new graduate programs. Another COU affiliate, the Ontario Council of Academic Vice-Presidents (OCAV), is responsible for audits of the policies and procedures used by Ontario universities to assess the quality of their undergraduate programs. The detailed oversight of the audits is the responsibility of an OCAV committee, the Undergraduate Review Audit Committee (UPRAC). The audits are intended to provide institutions with advice on how they might improve their own quality review processes and to assure the government and the public that their undergraduate program quality is being maintained and enhanced.
The Department of Architectural Science offers a single professional degree program leading to the Master of Architecture. In September 2008 a second graduate level degree, the Master of Building Science began operations, with a Master of Project Management in the works. At the undergraduate level, the Department offers the single pre-professional Bachelor of Architectural Science degree.

The program’s administrative structure is shown in figure 3.10.1. This structure is similar to other professional programs at Ryerson.

Figure 3.10.1
Department of Architectural Science Administrative Flowchart
University and Departmental Governance

Ryerson University employs a well-developed governance structure extending to all levels, from the University as a whole to each Department or School.

Academic Council (University Level)

An Academic Council establishes policies for all academic matters in the University, including Periodic Program Reviews, the establishment of Departmental Councils, the establishment of Program Advisory Committees and other academic matters including course management and other matters relating to the maintenance of academic standards in the University. Members of the Academic Council include senior university administration, faculty representation, students and alumni.

The School of Graduate Studies

The School of Graduate Studies oversees all graduate programs, including the implementation of new programs and the ongoing delivery of existing programs. The School of Graduate Studies Council is the approval body for internal review and maintenance of the academic quality of graduate programs. The Master of Architecture program is assessed regularly by the Ontario Council on Graduate Studies, with the next anticipated visit in 2013 (all architecture graduate programs in the province are assessed in the same year).

Departmental Council

Under Ryerson University policies, each Department is required to have a Departmental Council. The Department of Architectural Science has a long-established Departmental Council; voting members include all full-time faculty members, student representatives and an alumnus. Departmental Councils are required to meet at least once a term and to report their activities according to the established by-laws. All changes to curriculum are required to be approved by Departmental Council prior to their submission to Academic Council. The University Board of Governors has the final authority over all matters that relate to the University.

M.Arch. Program Committee

Graduate programs at Ryerson are governed by Program Committees. The M.Arch. committee is made up of all current M.Arch. Thesis supervisors. The committee makes recommendations to the Program Director on various initiatives and must approve all curricular changes. The committee reports, through the Program Director, to Departmental Council.

Representatives from the various levels of the Student Body sit on various committees. They are active on the Departmental Council, are allowed opportunities for discussion with the Chair and the Assistant Chair. Representatives serve on Search Committees and have opportunities for governance in student groups both in the department and at the University level.
3.11 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 follow two years of CEGEP studies.

A. Program Description

The APR must include the following information:
- Specification of the degree(s) offered.
- For each degree offered, an outline of the curriculum showing the distribution of general studies, professional studies (including their prerequisites), and electives.
- A summary description of how the stated CACB curricular requirements are reflected in student admission assessments concerning advanced placement within the program. Ryerson University offers a single professional program in architecture, leading to the degree Master of Architecture (M.Arch.). This two-year, six-semester professional program is supported by a pre-professional, undergraduate program leading to the degree Bachelor of Architectural Science (B.Arch.Sci.). The B.Arch.Sci. program is revised in its entirety in order to support and complement the M.Arch. program.

Bachelor of Architectural Science: Pre-professional Program

The pre-professional (revised Bachelor of Architectural Science) program, inaugurated in 2007, is a four-year, eight term pre-professional degree. The program is divided into four phases: Phase I – Context; Phase II – Preparation: Tools and Elements; Phase III – Integration; and Phase IV – Concentration, Specialization and Transition. Building on Ryerson’s tradition that sees Architecture, Building Science, and Project Management as three aspects of the same discipline, in this last phase students will choose one of these three areas for specialized study.

Regardless of the area of specialization selected, students must, in order to graduate with the B.Arch.Sci. degree, successfully complete 62 one-term course credits. Of these, 18 credits are in core studio; 22 in required core courses, including required general studies courses; 6 are liberal studies electives; 12 are fourth-year electives, including elective studios, in the areas of specialization; and 4 credits are given for collaborative exercises, of which more will be said later. The program is comprised of 174 semester-hours of coursework, plus collaborative exercises.

Master of Architecture

The Master of Architecture curriculum is comprised of 17 one-term credits of coursework plus a thesis/project. Ten of these credits are in core and elective studio, two in core seminars, three in elective courses or seminars, and an additional two in collaborative exercises.
In order to engage in architectural practice, it is important for architects to have a broad understanding of the physical, social, and cultural contexts within which they practice. It is equally important for students of architecture to have the ability to find areas of special expertise, either within or without the profession, through which their practice can engage the larger community. The Department therefore takes seriously the CACB’s requirement for General Studies, Professional Studies, and Electives; at the graduate level, these three areas are often integrated within courses.

**General Studies**

General studies in the arts and sciences are an important part of the education of an architect. In accordance with Ryerson’s policy on the Tripartite Curriculum, which mandates each undergraduate program to be comprised of core courses, professionally-related courses, and electives, general studies are accommodated in the pre-professional curriculum in a number of ways (although we should note that Ryerson is currently in the midst of an overall Curricular Restructuring).

First, students in the pre-professional program are required to complete 6 Liberal Studies elective courses. These are chosen by students from a list established by the University.

Second, a number of required courses in the core pre-professional curriculum help to form a general context for the study of architecture. This is true in particular, but not uniquely, of courses in Phase I of the program. These context-related courses reflect an understanding that due to a number of factors, including the demise of Grade 13 in Ontario and the increasingly diverse nature of our student population, the establishment of a fundamental base of knowledge about the world must take place early in the program. Three credits in the core pre-professional curriculum represent general studies.

General studies accounts for 15% of the undergraduate pre-professional curriculum.

Within the M.Arch. program, general studies are integrated into the sequence of studios and courses. Studios in *critical practice* and in *collaborative practice* carry with them important discussions of social and intellectual context. In addition, the Intensive Research Studio includes focused study of a specific culture, location or situation, outside of the specific discipline of architecture. We estimate that the general studies content of these courses amounts to approximately 2 credits, or 12% of the graduate program.

Overall, we estimate that general studies accounts for 11 credits, or 15% of the overall professional curriculum.
Professional Studies

The core of both the undergraduate pre-professional and graduate programs in architecture at Ryerson is made up of professional studies, defined as those courses required in order to satisfy the CACB Student Performance Criteria.

In the pre-professional program, 37 of the 62 credits are devoted to professional study. The centre of these professional studies is the series of studio courses, which follow an intentional sequence of areas of focus. In Phase I, students are introduced to the Communications Studio, in which methods of architectural representation and graphic design, both manual and computerised, are developed.

In Phase II, students move through a series of Design Studios which introduce elements of architectural design one at a time: Site and Program, Intention and Expression, and Technical and Regulatory Issues. As each layer of meaning is added, students are required to confront projects of increasing complexity and scale.

Finally, in Phase III, students are asked to put these layers of knowledge together in the Integration Studio. In this studio, the design of a project of a medium level of complexity is followed from the programming and site selection stage through to detail development and the development of rudimentary contract documents, over the course of two terms. The studio derives its name from the fact that students are asked to work holistically, in all three of Ryerson’s traditional areas of study: Architecture, Building Science, and Project Management. In order to allow this studio to operate in an integrated fashion, the studio is closely linked to coursework in the same term.

In addition to studio, students take as part of their professional studies courses in a number of other areas pertaining to architecture. The pre-professional core is strongly weighted in the technical areas of study. Although the courses are not definitively categorized, in order to allow a holistic approach to teaching, students take roughly 6.5 credits in building science related courses, with an additional 4.5 credits in construction and management related courses. Five credits are in the history and theory of architecture.

Students admitted to the graduate program, whether from the Ryerson pre-professional program or elsewhere, are expected to have good general competence in all technical areas of professional study. On entering the program, each student’s academic history is evaluated in order to uncover areas which require further preparatory study.

The core of the professional studies in the M.Arch. program is a series of linked studios and seminars. Taken as a whole, this series of courses sees architectural practice as the main area of study. As mentioned in the section on General Studies, these courses see architectural practice as strongly connected to its contexts, and therefore incorporate a wide discussion of social, technological, and intellectual issues.
The graduate program as a whole considers architecture as an ethical practice. The program revolves around three primary areas of Sustainable Design, Emerging Technologies, and Global Communities.

Term One: Critical Practice in the Twenty-first Century

This term is intended to re-orient students coming out of an undergraduate program in architectural science or from the AEC industry towards the notion of a critical practice. Students will be asked to “break frame”, to re-examine assumptions, to move from the dominant tenets of undergraduate education (based on the question how) to those of graduate education (based on the questions why and what).

Linked to this studio is a Seminar in Critical Practice, in which students are asked to investigate in some depth areas of radical change in architectural practice in the 21st century. An emphasis is places on architecture as a practice, a profession and a discipline, as well as on architecture’s leadership and ethical roles in the broader community.

Term Two: Collaborative Practice for the Twenty-first Century

In this term, students return to mainstream architectural practice with the design of a reasonably complex building. Students are required to apply the research-based, projective modes of practice covered in the first term to this task.

In the Studio in Collaborative Practice, students will develop a building project of a significant scale to a high degree of resolution, both in technical and other terms. The role of the architect as collaborator in a wide network of stakeholders, including clients, consultants, user groups, and the broader public is stressed.

Linked to this studio is a Seminar in Contemporary and Future Practice.

Term Three (Spring Term): Intensive Research Studio and Seminar

This term, which takes place in the spring session of the Spring/Summer sem, is six weeks long, and is comprised of an Intensive Research Studio experience, coupled with a Seminar in Research. Students work full-time in studio, under the close direction of a faculty member. Final submissions are usually due in late summer.

The Intensive Research Studio is formulated by the faculty member, and related in some manner to the faculty member’s area of research. Ideally, the work of the students should be literally extending the research project of the faculty member, while taking the form of the critical or projective practice. The Intensive Research Studio may take place at Ryerson or in any other relevant location; two separate sections are offered each year. So far, we have offered this studio in China, Brazil, Turkey, and Toronto.
Terms Four to Six: The Master’s Thesis Project

Following the completion of the set sequence of courses, students spend two to three semesters completing a Thesis|Project. This work, which is self-directed under the guidance of a supervisor, combines a significant body of research into an architectural issue of the students’ framing with a design project.

Professional studies comprise 10 credits in the graduate program. In the professional program taken as a whole, professional studies comprise 45 of 79 credits (plus the Thesis|Project, which is not given a credit weighting), or 57%.

Electives

The Department of Architectural Science’s mission has long been, as stated above, to educate students for a wide range of professional goals in the construction industry. In addition, the Department believes that society needs professionals who have not only a deep, but also a broad base of knowledge and understanding. Therefore, a number of opportunities for students to pursue their interests in elective studies have been built into the program.

As discussed above under General Studies, students in the pre-professional program are required to complete 6 Liberal Studies courses. In addition, in Phase IV of the program, students choose an area of specialization. Currently these areas of specialization are Architecture, Building Science and Project Management, although other areas of specialization may arise in the future. All Phase IV courses, including studio, are taken within the area of specialization or as a cross-specialization elective. Finally, students are required to complete four Collaborative Exercises in the pre-professional program. These exercises, which take place in the week immediately preceding the Winter semester, cover a wide range of topics and experiences. The mandate of the Collaborative Exercise is to encourage students to work in a collaborative manner with one another, with colleagues in other disciplines, and with community members. In total, 22 credits in the pre-professional program are taken as electives.

Within the M.Arch. program, a number of elective opportunities are required of students.

1. Free (professional) electives. Students are required to take one elective course in each of the first two terms of the program.
2. Term three: Elective studio and seminar. In this term, students have the choice of studio, based on topic and location.
3. Term four: Special Topics in Architectural Praxis. Each term, students have the choice between two seminars.
4. Collaborative Exercises. In the Second and Fifth terms, students are required to complete a collaborative exercise of their choice.

In the program as a whole, 31 out of 79 credits, or 39%, are electives.
Minors and Areas of Specialization
- For each degree offered, examples of the minors or concentrations students may elect to pursue.

As discussed in the section above, each student in the pre-professional program chooses an area of specialization: Architecture, Building Science or Project Management. In addition, Ryerson’s Minors Policy, in principle, allows students to take a minor in another discipline. Proposed changes to Ryerson’s University-wide curricular structure, still to be finalized at the time of writing, are intended to facilitate students’ pursuit of Minors.

Transition from the legacy Ryerson undergraduate degree (B.Arch.Sci.)

Students entering the professional program from the previous Ryerson B.Arch.Sci., or from other pre-professional programs in architecture, are normally required to complete additional studies. Each student’s individual record is evaluated in order to determine the nature of these additional studies, which may take place during the M.Arch. studies or prior to re-applying to the program.

Students entering from the Architecture option of the previous B.Arch.Sci. show a deficiency in the area of general studies. A student who has completed the legacy B.Arch.Sci. degree with no additional post-secondary studies is required to complete an additional two free electives in order to bring the total percentage of Professional Studies in his or her post-secondary education to below 60%.

Students entering from the Building Science or Project Management options show deficiencies in a number of areas of Student Performance Criteria. Again, depending on the severity of the deficiencies, the student would be required to complete additional coursework before entering the M.Arch. program. To date, the M.Arch. has admitted no students from Building Science or Project Management from the legacy program.
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<td>ASC101: Communications Studio</td>
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<td>ASC102: The Built Environment Management of Precious Resources</td>
<td>ACS104: Ideas that Shape the World</td>
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<td>ASC306: Ideas, Technologies and Precedents II</td>
<td>ASC302: Building Envelopes</td>
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<td>ASC520: Integration Studio I</td>
<td>ASC621: Tectonics and Materiality</td>
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<td>ASC522: Project Economics I</td>
<td>PLX599: The Human World</td>
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<td>ASC605: Collaborative Exercise III</td>
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<td>ASC623: Principles of Detailing</td>
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<td>Year 4: Winter</td>
<td>ARC/BSC/PMT820: Option Studio</td>
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<td>ASC805: Collaborative Exercise IV</td>
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Professional Degrees and Curriculum
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### Professional Degrees and Curriculum

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<th>Year 1: Fall</th>
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<th>Electives</th>
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<td>AR8101: Studio in Critical Practice</td>
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3.12 Student Performance Criteria

The CACB intends to maintain performance criteria that assist programs in preparing students for the broad requirements of the profession, while also encouraging educational practices suited to the circumstances of particular programs. While the CACB stipulates the student performance criteria that must be satisfied, it specifies neither the educational programs nor the forms of student work that may serve as evidence of having satisfied these criteria. Programs are therefore encouraged to develop unique learning and teaching strategies, methods, and materials to satisfy these criteria.

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. The program must provide evidence that all its graduates have satisfied each criterion through required course work.

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

A: Critical Thinking and Communication [9 SPC]
B: Design and Technical Skills [12 SPC]
C: Comprehensive Design [4 SPC]
D: Leadership and Practice [6 SPC]

Ryerson’s professional program in architecture has been designed to ensure that graduates possess to a high degree the skills and knowledge set out in the CACB’s 31 Student Performance Criteria. These criteria are satisfied either by coursework completed in the Master of Architecture program, or as an admission requirement to the Master of Architecture program. These requirements are summarized in figures 3.12.1, 3.12.2, and 3.12.3.

As stated in the 2010 Conditions and Procedures for Accreditation, the performance criteria are organized according to four categories: Critical Thinking and Communication; Design and Technical Skills; Comprehensive Design; and Leadership and Practice. Each of these areas relates in a distinct manner to the relationship between the pre-professional and professional programs in architecture.

A: Critical Thinking and Communication Skills

Critical Thinking and Communication Skills are integral to the practice of architecture, and students are exposed to these important aspects of their education right from the start. In their first semester, they work in the Communications Studio to develop a strong vocabulary, both visual and verbal, related to the analysis and creation of architecture, and a series of lecture courses exposes them to the critical understanding of architecture and its role in society. These themes are developed throughout the architecture program, re-iterated repeatedly through to the completion of the Master’s thesis project.

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.

A2. Research Skills.
Ability to employ basic methods of data collection and analysis to inform all aspects of the programming and design process. These two criteria are seen as closely linked by the program, as research skills provide the fundamental data from which critical thinking arises. Students in the program are repeatedly required to carry out research into the built environment, from the preparation of measured site drawings (Design Studio I) to the production of a significant body of research related to the Master’s Thesis. The data collected is never understood as the ultimate goal; rather, students are consistently pushed to analyze, collate, and interpret the data. Methods of data collection and analysis developed in the undergraduate degree are significantly expanded in the graduate program, which sees research as a fundamental component of critical practice.

Ability to employ appropriate representational media to convey essential formal elements at each stage of the programming and design process.
These criteria, in turn, encompass two levels of accomplishment:

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

The APR must include the following information:

- An overview of the program’s curricular goals and content.
- A thematic summary of how the 31 Student Performance Criteria (SPC) are acknowledged in the structure and deployment of the curriculum.
- A graphic matrix that cross-references each required course with the performance criterion(a) it fulfills.

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

The APR must include:

- An overview of the program’s curricular goals and content.
- A thematic summary of how the 31 Student Performance Criteria (SPC) are acknowledged in the structure and deployment of the curriculum.
- A graphic matrix that cross-references each required course with the performance criterion(a) it fulfills.

Graphic skills are developed primarily through the studio stream. The Communications Studio, offered in the first semester, introduces students to graphic techniques, both manual and computerized, as well as three-dimensional modelling technique. These skills are then developed through studio projects and project work in other courses.

A4. Verbal and Writing Skills
Ability to speak and write effectively on subject matter contained in the professional curriculum.
These skills are developed incrementally through essays and presentations which are requirements in various courses. In order to get students off on a strong footing, an English literature course with a strong focus on writing is required as a Liberal Studies elective in the first semester. Students are repeatedly asked to make oral presentations, in courses and in studio, to their peers, to instructors, and to critics from outside the program.

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. The program sees collaboration as fundamental to the practice of architecture; no building is ever produced by a single hand. Collaboration is a skill, and must be taught.

At Ryerson, students work in teams for part of most studio semesters and in many courses. The Integration Studio, in which students approach building production holistically, extends and formalizes the teamwork; meanwhile, students are taught theories of teamwork and team building in the first semester course ASC102 The Built World: Management of Finite Resources. Collaboration plays a key role throughout the graduate program, and especially in the Studio in Collaborative Practice; this studio extends the collaboration outside of the class or the school, exposing students to collaboration with the wider community.

In addition, Ryerson students are required to complete six Collaborative Exercises, four in the undergraduate program, and two in the graduate program. While these exercises will vary from student to student and year to year, one of their primary functions is to provide experience with collaboration both within and beyond the walls of the Architecture Building.

A6. Human Behaviour
Understanding of the relationship between human behavior, the natural environment and the design of the built environment.

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. These areas of study are studied within the program from the point of view of architecture as a cultural product and endeavour. The study of the behaviour of humans through history and across cultures is seen as making a fundamental contribution to the development of architecture. The issue is studied directly through a series of courses that discuss contemporary culture and the history of ideas.

Indeed, architectural design is itself seen as a means of studying human culture, and particularly human behaviour. Students in the studio therefore, while designing buildings, study the means by which their buildings will be used. This component of the pre-professional program is intensified and expanded on in the graduate program, particular in the Studio and Seminar in Critical Practice.

Ryerson sits at the centre of the most ethnically diverse city in the world, and our student complement mirrors this diversity. The diverse cultural backgrounds of our students lead directly to a discussion of diversity in a number of courses in the program.

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.

Ability to make a comprehensive analysis and evaluation of a building, building complex, or urban space.

The idea of the precedent as a rational means for making design decisions is introduced in the first semester of the program. Architecture is presented as a continuous cultural activity, linked both to the past and to the future.

Students develop a body of precedents through a series of courses which focus on the western tradition in architecture, always presented as part of a broader cultural scene. These courses also touch on non-western, national, and regional traditions, as do introductory courses in sustainable architecture.

National and regional traditions are studied through the use of local and national case studies in studio and in other courses. These traditions also play a central role in a number of our courses which discuss construction and management technique, mostly from within the local context.

Elective courses are offered in both non-western and national/regional traditions. Students who do not take these courses at the undergraduate level, or provide evidence of an understanding of these traditions through a major term paper or project, are directed to take these courses at the graduate level.

B: Design and Technical Skills
Ryerson’s undergraduate pre-professional program in architecture is particularly strong in the technical areas of student development, and develops these with a strong focus on their relationship to design. Technical courses are clearly linked to the design studios, with instructors working collaboratively to help students develop technical knowledge in the context of design, with a strong emphasis on the tectonic opportunities inherent in technical proficiency. The program is designed such that students have satisfied almost all of the technical Student Performance Criteria by the end of their undergraduate, pre-professional education. The presence of Building Science and Project Management traditions within our program ensures an ongoing discussion of technical issues within the program. A graduate program in Building Science, launched in the Fall of 2008, also bolsters the level of technical discussion in the Department.

B1. Design Skills
Ability to apply organizational, spatial, structural, and constructional principles to the conception and development of spaces, building elements, and tectonic components. The series of design studios in Phases II and III of the pre-professional undergraduate program are designed, with the support of coursework carried out in the same two phases, to establishing fundamental design skills. These skills are then developed and extended by design work carried out in Phase IV of the program, and by the series of studios in the graduate program.

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. Although program preparation exercises are carried out in the Phase II design studios, it is the Integrated Studio that makes this a major component of the term. Program is also discussed as a cultural issue in the first semester of the graduate program, and graduate students again go through a complex programming exercise in the Collaborative Studio.

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. While consideration of the site plays a critical role in each of the design studios, in our program it is singled out for special attention in three core courses: ASC201 Design Studio I; ASC403 Site Development and Planning; and PLX599 Urban Structures and Processes.

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.
Sustainable design is key to the program, and is introduced in the first semester as a fundamental element of the building industry, positioned as an issue of ethical management of resources. This links Ryerson’s historical strength in Landscape Architecture and Ecology with its current program in Project Management, as two aspects of the same management imperative.

Following this introduction, sustainable design plays a major role in all studio discussions. A course in principles of sustainable design is offered in the second semester of first year to add further early support to the idea. Designing with sustainability in mind should be simply designing in the eyes our students.

In the graduate program, sustainability has been identified as one of the key areas of engagement for the program and infuses every course and studio.

B5. Accessibility.
Ability to design both site and building to accommodate individuals with varying physical and cognitive abilities.
Accessible design is thought of as important for all design work done in the program, and is specifically targeted for discussion in Design Studio III.

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.
Building code compliance is required in general terms of all design studio projects. However, this area of study is stressed in ASC401 Design Studio III: Technical and Regulatory Issues, ASC520 Integration Studio I: Feasibility Study and ASC620 Integration Studio II: Comprehensive Building Project.

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.

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.

Understanding of the basic principles involved in the appropriate application of building envelope systems and associated assemblies relative to fundamental performance, aesthet-
ics, moisture transfer, durability, and energy and material resources.

Understandings of the basic principles that inform the design of building service systems, including plumbing, electrical, vertical transportation, communication, security, and fire protection systems.

Understanding of the basic principles utilized in the appropriate selection of construction materials, products, components, and assemblies, based on their inherent characteristics and performance.
Materials and materiality is of course critical to the success of a work of architecture. This area of study is important in all terms of design studio; students will be asked to do a material study in each semester. In addition, materials and materiality is directly targeted in five courses:

Phase I: The Built World – Concepts and Themes for Architecture
Phase I: The Building Project – Components
   Structures II – Materiality and Detailing
   Envelope Systems
Phase III: Tectonics and Materiality

B12. Building Economics and Cost Control
Understanding of the fundamentals of development financing, building economics, construction cost control, and life-cycle cost accounting.
This area of study is discussed in a specialized course in Phase III, and supported by work in the Integration Studios, including a full cost analysis of a building proposal. Students have the opportunity to study this area in greater depth in the Phase IV Project Management specialization, or through Phase IV electives.
C: Comprehensive Design

Comprehensive Design occupies a central position within our program, with the two Integration Studios offered in the third year of the undergraduate program serving as the linchpin in this area. Supported by a series of co-requisite courses, these studios allow students to knowledge developed in their foundational education to a complex building project resolved to a high degree of detail, with emphasis on the integration of building envelope, structure and building services into the architectural project. This is reinforced in the graduate program, where students are expected to continue to develop these integrative skills in the execution of comprehensive architectural solutions.

C1. Detailed Design Development
Ability to assess and detail as an integral part of the design, appropriate combinations of building materials, components, and assemblies.

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. This aspect of Comprehensive Design is developed in a number of courses, fundamental to ASC 620 Integration Studio II and reiterated in the M.Arch. program in AR8103.

C3. Technical Documentation
Ability to make technically precise descriptions and documentation of a proposed design for purposes of review and construction. As contracts and documentation are critical issues not only for architects, but also for other parties in the construction process such as Project Managers, this topic has its own course in Phase III of the undergraduate curriculum.

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. Comprehensive Design is the fundamental purpose of ASC 520 and ASC 620, Integration Studios I and II, and is reiterated at a higher level of expectations in AR8103.
D: Leadership and Practice
Ryerson’s professional program in architecture focuses on the study of architectural practice and of the societal role of the architect. In the pre-professional undergraduate program, students are familiarized with these areas of study starting from the first semester, so that they may develop a sophisticated level of understanding of the issues involved once in the graduate program. These professional issues are then further developed in a number of undergraduate courses, and become core subject matter for AR8102 and AR 8104 in the M.Arch. program.

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.

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.

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.
Admission to the M.Arch. Program

The program must provide evidence that all its graduates have satisfied each criterion through required course work.

SPC and the previous Ryerson B.Arch.Sci. Program (1996 to 2007)

A minority of students graduating from the pre-professional program will be admitted into the M.Arch. program in any year. Students admitted to the graduate program, from Ryerson or elsewhere, will be required to show specified levels of proficiency in each of the 31 Student Performance Criteria.

Once students have been admitted to the M.Arch. program, they will be again evaluated and individualized courses of study constructed, if necessary, to make up for any deficiencies in the particular student's education.

Up to and including 2010, graduates of Ryerson’s B.Arch.Sci. program followed a curriculum set in place in 1996. This B.Arch.Sci. degree meets most of the Student Performance Criteria in a manner similar to the new pre-professional program. However, some deficiencies are present in the ability and understanding of students hoping to enter the M.Arch. program from the previous B.Arch.Sci. degree.

As with students applying from other institutions, the levels of achievement and academic records for these students are evaluated on an individual basis. A specific plan for resolution of deficiencies is developed in consultation between the student and the Program Director. Although each case is different, the following general expectations are noted.

A  Graduates of the Architecture Option prior to 2011

Students coming from the Architecture option have three likely areas of deficiency in terms of the SPC:

    A4. Verbal and writing skills
    A7. Cultural Diversity
    B4. Sustainable Design

In both cases, students may have satisfied these deficiencies through elective courses. Special attention will be paid to these areas in the first years of the professional program to ensure students meet the expected levels of performance prior to graduation.

Students from the Architecture option, with the exception of students with prior post-secondary education, will generally exceed the maximum 60% rule for required professional studies. Students who have followed the minimum course of study for their B.Arch.Sci. degree will require additional elective or general studies courses, which must be completed prior to graduation from the professional program.

B  Graduates of the Building Science Option prior to 2011

The Building Science option curriculum contains a significant amount of material which is only tangentially related to the SPC. Students coming from the Building Science option will therefore fall within the 60% rule.
However, Building Science students will typically show a number of deficiencies in terms of Student Performance Criteria, specifically in the following areas:

- A4. Verbal and Writing Skills
- A3. Graphic Skills
- A7. Cultural Diversity
- A9. Precedents
- B1. Design Skills
- B2. Program Preparation
- B3. Site Design
- B5. Accessibility
- C4. Comprehensive Design

While a student who has particularly strong design ability may achieve the required levels of proficiency in some of these areas (this will be evaluated based on the portfolio submission on entry to the M.Arch. program), most students will require an additional year of studies prior to entry to the graduate program. Typically, these students will be required to complete the ASC520 and ASC620 Integration Studios in the pre-professional program, as well as several additional elective courses.

To date, only one graduate of the Building Science option from the legacy program has applied for the M.Arch. program, and was not accepted into the program.

C Graduates of the Project Management Option prior to 2011

The majority of the option program in Project Management falls outside of professional studies in Architecture. Students applying to the graduate program in Architecture from the Project Management option will therefore fall comfortably within the 60% rule for professional studies, but will show significant deficiencies in terms of Student Performance Criteria, specifically in the following areas:

- A3. Graphic Skills
- A7. Cultural Diversity
- B1. Fundamental Design Skills
- B2. Program Preparation
- B3. Site Design
- B4. Sustainable Design
- B6. Life-Safety Systems, Building Codes and Standards
While a student who has particularly strong design ability may achieve the required levels of proficiency in some of these areas (this will be evaluated based on the portfolio submission on entry to the M.Arch. program), and some potential deficiencies may have been cleared up through elective studies, most students will require an additional intensive year of studies prior to entry to the graduate program. Typically, these students will be required to complete the ASC520 and ASC620 Integration Studios in the pre-professional program, as well as several additional elective courses.

To date, no applicants to the M.Arch. program were graduates of the Project Management option from the legacy program.
Year 1

Leadership &
Practice

Systems
Integration

Design & Technical Skills

Critical Thinking &
Communication

4

A1 Critical Thinking Skills

A

3

A2 Research Skills

A

2

A3 Graphic Skills

A

1

A4 Verbal and Writing Skills

A

6

A5 Collaborative Skills

A

7

A6 Human Behaviour

U

8

A7 Cultural Diversity

U

10

A8 History and Theory

U

9

A9 Precedents

A

5

B1 Design Skills

A

30

B2 Programme Preparation

A

15

B3 Site Design

A

13

B4 Sustainable Design

A

14

B5 Accessibility

A

19

B6 Life-Safety Systems, Building Codes and Standards

U

17

B7 Structural Systems

U

18

B8 Environmental Systems

U

20

B9 Building Envelopes

U

21

B10 Building Service Systems

U

25

B11 Building Materials and Assemblies

U

26

B12 Building Economics and Cost Control

U

27

C1 Detailed Design Development

A

22

C2 Building Systems Integration

A

28

C3 Technical Documentation

A

29

C4 Comprehensive Design

A

35

D1 Leadership and Advocacy

U

37

D2 Ethics and Professional Judgement

U

23

D3 Legal Responsibilities

U

33

D4 Project Delivery

U

32

D5 Practice Organization

U

34

D6 Professional Internship

U

Phase II: PREPARATION - Tools and Elements

Term One

Term Two

ACS104 IDEAS THAT SHAPE THE WORLD

PCS107 THE NATURAL CONTEXT (PHYSICS)

ASC103 THE BUILT CONTEXT:
Concepts & Themes for Architecture

LIBERAL STUDIES ELECTIVE (ENGLISH)

ASC201 DESIGN STUDIO 1:
Program & Site

ASC205 COLLABORATIVE EXERCISE

ASC200 SUSTAINABLE PRACTICES:
Principles

ASC202 THE BUILDING PROJECT:
Components

ASC203 STRUCTURES 1:
Concepts and Systems

ASC206 IDEAS, TECHNOLOGIES & PRECEDENTS 1:
Ritual & Stone

ASC301 DESIGN STUDIO 2:
Intention & Expression

ASC302 ENVELOPE SYSTEMS

ASC303 STRUCTURES 2:
Materials & Detailing

ASC304 THE CONSTRUCTION PROJECT

ASC306 IDEAS, TECHNOLOGIES & PRECEDENTS 2:
Secular Representations

LIBERAL STUDIES ELECTIVE

ASC401 DESIGN STUDIO 3:
Technical & Regulatory Issues

ASC405 COLLABORATIVE EXERCISE

ASC402 BODILY COMFORT SYSTEMS

ASC403 SITE DEVELOPMENT AND PLANNING

CVL407 STRUCTURES 3:
Quantitative Methods

ASC406 IDEAS, TECHNOLOGIES & PRECEDENTS 3:
Discipline & Revolution

Term Four

ASC102 THE BUILT WORLD:
Management of Finite Resources

Term Three

ASC101 COMMUNICATIONS STUDIO:
Representation & Composition
Credit Weight

Year 2

Phase I: CONTEXT

3

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Ryerson University
Department of Architectural Science
Architecture Program Report
September 2012

Student Performance Criteria

Section 3.12 Page 132


4.1.1 History, Description, and Mission of the Institution

The appendix of the APR must provide a brief history and description of the institution, in which the program exists, as well as the institution’s current mission statement and the date of its adoption or last revision. This could be provided as a web link.

1 This section taken from http://www.ryerson.ca/archives/ryehistory.html

The Ryerson Motto: *Mente et Artificio – with mind and hand.*

A Brief History of Ryerson University

The Ryerson Institute of Technology was founded in 1948 as an experiment in postsecondary education. Established primarily as a training ground for the growing workforce of a booming post-war economy, the Institute was a novel alternative to the traditional apprenticeship system of technical learning. When it moved into the century-old buildings of the Toronto Normal School in historic St. James Square, the Institute followed in the footsteps of its namesake, Egerton Ryerson, the architect of Ontario’s educational system. It was on this site that Ryerson established the province’s first teacher-training facility, as well as a museum, art school and agricultural laboratory. These endeavours influenced cultural and scientific developments in Ontario for years to come and enhanced the Square’s reputation as the province’s cradle of education.

During the Second World War and in the post-war period, the Normal School buildings gave way to a ground training facility for air force pilots and to trades training for armed services personnel, civilians in wartime industry and veterans re-entering the peacetime workforce. A natural outgrowth of these activities was the Ryerson Institute of Technology. In its first years, Ryerson offered short trades-oriented programs geared to prospective job markets. Under the guidance of its founding principal, Howard Kerr, it matured into an institution with a curriculum that increasingly emphasized management skills and the humanities, hallmarks which would later distinguish Ryerson from its many counterparts.

In the late 1950s, a multi-million dollar modernization program was launched to accommodate the Institute’s rapid growth. Ryerson’s expansion led to further changes in 1963-1964 when a provincial bill provided for the appointment of a board of governors, changed the Institute’s name to Ryerson Polytechnical Institute and effectively gave the 15-year-old institution a mandate for reorganization and self-determination.

Several years later, wide-ranging recommendations were introduced in the areas of physical resources and facilities, academic policies and procedures, and communications. These resulted in three important developments: a building program incorporating new facilities for classrooms, administrative and student services, learning resources and technology; a more open and experimental approach in the classroom; and most importantly, the authority to grant degrees, in 1971.

Despite the financial difficulties of postsecondary educational institutions, especially in the early to mid-1970s, the capacity to grant degrees imbued Ryerson with a renewed sense of purpose and direction. The new division of Community Services was established. Three schools of nursing were transferred from the hospital sector to the Institute. Day and evening programs were integrated. And new ventures, including Open College, Ryerson Applied Research Limited, the Management Development Institute and three major resource centres were undertaken. The implementation of the Ryerson Community Plan and an updated Ry-
erson Act completed a decade of frenetic activity. In the 1980s, Ryerson vowed to continue its active partnership with business, industry and government, in areas of educational concern ranging from social services to high technology. Growth and progress were emphasized through the construction and renovation of buildings and the addition of state-of-the-art equipment. Important initiatives such as the Centre for Advanced Technology Education, the Academic Computing Information Centre, the Office of Research and Innovation and the Rogers Communications Centre, as well as the accreditation of Ryerson Engineering programs, paved the way for what is perhaps Ryerson’s greatest milestone as a postsecondary educational institution.

Indeed, in 1993, a bill was passed to grant Ryerson full university status and the necessary funding to conduct research and establish graduate programs. However, the euphoria engendered by this event was tempered by an economic downturn which severely afflicted most sectors, including colleges and universities, and forced these institutions into a mode of retrenchment. After several years of hardship, conditions started to improve by the mid 1990s. At Ryerson, a Vision Task Force was established to identify and focus on areas of concern and improvement and to provide the University with clear goals for the future. By 1998, the year of its 50th anniversary, Ryerson was poised to face the challenges of the new millennium.

In June 2002, in order to reflect Ryerson’s emergence as a full-fledged university with a mandate to grant graduate degrees and engage in advanced research, the new name of Ryerson University was approved by the provincial government.

Today, Ryerson is undergoing significant change in both its curriculum and its infrastructure. Graduate programs and research centres in a variety of disciplines are being established. And new structures and additions – including the Ronald D. Besse Information and Learning Commons, the G. Raymond Chang School of Continuing Education, the George Vari Engineering and Computing Centre and the Ted Rogers School of Business Management – are enhancing the Ryerson Campus and helping to accommodate a growing student population.

Although Ryerson is continuing to evolve and grow, its mission remains the same today as it was in 1948: to provide leadership in career-focused education and to fulfill contemporary societal needs.

Chronology

1803  Egerton Ryerson is born into a United Empire Loyalist family in Norfolk County, Upper Canada. As superintendent of Education from 1844 to 1876, Ryerson initiated free elementary schools, standard textbooks, and a standard quality of secondary school education.

1850  Under Ryerson’s supervision, a parcel of semi-rural land known as St. James Square was purchased in Toronto for the site of the Normal School, the first training facility for teachers in Canada, and the property on which Ryerson University now sits.

2 This section taken from the Ryerson website, http://www.ryerson.ca/alumni/60/timeline/index.html
1941 Activities in the Normal School are moved and the building is used as a training facility for the Royal Canadian Air Force during the Second World War. St. James Square also becomes headquarters for training in war industry, and for teaching service personnel trades, under the leadership of Howard H. Kerr.

1945 The Training and Re-establishment Institute opens to train ex-service personnel for re-entry into civilian life. More than 16,500 graduated from the Institute.

1948 Ryerson opens. Veteran retraining phased out, and the Ryerson Institute of Technology is officially opened by Premier George Drew. Howard Kerr is the first principal of the Institute, which has an enrolment of 225. Courses are one and two years in length.

1953 All trade courses at Ryerson are transferred to the Provincial Institute of Trades, later George Brown College.

1958 Construction begins on what is now Kerr Hall. The face of the original Normal School Building remains in the quadrangle.

1963 Ryerson Polytechnical Institute name is designated. Kerr Hall officially opens.

1971 Ryerson given permission to grant Bachelor of Technology and Bachelor of Applied Arts degrees. Interior Design is the first program to be given approval to grant degrees. Jorgenson Hall is officially opened.

1972 First degrees awarded.

1977 Approval given to grant Bachelor of Business Management degrees.

1981 New Architectural Science Building on Church St. opens.

1987 The uniquely designed Recreation and Athletics Centre opens, with the historic Normal School facade providing a gateway to one of its entrances.

1991 Ryerson opens its first major student residence, with accommodation for 550. The $25-million Rogers Communications Centre, a state-of-the-art facility for the Schools of Journalism, Radio and Television, and Computer Science, is opened. Approval is granted to award Bachelor of Engineering and Bachelor of Social Work degrees.

1992 Ryerson becomes Toronto’s second school of engineering following accreditation from the Canadian Engineering Accreditation Board. A flag bearing the Ryerson crest is carried aboard the space shuttle Columbia, signifying Ryerson’s collaboration in research with Canadian astronaut Roberta Bondar.
Research funding tops $9 million for the period 1986-92.

1993 Full university status. Ryerson Polytechnic University is established by an act of the provincial legislature, which grants Ryerson a fully-funded research role and the power to develop graduate programs.

1996 The University awards its first honorary doctorate to the Right Honourable Romeo LeBlanc, Governor General of Canada. Since then, Ryerson has bestowed honorary doctorates to, among others, Oscar-winning filmmaker James Cameron, former mayor of Toronto Barbara Hall, broadcast executive Ivan Fecan, Toronto Blue Jays president Paul Godfrey, former premier of New Brunswick Frank McKenna, and television producer Lorne Michaels.

1998 Ryerson celebrates its 50th anniversary and its fifth as a university. The University launches Canada’s first degree program in Retail Management.

1999 Full-time enrollment at the University tops 14,000. For the sixth year in a row, Ryerson places first in the Leaders of Tomorrow reputational category in Maclean’s annual ranking of primarily undergraduate Canadian universities. The University also places second in the Most Innovative category, fourth in Highest Quality, and second in Best Overall.

2000 Ryerson launches its first three graduate programs, Communication and Culture, Spatial Analysis, and Environmental Applied Science and Management. Ted and Loretta Rogers donate $10 million to establish the Edward S. Rogers Sr. Graduate School for Advanced Communications. Plans are in place for the largest expansion of the campus in 30 years, including a 235,000-square-foot Centre for Computing and Engineering.

2001 Awards first graduate degrees. Graduate programs in Engineering are launched.

2002 The name Ryerson University is made official by an act of the provincial legislature.

2003 First doctoral students admitted.

2004 Official launch of Invest in Futures Campaign.

2005 Sheldon Levy is installed as the eighth president of Ryerson.

2007 Ryerson admits over 1000 graduate students, including its first class of 28 M.Arch. students.

2009 Launch of 2008-13 Academic Strategic Plan.

2010 Digital Media Zone opens at Yonge-Dundas Square

2012 Ryerson’s sixth faculty, the Faculty of Science, is founded.

Ryerson University
Department of Architectural Science
Architecture Program Report
September 2012
Ryerson Today

Ryerson has now become a major university, with some 23,000 full-time undergraduate students and over 60,000 annual enrolments in what has become Canada’s leading institution for adult education, the G. Raymond Chang School of Continuing Education. Ryerson offers over eighty degree programs for full-time students, through six faculties:

- Faculty of Arts
- Faculty of Business
- Faculty of Communication & Design
- Faculty of Community Services
- Faculty of Science
- Faculty of Engineering and Architectural Science

Many of these programs are both innovative in scope and unique among Canadian universities, including Disability Studies, Early Childhood Education, Fashion, Graphic Communications Management, Health Services Management, Image Arts, International Economics, and Radio and Television.

Graduate education is no longer new at Ryerson. Currently, graduate programs at the Master and/or Doctoral level are offered by the School of Graduate Studies in thirty-four different disciplines, with over 2000 students enrolled. These numbers are expected to increase significantly within the next three years. This rapid growth in graduate education is seen as one component of the equally rapid maturation of the institution; the University is also growing rapidly in terms of research activity and in terms of its public profile. The University is also growing rapidly in physical terms, with an intense building campaign currently underway.

Ryerson is located in the very heart of Canada’s largest and most culturally diverse city, less than a block from the corner of Yonge and Dundas Streets. Ryerson’s campus is embedded in the urban fabric, rather than being a separate enclave. The University has recently completed a masterplanning exercise designed to plan for triple the amount of academic space on campus.

Ryerson’s student population is highly diverse in cultural and ethnic terms. Although the large majority of students come from the greater Toronto area, currently some 900 international students study at Ryerson. President Levy has also announced plans to construct 2000 new residence spaces on campus, and the first of these buildings has been publicly announced; however, due to the location of Ryerson in downtown Toronto many students will continue to be commuters, living with family, often in the outer areas of the city.
RYERSON UNIVERSITY MISSION

Ryerson’s mission statement was adopted by Ryerson’s Board of Governors on October 4, 1994.

In 2008, Ryerson released the report Shaping Our Future: An Academic Plan for Ryerson 2008 – 2013. The full document can be found on the Ryerson University website (URL: http://www.ryerson.ca/senate/academic-plan.pdf). This document identifies both long and short-term goals for the institution. Professional accreditation and graduate programs in architecture are clearly in line with these institutional goals.

The special mission of Ryerson University is the advancement of applied knowledge and research to address societal need, and the provision of programs of study that provide a balance between theory and application and that prepare students for careers in professional and quasi-professional fields.

As a leading centre for applied education, Ryerson is recognized for the excellence of its teaching, the relevance of its curriculum, the success of its students in achieving their academic and career objectives, the quality of its scholarship, research, and creative activity and its commitment to accessibility, lifelong learning, and involvement in the broader community.
4.1.2 Program History

The appendix of the APR must provide a brief program history.

The following brief program history is excerpted from Marybeth McTeague, July 2003, “An Historical Overview of the Department of Architectural Science”

The Ryerson Institute of Technology was established in August 1948 as a unique educational experiment directly responding to the societal need of post-war Canada. Since Ryerson’s inception, architectural education has been central to its mission.

The School of Architectural Draughting was one of Ryerson’s first programs and was created to provide a career-oriented two-year diploma for architectural assistants. In 1951 it evolved into the School of Architectural Technology, and introduced a three-year diploma with third year options in architecture or building technology. In 1973 Ryerson Polytechnic Institute became a degree-granting institution, and the Architectural Science program introduced a four-year degree with two foundation years and two years of specialized study in Architecture, Building Science or Program Management. This development paralleled Ryerson’s general expansion of programs from two- and three-year diplomas to four-year Bachelor of Technology and Bachelor of Applied Arts degrees. Ryerson achieved full university status in 1993 with a renewed emphasis on research and the introduction of graduate programs.

While Ryerson offers education that is equivalent in quality to that of a traditional university, it has consistently maintained the distinct focus on the immediate professional relevance of its education. This is what makes Ryerson unique, has been the source of its success and in marketing terms, continues to provide it with a niche. Professional/industry relevance has been maintained through curriculum, faculty practitioners, sessional instructors in ongoing practice, industry-responsive research and advisory committees.

Students graduating from the former four-year Bachelor of Technology and the current Bachelor of Architectural Science programs have gone on to enroll in professionally accredited graduate programs in architecture across Canada and the United States. In 2007, fifteen years after Ryerson achieved full university status, the Department of Architectural Science reconfigured the undergraduate Bachelor of Architectural Science degree interdependent with the new Master of Architecture degree to provide its own professionally accredited program in architecture. The M.Arch. program admitted its inaugural class in September 2007. Additional faculty has been hired, research activities have increased, facilities have been renovated and additional graduate programs in Building Science were launched in September 2008. The program in architecture achieved candidacy status from the CACB in the Spring of 2008, and achieved full accreditation in the Spring of 2010.
4.2 Student Progress Evaluation

The appendix of the APR must include:
- The procedures for evaluating student transfer credit and advanced placement.
- The procedures for evaluating student progress, including the institutional and program policies and standards for evaluation, advancement, graduation, appeal and remedial measures.

B. Arch. Sci. Program
A. Admission Policies

The Department of Architectural Science pre-professional and professional degree programs both follow an intentional structure. Students are expected, in general, to take the full suite of courses in a given term at the same time, and to not enroll in the next term until all courses have been successfully completed. This plan is followed by the vast majority of students but a broad range of individual study plans are in place to support student success where appropriate. However, to enter the third year of the BArchSci degree program students are required to have successfully completed all of their second year courses.

A number of policies and procedures are in place and, taken as a whole, provide a consistent and thorough means of ensuring that all graduates of the professional program in Architecture meet the standards of the CACB and of Ryerson University.

Ryerson University’s General Admission Requirements include an Ontario Secondary School Diploma (OSSD), with six Grade 12U/M courses including Grade 12 U English (one of ENG4U, ETS4U, EWC4U) or Anglais (one of EAE4U, EALAU, EAC4U), plus program specific prerequisite courses (full policies are set out in the Full- and Part-Time Undergraduate Calendar). The Department of Architectural Science has set out the following procedures for admission to the pre-professional program in Architectural Science:

Program Specific Prerequisite Courses

Applicants to the pre-professional program are required to have successfully completed O.S.S.D. with six Grade 12 U/M courses, including Grade 12 U courses in: English (ENG4U/EAE4U preferred), Physics (SPH4U) and Mathematics (one of Advanced Functions (MHF4U) or Calculus and Vectors (MCV4U)). The grade(s) required in the subject prerequisites (normally in the 65-70 percent range) are determined subject to competition.

Portfolio

Applicants to the pre-professional program are required to submit a portfolio of creative works. These portfolios are reviewed by a panel of Faculty.

Writing Exercise

At an on-campus information session, applicants to the pre-professional program are required to complete an English writing exercise, which involves preparing a short essay in response to a scenario. These essays are evaluated by a Faculty panel.

Drawing Exercise

At an on-campus information session, applicants to the pre-professional program are required to complete a graphic exercise, which involves producing a perspectival pencil sketch in response to a scenario. These drawings are evaluated by a Faculty panel.

This admissions process has developed over the years with continual adjustment to identify the most appro-
A Appropriate Cohort of Incoming Students

From a very large pool of qualified applicants, the program makes offers to the very best candidates.

B Advanced Standing and Transfer Credits

Ryerson University has clear policies on advanced standing and transfer credits, set out in the Full- and Part-Time Undergraduate Calendar. Because of its unique program structure, granting advanced standing into the B.Arch.Sci. program as it is defined by the University is impractical. Students transferring from other CACB- or NAAB-accredited programs or their equivalent from other countries are assessed on a case-by-case basis and will typically receive transfer credits for courses which have a direct correspondence between the required Ryerson course and a course taken at another institution.

C Academic Standing

In order to progress in the program, students must maintain an Academic Standing of Clear, Conditional, or Probationary. These Academic Standings are defined in the Full- and Part-Time Undergraduate Calendar. In addition, students must receive a passing grade in studio to continue in the program.

D Progress Reviews

Student progress is reviewed at the end of every semester according to university-wide processes. Students with Conditional or Probationary standing are given appropriate counselling by the Assistant Chair, Student Affairs. Student success is enabled through a range of supports within the department, the Faculty of Engineering and Architecture, and at the University level (see 3.6 Human Resources Development).

In addition, several performance thresholds have been established at the completion of each Phase of the pre-professional program, in order to ensure regular progress through the four Phases.

Phase I: Performance Review

The previous plan of individual interviews has not proved to be logistically feasible; the Phase I faculty are currently developing a plan for providing students with feedback at the conclusion of their first semester of study and will implement the plan in this academic cycle.

Phase II: Block Promotion

Students are not allowed to progress to Phase III until they have achieved a clear standing in all Phase II courses.

Phase III: Self-Selection and Guidance

Access to the Phase IV Specializations has been quite successful on a self-selection basis. Informal consultation with faculty members teaching in the Phase IV Specializations, and particularly in Phase III Integration Studios supports individual selections, whether based upon a desire to investigate a specialized aspect of the industry before continuing with the Master of Architecture program, or to follow a particular career path. Infrequently, students who have underperformed in a particular aspect of the curriculum may be denied access to that specialization and instead guided to a course of study which may best support their individual
Phase IV: Graduation

Students apply to graduate when enrolled in their final course, year or semester of the program. Policies and processes for graduation are set out in the Full- and Part-Time Undergraduate Calendar.

One key component of progress evaluation is the filter between the undergraduate pre-professional and graduate professional programs. While the pre-professional program is large in terms of numbers of students, with a typical graduating class of 90, the student complement in the graduate program aims for an enrollment of 28 students. Furthering the competition for access, a number of students admitted to the M.Arch. program each year have completed their undergraduate studies at other institutions. This summer the Yeates School of Graduate Studies and the University requested that all graduate programs accept students over their normal targets. Consequently, we have admitted 33 students in the first year of the M.Arch. program this year. With only a small percentage of students from the pre-professional program admitted into the graduate program each year, only the highest performing applicants are considered.

While the high degree of selectivity into the graduate program is beneficial to the professional program, it is not seen as a disservice to the balance of those who graduate from the pre-professional program. The Departmental Mission, in part, is “to provide education for a wide range of professional roles in the design, construction and management of the built environment... and for leadership roles in the AEC (Architecture, Engineering and Construction) Industry.” Many of our graduates pursue careers within the full breadth of the AEC industry but outside of the architecture profession proper. In addition, many of our B.Arch.Sci. graduates attend programs at other universities for their M.Arch. studies.

The Yeates School of Graduate Studies at Ryerson University establishes policies and standards for admissions, evaluation, advancement, and graduation, including policies for the defence of Master’s theses. The specific admission requirements for the graduate program are as follows:

A. Admission Policies

Academic Prerequisites

- Successful completion of the Ryerson pre-professional degree in Architecture (B.Arch.Sci.), or equivalent, with an overall B average;
- A minimum average of at least a B (or equivalent) in the last four semesters of undergraduate study;

Referee Support

Submission of three letters of recommendation (academic or professional);

Portfolio Submission

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Student Progress Evaluation
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Successful demonstration, through a portfolio submission and written essay, of the necessary background and ambition to pursue masters’ level work in architecture.

Applicants whose transcript shows minor course deficiencies are required to take additional courses to make up those deficiencies as conditions of their admission. For example, students with undergraduate degrees from outside of North America are required to complete additional coursework in Canadian architecture and Canadian construction methods, while graduates of the Ryerson legacy B.Arch.Sci. are required to complete additional Liberal Studies courses. These courses may be taken concurrently with their M.Arch. studies.

The curriculum of professional and pre-professional programs of study are conceived as a whole. Consequently, graduates of the B.Arch.Sci. program enter their M.Arch. studies fully prepared. Upon admission to the professional program, all other students (“transfer students”) will have their academic history evaluated by the Program Director to ensure consistency with the requirements of the CACB and with Ryerson’s internal policies and standards. In terms of the CACB, this review examines the academic history from two points of view, to ensure both that the student’s education includes a sufficient component of General Studies and of Electives, and that the student meets the expected levels of proficiency in terms of the Student Performance Criteria. Any weaknesses identified may result in the requirement for the student to develop these areas through additional coursework or self-study, with a second evaluation to take place prior to beginning the Thesis/Project.

The admissions process has made continual minor adjustments to identify the most appropriate cohort of incoming students. From a very large pool of qualified applicants, the program makes offers to the very best candidates. A committee of at least three Faculty review each application and in cases where a student’s application may not meet all criteria, an in-person interview may be requested.

On an ongoing basis in the first year of study in the professional program, students who are found to have not reached a required level of proficiency with regard to Student Performance Criteria, will be directed by their Advisor to develop these areas through additional coursework or self-study, with a second evaluation to take place prior to the commencement of the thesis/project.

In addition, the intimate working methods in the first three terms of studio allow faculty to gauge the abilities of each student. Weaknesses are difficult to hide. Studio faculty who note a weakness in any area on the part of the student are expected to make a note of the weakness (in discussion with the Advisor) and recommend remediation methods to the student, who will then be re-evaluated formally in a following semester.
The flow-through nature of studies in the Department from the pre-professional to the professional degree program means that many Student Performance Criteria are delivered in the BArchSci program. The MArch. program completes the delivery of remaining areas as listed below in Student Performance Criteria related to specific courses:

**Criteria Evaluated in the Studio in Critical Practice**

- A1 Critical Thinking Skills
- A2 Research Skills
- A3 Graphic Skills
- B1 Design Skills
- B4 Sustainable Design
- D1 Leadership and Advocacy
- B3 Site Design (verified)

**Criteria Evaluated in the Studio in Collaborative Practice**

- A3 Graphic Skills
- A5 Collaborative Skills
- B1 Design Skills
- B4 Sustainable Design
- A6 Human Behaviour (verified)
- A9 Precedents (verified)
- B2 Program Preparation (verified)
- B5 Accessibility (verified)
- B6 Life Safety Systems, Building Codes and Standards (verified)
- B7 Structural Systems (verified)
- B8 Environmental Systems (verified)
- B9 Building Envelopes (verified)
- B10 Building Service Systems (verified)
- B11 Building Materials and Assemblies (verified)
- C1 Detailed Design Development (verified)
- C2 Building Systems Integration (verified)
- C3 Technical Documentation (verified)
- C4 Comprehensive Design (verified)

**Criteria Evaluated in the Seminar in Critical Practice or developed through the M.Arch. program**

- A1 Critical Thinking Skills
- A2 Research Skills
A5 Collaborative Skills
A8 History and Theory
D1 Leadership and Advocacy
D2 Ethics and Professional Judgment
D3 Legal Responsibilities
D6 Professional Internship
A4 Verbal and Writing Skills (verified)

Criteria Evaluated in the Seminar in Contemporary and Future Practice

D2 Ethics and Professional Judgment
D4 Project Delivery
D5 Practice Organization
B12 Building Economics and Cost Control (verified)

Criteria Evaluated through Transcript Review and re-evaluated in the Studio

A8 History and Theory
B7 Structural Systems
B8 Environmental Systems
B6 Life Safety Systems, Building Codes and Standards
B9 Building Envelopes
B10 Building Service Systems
B11 Building Materials and Assemblies
C1 Detailed Design Development
C2 Building Systems Integration
C3 Technical Documentation
C4 Comprehensive Design

C Thesis/Project

Students are not permitted to begin work on a Thesis/Project until all of the Student Performance Criteria have been satisfied.

Each student, upon entry into the Professional Program, is assigned a Faculty Advisor. The Advisor meets, at a minimum, at the start of the first fall term and at the end of each following academic term. The formal check to assure appropriate progress through the course of study is the Graduate Student Progress Report which must be approved with a designation other than ‘unsatisfactory’ in order for the student to proceed in the program. After the spring semester, the Advisor passes this duty on to the Thesis/Project Supervisor, who becomes responsible for assessing appropriate progress through to graduation.
Completion and evaluation of the Thesis/Project follows the process outlined in the Yeates School of Graduate Studies policy handbook and includes public presentations at several stages.

The Thesis Supervisor is a Member of the Yeates School of Graduate Studies. Membership is acquired through a formal application. In special circumstances, a sessional instructor can supervise a Thesis/Project with a Faculty Member serving as a Co-Supervisor.

The minimum official time to complete the M.Arch. program is six academic terms (two years). However, we encourage students to attempt to complete the program in an accelerated schedule of five academic terms. Students have a maximum of nine academic terms (three years) to complete the degree. Students who wish to graduate soon after successfully defending their Thesis/Project must have previously formally applied to the University to graduate. The deadline is set twice a year by the Yeates School of Graduate Studies.

Thesis/Project Committees follow the work of each student in their final year of the program and review each student’s work through oral presentations and by reading their Reports. The Committees are formed with three members, the Supervisor, a Second Reader and a Program Representative. The final Thesis/Project defence is presented to the Committee with the addition of one or more External Reviewers. External Reviewers are often invited from Toronto-area practises. The format of student’s Thesis/Projects Reports and the composition of Committees follows guidelines and procedures outlined by the Yeates School of Graduate Studies. The M.Arch. program specifies a few additional items formatted to our own specifications. The Thesis Project is normally completed in two or three semesters, but some students require four. Students who do not complete in four semesters (aside from illness or other need for accommodation) fail the Thesis Project to date, no students have failed.
Student Progress Evaluation

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ASC 101 COMMUNICATIONS STUDIO: Representation and Composition

Phase i: Context; Term 1

Prerequisites: None

Instructors, 2010: Smith (Coordinator), Hui, Zone, Hamilton, Jurkovic, Kobets-Singkh, Leu, Sin
Instructors, 2011: Smith (Coordinator), Hui, Zone, Hamilton, Jurkovic, Kobets-Singkh, Leu, Sin
Instructors, 2012: Komisar (Coordinator), Hui, Zone, Hamilton, Jurkovic, Kobets-Singkh, Luzar, Ramasubramanian

Course Calendar Description:

This studio course introduces the basic techniques of visual communication through drawing (both manually and by computer), model building, etc. Techniques and theories of representation, composition and spatial organization are presented and developed through exercises and projects which relate the themes of the other first term courses, culminating in the design of a very simple building. Accompanying lectures provide students with background principles and theory for graphic communication.

Learning Objectives:

Upon completion of this course, students should be able to:

- Explore, use and understand fundamental design communication skills
- Explore basic design communication principles and formal ordering systems
- Recognize and achieve appropriate levels of craft and presentation skill
- Utilize instruments of design in process and presentation (analogue, digital and physical model construction)
- Apply basic concepts of architectural communication theory and its connection with design

Course Evaluation:

Sketchbook = 15%
Project One = 10%
Project Two = 20%
Project Three = 25%
Project Four = 30% (includes a combined portfolio of projects 1 through 4)
**ASC 102 THE BUILT WORLD: Management of Finite Resources**

Phase I: Context; Term 1

Prerequisites: None

Instructor, 2010: Wrigglesworth  
Instructor, 2011: Leshchyshyn  
Instructor, 2012: Atkinson

**Course Calendar Description:**

This course provides the foundation for understanding how elements such as natural resources, time, money and human capital, influence the creation of the built environment. Consideration is given to how these resources can best be managed and integrated into the built environment to meet social, economic, environmental and cultural needs in projects that vary in scale from the individual building to the city or region.

**Learning Objectives:**

On completion of this course, students should be able to:

- Understand the nature and purposes of the built world within the context of the natural world;
- Demonstrate an understanding of the implications of harnessing and using resources in the design and construction of the built world;
- Identify and understand the processes by which the built world is conceived and constructed as well as the roles and responsibilities of the various participants in such processes;
- Understand basic management concepts and how they affect the use of resources in the creation of the built world;
- Identify and understand the roles and responsibilities of key participants in the AEC industry and the decision-making and decision-communicating processes used;
- Be aware of ethical issues as they apply to architectural practice and the need to exercise professional judgement in the provision of architectural services.

**Course Evaluation:**

| Group Project | Preliminary Presentation | 10% |
| Final Presentation | 10% |

**Individual work**

| Research Paper Draft | 15% |
| Final Submission | 30% |
| Final Exam | 35% |

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ASC 103 THE BUILT CONTEXT: Concepts and themes for Architecture

Phase I: Context; Term 1
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: None
Instructor, 2010: Kapelos
Instructor, 2011: Kapelos
Instructor, 2012: Kapelos

Course Calendar Description:
An introductory overview to the study of architecture and the built environment. Basic concepts, which are universal in most if not all times and places, will be discussed: shelter, protection, convenience, program, setting, light, air, beauty, etc. The role of the architect and of the architectural profession is discussed, as well as the role of the client or patron. Students will develop skills in research and analysis as well as a range of conceptual tools for examining the built environment.

Learning Objectives:
The Built Context course aims to provide an introduction to the language of architecture through its central concepts and themes, related to the context of current architectural practice.
By the end of this course, students should:
• Be able to conduct research through data collection, field research and library resources
• Be able to use case studies as a research tool
• Be aware of architectural resources in the city
• Be aware of the relationship between human factors and the physical environment
• Begin to think critically when reading architectural texts and analyzing architectural spaces
• Be aware of the cultural, technological, environmental and economic context that shapes the production of architecture.

Major Course Evaluation:
Two Assignments 40%
Two Quizzes 30%
Final Exam 20%
Participation 10%
ASC 201 DESIGN STUDIO 1: Program and Site

Phase II: Preparation – Tools and Elements; Term 2
Format: Studio 9 hrs; Weight: 3.00
Prerequisites: ASC100 Communications Studio

Instructors, 2011: Smith (coordinator), Leshchyshyn, Zone, Hamilton, Jurkovic, Kobets-Singkh, Leu, Sin
Instructors, 2012: Leshchyshyn (coordinator), Komisar, Zone, Hamilton, Jurkovic, Kobets-Singkh, Leu, Sin
Instructors, 2013: Leshchyshyn (coordinator), Komisar, Smith, Hamilton, Jurkovic, Kobets-Singkh, Leu, Ramasubramanian

Course Calendar Description:

This studio course introduces context, through an exploration of program and site, as a primary influence on architectural design. Principles and techniques of functional programming, program analysis, site investigation and site analysis form a framework for the development of a holistic design process. This is accompanied by an introduction to concepts ranging from human needs to means of defining space to create enclosure that are in turn applied to the site and context. Issues are assimilated into the architectural design process through a range of individual and group design assignments.

Learning Objectives:

Upon completing this course, students should be able to:

- Undertake a comprehensive program investigation and analysis to determine a program’s functional, spatial, qualitative and quantitative requirements as they relate to human needs and behaviours;
- Undertake a comprehensive site investigation and analysis to identify a site’s characteristics, constraints and potential;
- Articulate an architectural response, and intent, within the context of program and site;
- Apply design skills to the realization of the architectural intent;
- Employ appropriate language and graphic skills and media at each stage of the investigation, analysis and design process to communicate their findings and thoughts;
- Identify sites appropriate for particular programmatic scenarios;
- Conceive of possible programs for given sites;
- Undertake and resolve an architectural project of a basic level of complexity.

Major Course Evaluation:

<table>
<thead>
<tr>
<th>Exercise 1 and Sketch 1</th>
<th>5%</th>
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<tbody>
<tr>
<td>Project 1</td>
<td>25% (5% Exercise &amp; Sketch+process+outcome)</td>
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<tr>
<td>Project 2</td>
<td>25% (5% Exercise &amp; Sketch+process+outcome)</td>
</tr>
<tr>
<td>Project 3 Interim</td>
<td>20% (process+outcome)</td>
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<tr>
<td>Project 3</td>
<td>25% (process+outcome)</td>
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ASC 200 SUSTAINABLE PRACTICES: Principles

Phase II: Preparation – Tools and Elements; Term 2
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: ASC101 The Built World, PSC 107 The Natural Context
Instructor, 2011: Richman
Instructor, 2012: Richman
Instructor, 2013: Polo

Course Calendar Description:

This course addresses the means by which the principles of sustainability can be addressed in architectural design. The importance of the environmental, social and economic aspects of sustainability are presented and students become familiar with the process of implementation of environmentally conscious design. Various strategies to reduce the environmental impact of construction are discussed as are the means of measuring their success.

Learning Objectives:
By the end of this course, students should be able to:

- Describe the philosophical and practical elements of sustainability as it applies to buildings.
- Describe the importance of integrative design when creating sustainable buildings.
- Describe the importance of an effective climate separator when designing sustainable buildings.
- Understand at an introductory level the flows of energy through, around and within the building envelope and the resistances to these flows.
- Identify elements of residential building envelope assemblies and their individual and/or cumulative function to achieving sustainable buildings.
- Critically analyze and compare the benefits of sustainable building practices.
- Understand the difference between passive and active systems and design such systems at an introductory level.
- Utilize effective water and lighting systems to reduce excess usage and waste. Describe and quantify (at a preliminary level) the impact of material choice, embodied energy and life cycle analysis.
- Explain the relevance of green rating systems and understand their role in achieving sustainable buildings.

Major Course Evaluation:

Assignment 1 (group) 15%
Mid-Term Paper (individual) 20%
Mid-Term Exam (individual) 25%
Final Exam (individual) 40%

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ACS 202 THE BUILDING PROJECT: Components

Phase II: Preparation – Tools and Elements; Term 2
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: ACS 101 The Built World, PCS 107 The Natural Context
Instructor, 2011: Atkinson
Instructor, 2012: Wójc
Instructor, 2013: Wójc

Course Calendar Description:

This course introduces the methods and materials of building construction with an examination of construction systems and components including: foundations, walls, floors, roofs, doors and windows, and finishes. Materials of construction are introduced and placed into the context of the interconnected systems that make up buildings.

Learning Objectives:

The students should learn and acquaint themselves with the introductory topics listed below:

- Principles of enclosure; human comfort and safety, components of enclosure, construction methodology, sustainability, durability and assembly.
- Heavy construction; foundations, retaining walls, steel framing, reinforced concrete framing, masonry load bearing walls.
- Light wood, and post and beam wood framing and construction.
- Components and materials; walls, windows and roofs and design selection.
- Interior components and finishes.
- Site; soils, services and finishes.
- Fundamental structural systems of wood, steel and concrete.
- Structural terminology.

Major Course Evaluation:

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<th>Course</th>
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<tr>
<td>Project No. 2</td>
<td>30%</td>
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<tr>
<td>Final Exam</td>
<td>40%</td>
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ASC 203 STRUCTURES 1: Structural Concepts

Phase II: Preparation – Tools and Elements; Term 2
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: PCS 107 The Natural Context
Instructor, 2011: Straka
Instructor, 2012: Hui
Instructor, 2013: Straka

Course Calendar Description:

This introductory course focuses on structure in architectural design. It investigates a variety of typical structural elements, namely: columns, beams, trusses, arches, and cables operating in compression, tension, bending, or torsion to achieve structural equilibrium. This theme is expanded further through the application of these elements to form a structural system, with an overview of one- and two-way spanning systems, and of load transfer through the structural system. Optimal selection of structural systems and reasons for structural failure are reviewed.

Learning Objectives:
Students are expected to be able to:

- Understand loads which may be acting on the structure of a building
- Identify loads (qualitatively) acting on the structure and its elements
- Be aware of the impact of the environment on structural form
- Understand the meaning of a structure, its function, form, and relationship to architecture
- Identify how a simple structural element responds to applied loads
- Understand the basic principles of statics: force (external and internal), compression, tension, moment (external, internal), torsion, equilibrium (overall, element, node), and stability
- Understand the four fundamental ways of bridging the gap in two dimensions (beam, trusses, cables, and arches), and how they respond to external loads
- Understand stress, strain, and their relationship to elasticity, plasticity, and creep
- Understand the difference between one-way and two-way structural systems
- Understand the four fundamental systems in wood, concrete, steel, and masonry

Major Course Evaluation:

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<th>Component</th>
<th>Weight</th>
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<tr>
<td>Group Project</td>
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<tr>
<td>Midterm Exam</td>
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<tr>
<td>Term Project</td>
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<tr>
<td>In-Class Assessments</td>
<td>15%</td>
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<tr>
<td>Final Exam</td>
<td>35%</td>
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ASC 206 IDEAS, TECHNOLOGIES & PRECEDENTS 1: Ritual and Stone

Phase II: Preparation – Tools and Elements; Term 2

Format: Lect. 3 hrs; Weight: 1.00

Prerequisites: ASC 103 The Built Context

Instructor, 2011: Komisar
Instructor, 2012: Rubin
Instructor, 2013: Smith

Course Calendar Description:

This course is a study of ideas and approaches to architectural history through an examination of architecture from prehistory to the end of the Middle Ages in Europe. The relationships between built form, site, ritual, materials, and technology are explored through examples from both western and non-western traditions. Students are expected to be able to research, discuss and analyze the form, composition, and context of a building, and to situate current architectural practice within the larger history of the relationships between building, nature, and culture.

Learning Objectives:

On completion of this course, students should be able to:

- Identify the major cultural, political, technological, and aesthetic movements of the abovementioned period and demonstrate the effects of these movements on architectural production.
- Identify and analyze important buildings of this period.
- Utilize an understanding of the forces that lie behind architectural change in their own design work.
- Grasp the meaning of critical reading, writing and thinking and demonstrate all these qualities in their work.

Major Course Evaluation:

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 short answer tests</td>
<td>80%</td>
</tr>
<tr>
<td>1 group presentation</td>
<td>20%</td>
</tr>
<tr>
<td>Participation and development</td>
<td>10%</td>
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</table>

Ryerson University
Department of Architectural Science
Architecture Program Report
September 2012
ASC 301 DESIGN STUDIO 2: Intention and Expression

Phase I: Preparation – Tools and Elements; Term 3
Format: Studio 9 hrs; Weight: 3.00
Prerequisites: ASC 201 Design Studio 1
Instructors, 2010: Etkind (coordinator), Atkinson, Komisar, Grant, Miller, Ourceau, Papatheodorou, Sørli
Instructors, 2011: Polo (coordinator), Cirka, Etkind, Farah, Kapelos, Balbaa, Grant, Ourceau
Instructors, 2012: Wójs (coordinator), Kapelos, Smith, Grant, Ingrao, Ourceau, Papatheodorou, Sørli

Course Calendar Description:
This studio course continues the series of design studios begun in the previous semester with design exercises and projects of increasing complexity. It continues the development of skills in architectural representation and presentation. Adding to themes discussed in previous semesters, the studio and its accompanying lecture component focuses on the formulation of architectural intent (formal, material, political, or other), and its means of expression through architectural form (geometry, composition, materiality, light, and space).

Learning Objectives:
On completion of this course, students should be able to:
• Complete a comprehensive formal analysis of a building, building complex, or urban space and identify the intent behind a work of architecture.
• Explain, for a given work of architecture, how the intent is made manifest in the parti, form, massing, order, compositional strategies, materiality, tectonics and relationship to site and context.
• Present the intent clearly by means of oral, written and graphic representation, employing appropriate representational media to convey essential formal elements of the design.
• Articulate an intent for a design project and develop a design response to a variety of criteria (formal, material, programmatic, behavioural, contextual) using design methodologies and organizational/compositional strategies discussed in the studio.
• Apply a variety of organizational and compositional strategies to the design of a building of low to medium complexity.
• Carry out a critical analysis of their design response in relation to the stated intent and conduct iterative design operations to refine the design in response to that intent.
• Prepare a complete, coherent and clear presentation – including oral, written and graphic material – documenting the design project, making use of a variety of media (manual and digital, two- and three-dimensional), conforming to architectural drawing conventions and at appropriate scales.

Course Evaluation:
Project 1  15%
Project 2  35%
Project 3  50%
### ASC 302 ENVELOPE SYSTEMS

**Phase II: Preparation – Tools and Elements; Term 3**

- **Format:** Lect. 3 hrs; **Weight:** 1.00
- **Prerequisites:** ASC 200 and ASC 202
- **Instructor, 2010:** Horvat
- **Instructor, 2011:** Coelho
- **Instructor, 2012:** Horvat

#### Course Calendar Description:

This course examines how environmental forces acting on building envelope components and building systems guide decision making in building design. Building science theory and principles are applied to the control of heat, air and moisture flows across building envelope systems and to the design of a range of building envelope systems. Analytical techniques are used to assess the suitability of examples of building conditions. Life safety driven separator issues are addressed in reference to the Ontario Building Code. Related issues are reviewed within the context of existing and emerging building technology.

#### Learning Objectives:

By the end of this course, students are expected to be able to:

- Explain the basic principles of building envelope physics;
- Determine the thermal gradient through a given assembly;
- Determine the amount of moisture which can be transferred through an assembly;
- Select materials and assemblies to perform specific functions;
- Describe the important properties of various building materials and compare their appropriateness in a given situation;
- Identify important principles of load transfer and connections of building components;
- Use deductive reasoning to: integrate (A, A-) or select (B, C) appropriate envelope assembly in order to respond to programmed requirements and intended architectural expression.

#### Major Course Evaluation:

- Term in-class lab on HAM transfer – individual work **10%**
- 3 online quizzes (2 best marks out of 3) – individual work **10%**
- Mid-term exam – closed book **25%**
- Term project – group work with individual component **30%**
- Final exam – closed book **25%**

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**Ryerson University**
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**Current Course Description**

**Section 4.3 Page 153**
ASC 303 STRUCTURES 2: Materials and Detailing

Phase II: Preparation – Tools and Elements; Term 3
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: ASC 203 Structures 1
Instructor, 2010: Doshi
Instructor, 2011: Straka
Instructor, 2012: Doshi

Course Calendar Description:
This course applies principles of structural behaviour to material properties and construction methods. Students are introduced to properties of basic construction materials – steel, concrete, wood, and masonry. The design of structural components is addressed in conceptual terms, focusing on the advantages and possibilities that each material offers. Connections specific to each material are addressed. The issues of structural application of each material, such as deterioration due to exposure, fire performance and environmental impact, are discussed. Methods are presented for determining the size of basic building components in the various materials for known forces.

Learning Objectives:
On completion of this course, students should be able to:
- Understand the relationship between loads on buildings, structural systems and materials used for structural systems.
- Understand and apply requirements in the building code that control the use of structural materials.
- Identify properties that are relevant for choosing materials for building structures.
- Wood – Identify differences between light wood framing and timber construction.
- Wood – Identify properties of wood that are used in selecting wood members.
- Wood – Identify different shapes and sizes of wood members that are used for structural purposes.
- Wood – Study and understand the application of wood as a structural material in buildings.
- Steel – Identify differences between light gauge steel frame construction and steel frame construction using hot rolled steel.
- Steel – Identify properties of steel that are used in selecting steel members.
- Steel – Identify different types of steel members that are used for structural purposes.
- Steel – Study and understand the application for structural purposes.

Evaluation:
Participation in working session and homework 20%
Term Project – Group Project 40%
Final Exam – Multiple types of Questions 40%

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ASC 304 THE CONSTRUCTION PROJECT: Processes and Resources

Phase II: Preparation – Tools and Elements; Term 3

Format: Lect. 3 hrs; Weight: 1.00

Prerequisites: ASC102 The Built World, ASC202 The Building Project

Instructor, 2010: Poh
Instructor, 2011: Poh
Instructor, 2012: Floerke

Course Calendar Description:

This course introduces students to the broad scope of the AEC industry, and to the participants, practices and underlying principles that define activities related to it. Fundamental concepts are presented that are the foundation of the provision of architectural services, the roles of various participants in the construction process and the sequential project phases typical of any construction project. Project communications between members of the design team, contractors, authorities, and stakeholders and alternative approaches to project delivery are discussed.

Learning Objectives:

Upon completion of ASC 304, students should be able to:

• Understand the roles and interests of different project participants in the AEC industry.
• Identify the possibilities of influencing/ controlling a project while following an architectural concept.
• Realize the individual steps and sequences necessary when building a project exemplified by focusing on significant building details.
• Understand fundamental models and methods of managing projects.
• Transfer their acquired skills to solve specific contextual problems.

Course Evaluation:

Assignment Group Project 3 Students per Group 20 %
Assignment Individual Work 30 %
Assignment Individual Work 50 %
ASC 306 IDEAS, TECHNOLOGIES & PRECEDE NTS 2: Secular Representations

Phase II: Preparation – Tools and Elements; Term 3

Format: Lect. 3 hrs; Weight: 1.00

Prerequisites: ASC 206 Ideas, Technologies & Precedents 1

Instructor, 2010: Komisar
Instructor, 2011: Etkind
Instructor, 2012: Etkind

Course Calendar Description:

A study of the cultural, political and technological forces and ideas shaping architecture in western civilization from the 15th to the 18th centuries. This historical and theoretical overview covers the Renaissance to the Enlightenment, using examples that embody the transition from theocentric to secular and humanist world views that formed the foundation for the cultural, political and industrial revolutions of the late 18th and 19th centuries. Material covered includes extensive reading, drawn from primary sources.

Learning Objectives:

On completion of this course, students should be able to:

- Develop further critical thinking skills; carry out independent research in architecture based on critical analysis of relevant precedent;
- Investigate the meaning of ideas in architecture through history; identify relationship between the built environment and its larger cultural and societal context;
- Identify the major cultural, political, technological, and economic forces which drove changes in architectural production from the Renaissance to the beginning of the Industrial Revolution;
- Recognize the global spread of ideas from the European Renaissance; understand the diverse global and local traditions in architecture;
- Be aware of the ethical issues in the architectural profession and practice; trace their Renaissance origins; recognize the leading role of the architect in society.

Course Evaluation:

<table>
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<tr>
<th>Course Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Term Paper</td>
<td>35%</td>
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<tr>
<td>Midterm Test</td>
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<tr>
<td>Mini Quizzes</td>
<td>5%</td>
</tr>
<tr>
<td>Class participation</td>
<td>5%</td>
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<tr>
<td>Lecture Series</td>
<td>5%</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
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</table>

Ryerson University
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September 2012
ACS 401 Design Studio 3: Technical and Regulatory Issues

Phase II: Preparation: Tools and Elements; Term 4

Format: Studio 9 hrs; Weight: 3.00

Prerequisites: ACS 301 Design Studio 2

Instructors, 2011: Ripley (coordinator), Kapelos, Schank Smith, Balbaa, Grant, Papatheodorou, Norbraten, Sørli
Instructors, 2012: Ripley (coordinator), Farah, Balbaa, Ourceau, Grant, Luzar, Papatheodorou, Norbraten
Instructors, 2013: Hui (coordinator), Farah, Zone, Grant, Papatheodorou, Sørli

Course Calendar Description:

Students carry out design exercises and projects of increasing complexity, and develop skills in architectural representation and presentation. Adding to themes discussed in previous semesters, this studio and its accompanying lecture component considers technical and regulatory issues including The Ontario Building Code and their contribution to the design process, and focuses on the seamless relationship between technical resolution and tectonic expression. Constructability and durability in the Canadian climate is an area of focus.

Learning Objectives:

By the time they have completed this course, students should be able to:

- Design a building that demonstrates, mobilizes and provides a critical evaluation of the relationships between architecture and technology, on the one hand, and architecture and the human body in motion, on the other.
- Design a building of a medium level of complexity in accordance with general precepts of the Ontario Building Code (exiting, fire separations, accessibility, and health requirements) and the City of Toronto Zoning Bylaw.
- Make use of structural systems, environmental control systems (HVAC), and envelope systems to further the architectural intent in a building project.
- Make clear and compelling verbal presentations of their projects to their peers and instructors, aided by precisely constructed drawings, models and other representations of a professional standard.
- Make use of precedent studies in the design of aspects of a building project.

Major Course Evaluation:

Critical Dissections 10% (by section instructor)
Experiential section 15% (by section instructor)
Process grading (Inc. Substantial Performance Review) 25% (by section instructor)
Interim presentation 20% (by other instructor)
Final Project presentation 30% (by other instructor)
ASC 402 BODILY COMFORT SYSTEMS

Phase II: Preparation - Tools and Elements; Term 4

Format: Lect. 3 hrs; Weight: 1.00

Prerequisites: ASC 302 Envelope Systems

Instructor, 2011: Ge
Instructor, 2012: Liao
Instructor, 2013: Liao

Course Calendar Description:

This course introduces the design and assessment of environmental control systems in conformity with current codes and standards. Heating, ventilation and air-conditioning (HVAC) systems that provide anticipated indoor environmental conditions in the Canadian climate are investigated. Techniques for the design and performance of environmental control systems are presented through simulation exercises. Passive (non-mechanical) techniques for heating, cooling and ventilating buildings are also explored.

Learning Objectives:

The students are expected to achieve a basic understanding on how a desired indoor thermal environment is created and on how the energy performance and indoor environment quality are influenced by the design, construction and operation. They should be able to carry out necessary calculations in determining heating and cooling load and to select appropriate mechanical systems. They are expected to become familiar with typical passive systems (solar heating, passive cooling) and active systems (i.e. HVAC: Heating, Ventilation and Air-Conditioning). The knowledge developed through this course will be examined in the design of a residential forced-warm air heating system.

Major Course Evaluation:

| Participation | 10% |
| Individual Assignments | 2 x 10% |
| Section Test (open book) | 1 x 20% |
| Section Test (closed book) | 1 x 20% |
| Group Assignment | 30% |

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ASC 403 SITE DEVELOPMENT AND PLANNING

Phase II: Preparation – Tools and Elements; Term 4

Format: Lect. 3 hrs; Weight: 1.00

Prerequisites: ASC 102 The Built World, ASC 304 The Construction Project

Instructor 2011: Kapelos
Instructor 2012: Farah
Instructor 2013: Farah

Course Calendar Description:

This course presents techniques for the analysis and planning of sites that respond to human, contextual and infrastructure criteria. The role of analysis is emphasized as the basis for site development, and various analytical approaches are surveyed. Methods of developing both large and small scale sites are explored with reference to the constraints and opportunities of the natural, controlled and built environment, project constructability, and the appropriate legal and planning setting.

Learning Objectives:

After taking ASC403, students enrolled in the course should be able to:

- Refer to a variety of site conditions
- Research, document, analyse and diagram the existing conditions of a site
- Research and develop a program
- Articulate the links between a site, its surroundings and the natural and man-made factors that influence it
- Apply environmental and ecological design principles to a project
- Apply a variety of textures in landscaping

Major Course Evaluation:

Assignment 1: Site analysis (individual) 40%
Assignment 2: Site design (group) 30%
Final Examination (Individual) 30%
## ASC 406 IDEAS, TECHNOLOGIES & PRECEDENTS 3: Discipline and Revolution

**Phase II: Preparation – Tools and Elements; Term 4**

- **Format**: Lect. 3hrs; **Weight**: 1.00
- **Prerequisites**: ASC 306 Ideas, Technologies & Precedents 2
- **Instructor 2011**: Polo
- **Instructor 2012**: Komisar
- **Instructor 2013**: Komisar

**Course Calendar Description:**

A study of the cultural, political and technological forces shaping the architecture of western civilization in the 19th and 20th centuries. This historical and theoretical overview covers material from the Enlightenment to the present, using examples from the various traditions that inform the idea of modernity. Material is presented in the form of lectures and extensive reading, including numerous primary sources.

**Learning Objectives:** On completion of this course, students should be able to:

- Identify the major cultural, political, technological, and aesthetic movements of the modern period and demonstrate the effects of these movements on architectural production.
- Identify the various trends in modern and contemporary architecture.
- Analyze important buildings of this period.
- Recognize important works in the modern and contemporary canon of architecture.
- Utilize an understanding of the forces that lie behind architectural change in their own design work.
- Demonstrate an awareness of the major trends in architectural thought of the previous century.

**Major Course Evaluation:**

<table>
<thead>
<tr>
<th>Evaluation Component</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td>Short essay on selected film, video or lecture</td>
<td>5%</td>
</tr>
<tr>
<td>Individual project</td>
<td>25%</td>
</tr>
<tr>
<td>Team project</td>
<td>20%</td>
</tr>
<tr>
<td>Class participation including in-class assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Final exam</td>
<td>30%</td>
</tr>
</tbody>
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**A: Critical Thinking and Communication**

- **A1 Critical Thinking Skills**
- **A2 Research Skills**
- **A3 Graphic Skills**
- **A4 Verbal and Writing Skills**
- **A5 Collaborative Skills**
- **A6 Human Behaviour**
- **A7 Cultural Diversity**
- **A8 History and Theory**
- **A9 Precedents**

**B: Design and Technical Skills**

- **B1 Design Skills**
- **B2 Program Preparation**
- **B3 Site Design**
- **B4 Sustainable Design**
- **B5 Accessibility**
- **B6 Life Safety Systems, Building Codes and Standards**
- **B7 Structural Systems**
- **B8 Environmental Systems**
- **B9 Building Envelopes**
- **B10 Building Service Systems**
- **B11 Building Materials and Assemblies**
- **B12 Building Economics and Cost Control**

**C: Comprehensive Design**

- **C1 Detailed Design Development**
- **C2 Building Systems Integration**
- **C3 Technical Documentation**
- **C4 Comprehensive Design**

**D: Leadership and Practice**

- **D1 Leadership and Advocacy**
- **D2 Ethics and Professional Judgment**
- **D3 Legal Responsibilities**
- **D4 Project Delivery**
- **D5 Practice Organization**
- **D6 Professional Internship**
CVL 407 STRUCTURES 3: Structural System Design

Phase II: Preparation - Tools and Elements; Term 4
Format: Lect. 3; Weight: 1.00
Prerequisites: ASC 303 Structures 2
Instructor 2011: Rafiei (Civil Engineering)
Instructor 2012: Rafiei (Civil Engineering)
Instructor 2013: TBA (Civil Engineering)

Course Calendar Description:

This course considers structural systems, commencing with the design of the individual member discussed in Structures 2 and moving to the design of the whole building. The course develops the concept of a building comprised of horizontal and vertical systems that are positioned strategically. Alternative arrangements of structural systems are considered based on their structural behaviour and their relationship to materials of construction. Building lateral loads and load transfer mechanisms are explored. The course concludes with a discussion on connections and detailing of components of complex systems, exploring examples for specific materials.

Learning Objectives:

On completion of the course, students should be able to:

- Understand load types and load distribution in building structures
- Demonstrate the behaviour and design of concrete beams in flexure and shear
- Design one-way concrete slabs and understand two way actions
- Design reinforced concrete elements for a given floor plan for gravity loads
- Understand structural framing plan and reinforcement drawings
- Identify steel structural shapes and connections and identify types of steel structural systems
- Design simply supported steel structures

Major Course Evaluation:

| Assignment-1 (individual) | 10% |
| Assignment-2 (group)     | 10% |
| Term Project Report (group) | 10% |
| Term Project Presentation (group) | 5% |
| Course Participation     | 10% |
| Midterm Exam             | 20% |
| Final Exam               | 35% |

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ASC 520 INTEGRATION STUDIO: Complex Building Feasibility Study

Phase III: Integration; Term 5
Format: Studio 9 hrs; Weight: 3.00
Prerequisites: ASC 401, ASC 402, ASC 403, ASC 405, ASC 406, CVL 407
Co-requisite: ASC 522 Project Economics 1, ASC 621 Tectonics and Materiality, PLX 599 The Human World
Instructors 2010: Leong (coordinator); Doshi, Hao, Katsanis, Richman, Wrigglesworth, Geldart, Ingrao, Ourceau
Instructors 2011: Leong (coordinator); Atkinson, Richman, Wójcik, Geldart, Ingrao, Ramasubramanian, Saavedra
Instructors 2012: Leong (coordinator); Atkinson, Doshi, Floerke, MacBurnie, Richman

Course Calendar Description:

In this studio course students will prepare a feasibility study and schematic design for a complex, multi-use building on an urban site. The project builds on the knowledge gained to date in years 1 and 2 and extends students’ understanding and capability by requiring that they fully integrate co-requisite lecture course material. Site analysis, economic and functional feasibility studies are undertaken as pre-design research. These will directly inform schematic design work that will be the basis for further development of the project in 6th semester.

Learning Objectives:

On completion of this course, students should be able:
- To learn about team work and the team approach to problem solving
- To learn about time and resource management
- To learn about elements and factors that govern the capital project development process
- To learn about communications and presentations
- To learn about the architectural (urban, building, and interiors) design and design development process
- To learn about developing volumetric, spatial, functional, tectonic, technical, siting/environmental, philosophical/theoretical, managerial responses to architectural problems
- To learn about architectural detailing and construction
- To learn about appropriate aesthetic response

Major Course Evaluation:

Urban Orientation Project 25%
Complex Building Project – Feasibility and Pre-Design 35%
Complex Building Project – Schematic Design 40%
ASC 521 Light and Sound in Architecture

Phase III; Integration ; Term 6
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: Block Promotion form Phase II
Instructor 2011: Ramakrishnan
Instructor 2012: Ramakrishnan
Instructor 2013: Ramakrishnan

Course Calendar Description:

This course presents the fundamentals of lighting and acoustic design in buildings. Subjective responses to light and sound are explored, and simple lighting calculations are used to evaluate spatial acoustic and lighting performance. Natural lighting processes and energy management techniques are investigated. Fundamentals of acoustic separation are presented. Students will analyse case studies of a variety of room types, including interior office spaces, public galleries and performance spaces that present opportunities to evaluate sound and light in various applications. Model testing of room acoustic performance and lighting will be introduced.

Learning Objectives:

Upon successful completion of this course, students are expected to:

- Understand the basics of sound and sound perception.
- Understand the concept of sound propagation outdoors.
- Understand the concept of room acoustics and the behaviour of sound in confined spaces.
- Begin to understand the design applications for acoustical spaces.
- Understand the basics of light and light perception.
- Understand the concept of lighting conditions and basic evaluations.
- Understand the concept of room light sources.
- Apply day-lighting to buildings.
- Begin to understand the design applications for lighting in buildings.

Major Course Evaluation:

- In class tutorials/quizzes 10%
- 2 Assignments 20%
- One Group Project 20%
- One Acoustics Exam 25%
- One Lighting Exam 25%

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ASC 522 PROJECT ECONOMICS: Fundamentals from Feasibility through Construction

Phase III: Integration ; Term 5
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: Block Promotion from Phase II
Instructor 2010: Hao
Instructor 2011: Hao
Instructor 2012: Hao

Course Calendar Description:

This course investigates economic decision-making by participants in the architecture, engineering and construction industry by presenting and developing the concept of construction as an important economic activity. The course explores the application of financial analysis, cost and value determination for a range of project delivery methods, forms of tenure and building types. Students will apply techniques of value engineering and life cycle analysis including time value of money, price inflation, and dollar devaluation. They will also consider risk and sensitivity analysis in decision-making, and methods of cost planning and control and quantity take-off techniques for building design evaluation using traditional approaches and current software.

Learning Objectives:
On completion of this course, students should be able to:

- Develop an understanding of the process of financial decision making in building project development.
- Analyse and select various methods of measuring, reporting and comparing project cost within the time frame of a project life cycle.
- Discuss basic financial and economic principles to assess a project’s net present value, pay back period, return on investment.
- Apply methods of financial analysis, cost and value determination in a term project

Major Course Evaluation:

Assignments 25%
Group assignment 25%
In-class quiz/participation 10%
Final Test 40%

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ASC 620 INTEGRATION STUDIO: Complex Building – Design Development

Phase III: Integration ; Term 6
Format: Studio 9 hrs; Weight: 3.00

Prerequisites: ASC 520 Integration Studio within the same academic year or permission of the Program Director
Co-requisite: ASC 521 Light and Sound in Architecture, ASC 622 Documentation and the Construction Contract, ASC 623 Principles of Detailing

Instructors 2011: Leong (coordinator); Doshi, Katsanis, Richman, Straka, Geldart, Ingrao, Ourceau, Saavedra
Instructors 2012: Atkinson (coordinator); Leong, Liao, Richman, Wrigglesworth, Geldart, Ingrao, Ramasubramanian
Instructors 2013: Atkinson (coordinator); Floerke, Leong, Richman, Geldart, Ingrao

Course Calendar Description:
This studio course continues to develop the technical and design features of students’ projects from term 5, including systems integration, material development, technical detailing, and preparation of a limited set of contract documents. The course depends heavily on the integration of concepts from co-requisite lecture courses. Further economic analysis, building code review and construction documentation including specifications are addressed as part of the complex building design development project.

Learning Objectives:
Upon successful completion of this course, students should be able to:

- Design, both aesthetically and technically, every architectural component of a medium-sized building on an urban site;
- Integrate the building and site’s structural, mechanical and electrical components;
- Manage the available resources and work within a team environment;
- Present and articulate (written, verbal and graphically) the ideas and rationale behind the conception and realization of the building and site.

Major Course Evaluation:

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<tr>
<th>Course</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Proj. 1A Interim</td>
<td>15%</td>
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<tr>
<td>Proj. 1A Final +Proj. 1B</td>
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<tr>
<td>Proj. 1C Design Devel. Incl. Interior, Exterior Public Space Devel.</td>
<td>30%</td>
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<tr>
<td>Proj. 1C Final Iteration: Drawings, Report and Costing</td>
<td>35%</td>
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</table>
ASC 621 TECTONICS & MATERIALITY

Phase III: Integration; Term 5
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: Block Promotion from Phase II
Instructor 2010: Cirka
Instructor 2011: Cirka
Instructor 2012: Cirka

Course Calendar Description:

This course looks in depth at the means by which architects combine various materials in order to express an architectural intent. Properties of materials are discussed, as well as the major tectonic hierarchies: solid and sheet materials, frames and skins, heavy and light volumes, bearing walls and screens. Methods of expressing joints between materials (hidden, expressed, revealed, exaggerated, trimmed) are also explored. Students are asked to carry out a number of tectonic and material design exercises, taken from and in connection with their studio work of the same term. This course is complementary to ASC623, which looks at many of the same issues from a technical standpoint.

Learning Objectives:
On completion of this course, students should be able to:

• Compose assemblies of materials in accordance with a tectonic idea
• demonstrate an understanding of basic tectonic ideas that underlie the assembly of architectural materials
• demonstrate an understanding of material properties and understand techniques of connection for various materials
• demonstrate an awareness of the use of the basic principles of tectonics by various architects and how these tectonic ideas affect the reading of a building

Major Course Evaluation:

Assignment 1: Design Study 60%
Assignment 2: Critical Analysis 25%
Component 3: In-class Tests 15%
ASC 622 DOCUMENTATION & THE CONSTRUCTION CONTRACT

Phase III: Integration ; Term 6

Format: Lect. 3 hrs; Weight: 1.00

Prerequisites: Block Promotion from Phase II

Instructor 2011: Zone
Instructor 2012: Zone
Instructor 2013: Zone

Course Calendar Description:

This course develops in detail an understanding of the design and construction documentation systems used in the AEC industry, focusing on the design development, construction documents, and construction procurement phases of the construction project. Central to this course is the preparation of construction documents as a means of communicating design intent. Principles, such as clarity, consistency, and completeness, are to be represented in these documents. These will be considered with regard to a range of project delivery methods, and to their impact on relationships among the various parties to a construction contract will also be discussed.

Learning Objectives:

On completion of this course, students should be able to:

- Become familiar with the construction document [primarily working drawings and specifications] development phase of a building project
- Become familiar with the relationships, responsibilities and legal requirements imposed upon the various parties to a construction contract
- This course is intended to harmonize with objectives and intended learning outcomes established in ASC 620 Integrated Studio, ASC 621 Tectonics and Materiality and ASC 623 Principles in Detailing.

Major Course Evaluation:

OBC Matrix Review (group) 5%
Working Drawings - 25% Completion (group) 10%
Working Drawings - 50% Completion (group) 15%
Outline Specification (group) 10%
File of Materials, Components and Systems (group) 5%
Working Drawings - 75% Completion (group) 15%
Test (individual) 15%
Working Drawings -100% Completion (individual) 25%

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Architecture Program Report
September 2012
ASC 623 PRINCIPLES OF DETAILING

Phase III: Integration; Term 6
Format: Lect. 3 hrs; Weight: 1.00
Prerequisites: Block Promotion from Phase II
Instructor 2011: Wrigglesworth
Instructor 2012: Wrigglesworth
Instructor 2013: Coelho

Course Calendar Description:

This course presents principles and criteria for the technical design of the detail. These principles and criteria will be applied to the development of details, found in a variety of conditions in a building. For each condition, approaches toward detailing and performance specification are discussed, and design strategies developed. Students will critically analyse case studies of the performance of existing details. The communication of detail design from designer to the constructor, and the role of drawing review in ensuring appropriateness of details are discussed.

Learning Objectives:
At the end of this course, students are expected to have developed an understanding of detailing practice, construction materials and methods; and will be able to develop construction details to respond to a range of building conditions and material assemblies; and will be able to communicate these solutions using accepted documentation conventions.

Major Course Evaluation:
Assignment #1 (individual) 5%
LARGE PROJECT (individual) 40%
Unscheduled Quizzes, in-class Assignments (individual) 10%
Midterm Test (individual) 15%
Exam (individual) 30%
Discretionary Bonus: for class participation & attendance up to 3%
AR8101 STUDIO IN CRITICAL PRACTICE

M.Arch. I, Fall
Format: Studio 12 hrs
Weight: 3 credits
Prerequisites: None
Instructors, 2010: Polo, Balbaa
Instructors, 2011: Gorgolewski, Balbaa
Instructors, 2012: Cirka, Webber

Course Calendar Description:
In this studio, students will be expected to develop a critical approach to architectural design and production. Students will be confronted with complex design problems which require a close examination of both the conditions that underlie the practice of architecture (including the students’ own assumptions and beliefs) and the contexts within which and on which architectural practice acts. The development of an architectural response to these conditions and contexts, using ethical and professional judgment as well as techniques of critical analysis, will be the key objective of the studio.

Learning Objectives:
Upon completion of this course, students should be able to:

- Develop and apply critical thinking skills necessary to formulate matters of concern and generate advanced architectural concepts
- Assemble and interpret complex datasets to evaluate design conditions and provide a context for action
- Produce architectural design strategies within a rigorous and creative process which proposes extreme and far-reaching responses to current ecological dilemmas
- Present advanced criteria for the application of current architectural theory and practice
- Develop an awareness of the role of the architect as an agent of change and pursue strategies and mechanisms through which architectural agency can operate

Major Course Evaluation:
Students are asked design an architectural project of significant scope that places research and critical thinking above the production of an architectural object. This may take the form, for example, of design research at the scale of the city leading to a particular architectural intervention.
AR8102 SEMINAR IN CRITICAL PRACTICE

M.Arch. I, Fall
Prerequisites: None
Format: Seminar, 3 hours per week; 1.0 credit
Instructor, 2010: Cirka
Instructor, 2011: Ripley
Instructor, 2012: Ripley

Course Calendar Description:

This course presents students with exemplars of critical practice and with methods of architectural research. The role of the architect as observer, critic, and form-maker within society will be discussed; critical practices will be discussed within the framework of contemporary directions in cultural and critical theory. The development of new technologies, either directly through research or indirectly through developing a demand, will be presented as a key role of the critical practice. Students may be asked to prepare a paper or other document which takes a critical position on a topic taken from one of the program’s key areas of engagement – sustainability, technological innovation and the GTA.

Learning Objectives:

By the completion of this seminar, students should be able to:

• Discuss on a knowledgeable level the most important critical issues facing the architectural profession (and the world) today and in the near future;
• Identify leading practitioners of critical architectural practice and discuss the various modalities by which they carry out this work;
• Analyze the means by which successful practitioners have modified the form of their practices in order to facilitate a critical approach to the work;
• Make use of various modes of architectural research practice in their own work.

Major Course Evaluation:

Participation in discussions 20%
In seminar assignments 20%
Class presentation 30%
Final case study 30%
AR8103 STUDIO IN COLLABORATIVE PRACTICE

M.Arch. I, Winter
Format: Studio 12 hrs; Weight: 3.0 credits
Prerequisites: AR8101 Studio in Critical Practice
Instructors, 2011: Atkinson, Webber
Instructors, 2012: Cirka, Webber
Instructors, 2013: Horvat, Luzar

Course Calendar Description:

Architecture is never the product of a single individual. The myth of the star architect, of the heroic and creative genius, is out of step with the reality of architectural practice in our increasingly complex society. Working collaboratively in teams, and with input from specialised consultants and stakeholder groups, students will develop the design of a complex building. A design process of enquiry, analysis and integration of technical, cultural, social, and economic issues will be stressed.

Learning Objectives:

By the end of this course students should be able to:
- Design a complex building informed by a complex program, from schematic design through the detailed development of programmatic spaces, structural and environmental systems, life-safety provisions, wall sections, and building assemblies; and to assess the completed project with respect to the program's design criteria
- Work successfully in a collaborative team environment; assume different roles within the team, learn to take a leadership role and to further develop a reliance on the inter-dependent nature of architectural practice within the construction industry and society
- Design, present, and communicate a project consistent with the standards of graduate school and of professional practice
- Demonstrate an understanding of the role of the architect as an agent of change and pursue strategies and mechanisms by which that change can be brought to bear
- Exercise critical judgement; identify problems; establish priorities.

Major Course Evaluation:

AR8103 is based upon a single building design project developed through the term with several design exercises, projects and assignments contributing to a deeper understanding of the issues involved. The project will be located in a dense urban setting, will have a complex program and will require significant detailed technical resolution.
AR8104 SEMINAR IN CONTEMPORARY AND FUTURE PRACTICE

M.Arch. I, Winter
Format: Lect. 3 hrs; Weight: 1.0 credit
Instructor, 2011: Leong
Instructor, 2012: Leong
Instructor, 2013: Leong

Course Calendar Description:

This course is meant to offer students with a theoretical basis for working in or operating an architectural practice in the twenty-first century. Topics will include the legal framework for architectural practice, the role of internship, basic financial management of a practice, management and leadership principles, and so on. All aspects are presented from a critical rather than a prescriptive viewpoint: students will be asked to examine current structures of practice and propose alternative versions. Alternative forms of practice, including the Integrated Design Process, will be discussed.

Learning Objectives:

The students will learn about the following topics in contemporary and future architectural practice:

• Legal framework for architectural practice
• Licensure, internship, and life-long learning
• Financial management and resource stewardship
• Practice and project management
• Marketing and client management
• Leadership and management principles
• Teamwork, collaboration and stakeholders
• Contemporary practice
• Global trends in AEC and emerging markets (geographical and forms)
• The role of technology
• Research and innovation
• Alternate and future practice

Major Course Evaluation:

In-seminar assignment 20%
Research Study – Presentation 30%
Research Study – Report 30%
Participation 20%
AR8105 Intensive Research Studio and Seminar

M.Arch. I, Spring

Format: Studio and Seminar 30 hrs/week – 6 weeks; Weight: 4.0 credits

Instructors, 2010: Komisar, Ripley
Instructors, 2011: Kapelos, Wrigglesworth
Instructors, 2012: MacBurnie, Wrigglesworth

Course Calendar Description:

In this course, students will work under the close supervision of an instructor on design projects related to a current issue in the instructor’s area of research. Building on the introduction to research in architecture from the previous year, this course gives students an in-depth view of one research project. This course may be offered at Ryerson or off-campus, depending on the subject of the research. As part of this studio, a seminar will be offered in which students are presented with the essential characteristics and methods of research in architecture, discussed in the context of the research project being undertaken.

Learning Objectives:

On completion of this course, students should be able to:

• Set up, frame, and carry out a research project; Analyse a new situation, a new country.
• Demonstrate an understanding of: Modes of research; how to engage in research as an architect; Issue of topical importance as framed by instructor.
• Analyze and work within a global cultural setting, recognizing diverse economic, social, cultural and technological patterns.

Major Course Evaluation:

This will vary from term to term and instructor to instructor.

1.0 credit (25%) of this course is considered to be general education.
Required Variable Courses

These courses, required by all students in the program, vary in their content from student to student and from year to year. As a result, they are not presented as evidence towards the Student Performance Criteria, and are considered to be electives.

ASC 205/405/605/805: COLLABORATIVE EXERCISE (undergraduate)

Format: Charrette

In collaboration with fellow students at various levels in the program and with individuals and groups from outside of the architecture program, students will take part in architectural competitions or other design related activities. Students select from a menu of offerings in any given term. The Collaborative Exercise runs for one week, during which time all other courses in the program cease.

AR8106 SPECIAL TOPICS IN ARCHITECTURAL PRAXIS

M.Arch. II, Fall

Format: Seminar 3 hrs; Weight: 1 credit

Instructors, 2010: Balbaa, MacBurnie
Instructors, 2011: Atkinson, Schank Smith
Instructors, 2012: Farah, Polo

Course Calendar Description:

This course, offered in seminar format, will allow students in the final semester of the program to enter into a discussion of topics of current interest in architecture. Topics will vary year to year, as proposed by faculty and elected by students. To be taken concurrently with the thesis.

AR8107, AR8108 COLLABORATIVE COMPETITION 1 and 2 (graduate)

Format: Variable - self initiated

Weight: 1 credit (2 in total). Pass/Fail.

Course Calendar Description:

In collaboration with fellow students at the graduate and undergraduate level, students take part in architectural competitions or other design activities approved by the Program Director. Competition teams will normally be led by Ryerson Faculty members.

MASTERS THESIS PROJECT

M.Arch. II

Format: Unscheduled and self-directed; two terms minimum; Weight 5 credits equivalent (milestone)

Course Calendar Description:
Working closely with a faculty advisor, students will carry out independent research on an approved topic within the field of architecture, resulting in the development of a thesis report and subsequently a critical project. The student will be required to publicly present the thesis report, which forms the critical, historical, and theoretical basis for the thesis project. A comprehensive review of literature and relevant works will form a core component of this report. The thesis project must be grounded in architectural praxis, but is not limited to the design of a building. This course culminates in a public juried presentation of thesis projects. This is a “Milestone.” Pass/Fail

**Required General Education Courses**

These courses are required of all students in the program but do not contribute to satisfying the Student Performance Criteria. These courses are designed to contribute to the broader education of an architect or to the Department of Architectural Science’s mandate of educating students for a broad range of roles within the AEC Industry, including as Building Scientists and Project Managers.

**PCS 107 THE NATURAL CONTEXT: Physical Concepts and Processes**

Instructor, 2010: Carvalho (Physics)
Instructor, 2011: Carvalho (Physics)
Instructor, 2012: Goldman (Physics)

**Course Calendar Description:**
This course offers an introduction to the application of basic physical concepts and processes in the physical world to the built environment. Basic concepts of physics are introduced in the context of the building project: gravitation, fluid mechanics, heat transfer, waves, and properties of materials. Structural concepts of applied loads balanced by structural resistance are also considered. The concept of natural versus controlled environments is introduced and implications are discussed.

**ACS 104 THE HUMAN CONTEXT: Ideas that Shape the World**

Instructor, 2010-12: Trott (Philosophy)

**Course Calendar Description:**
This course studies ideas that shape the contemporary world, and explores what it means to live as an individual, citizen, and member of our complex, multifaceted, volatile global society. The focus is on these issues as they arise in the Canadian context; it studies the contribution of Canadian thinkers to global debates, and it challenges students to articulate their own responses to central issues of the contemporary experience.

**PLX599 THE HUMAN WORLD: Urban Structures and Processes**

Instructors, 2010: MacBurnie, Alcock (School of Urban and Regional Planning)
Instructor, 2011: MacBurnie, Kosny (School of Urban and Regional Planning)
Instructor, 2012: MacBurnie, Alcock (School of Urban and Regional Planning)

**Course Calendar Description:**
This course investigates ideas and theories about the city, providing students with tools needed to select, analyze and plan an urban site, as well as to design an appropriate building in this complex environment. The relationship with and reaction to physical, social, economic, political, and cultural contexts are discussed using both local and international examples.

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Option Studios

Students in the fourth year of the B.Arch>Sci. program elect all studios and courses.

Students who elect to take the Building Science or Project Management studios must take the accompanying suite of courses. Students who elect an Architecture studio are free to take courses in any of the three options.

All studios run for 9 hours per week and have a weight of 3.00.

Examples. Planning and zoning principles, including height, density, use, traffic and pedestrian flows are addressed, as are the administrative and political processes for controlling urban development.

ARC 720/820 ARCHITECTURE STUDIO
Instructors, 2010: Etkind, Gorgolewski, Kapelos, Leshchyshyn, Wójś
Instructors, 2011: Horvat, Hui, Komisar, Ramasubramanian, Wringleworth; Etkind, Komisar, Liao, Luzar, Papatheodorou
Instructors, 2012: Chiotti, Hui, MacBurnie, Smith, Wójś; Batay-Csorba, Etkind, Farah, Gorgolewski, Liao

Course Calendar Description:
Option studios are offered each term, on the basis of demand, availability and faculty interest. (Examples may include: The Essential Detail; Spatial Syntax; Architecture & Structure; Landscape / Urban Design, Housing / Community Design; Digital Architecture; Intervention in an Historical Context).

BSC 720 BUILDING SCIENCE STUDIO 1: Building Investigation
Instructors, 2010: Straka, Adams, Katsoris
Instructor, 2011: Straka
Instructor, 2012: Straka

Course Calendar Description:
This studio course deals with the practical assessment of the performance of existing buildings. It applies the theoretical knowledge gained in associated lecture courses that are co-requisite with this studio. Students will have the opportunity to apply investigative, survey, measurement and testing techniques, use assessment protocols to assess the performance of real buildings, and use this information to suggest ways to improve performance. The course includes assessment of the building fabric, mechanical systems, energy use, indoor environment, and user satisfaction. An important component of student evaluation is the preparation of a comprehensive technical report including an interpretation of results.

BSC 820 BUILDING SCIENCE STUDIO 2: Investigating Details
Instructors, 2011: Ramakrishnan, Stevenson
Instructor, 2012: Ramakrishnan
Instructor, 2013: Ramakrishnan

Course Calendar Description:
Students will undertake an individual research project of a particular technology, material or component. Areas for possible student research include: innovative use, reduction of environmental impact and practical application to the construction industry. Outcomes of this project may be the design of a new component or detail, the application of a material or component in a small design project, or the development of a prototype.
PMT 720 PROJECT MANAGEMENT STUDIO 1
Instructors, 2010: Poh, Mackenzie
Instructors, 2011: Poh, Hao, Katsanis
Instructors, 2012: Hao

Course Calendar Description:
This studio course studies development processes as applied to specific project conditions. Students undertake group and individual examinations of market and feasibility studies, real estate planning, approvals processes, proposal calls, construction phase issues, and facilities operation. The course provides students with opportunities to apply and integrate knowledge gained in Phases I, II and III to a variety of project management problems. Students will continue to develop skills in critical examination and problem solving methodologies. In this studio, students are expected to develop demonstrably higher order leadership and teambuilding skills and abilities in graphic, written and verbal communication and to gain a working understanding of the component elements of all phases of a development project.

PMT 820 PROJECT MANAGEMENT STUDIO 2
Instructors, 2011: Poh, Hao
Instructors, 2012: Poh, Hao, Katsanis
Instructor, 2013: Poh

Course Calendar Description:
In this course, students work in consultation with faculty on an individually directed research paper in a project management topic with current relevance to the AEC industry. In addition, studio group projects are used to simulate the construction procurement process.
Elective Courses

Students in the fourth year of the B.Arch.Sci. program elect all Studios and courses.

Students who elect to take the Building Science or Project Management studios must take the accompanying suite of courses. Students who elect an Architecture studio are free to take courses in any of the three options.

Courses with an AR8xxx course number are cross-listed with Graduate Studies. Both 4th year undergraduates and first year graduate students may take these courses.

ASC704/ASC804 INDEPENDENT STUDY
Instructors: Various
Course Calendar Description:
This course gives students an opportunity to explore subject areas which are not part of the regular curriculum. The student must submit a written proposal of independent study for approval by the Department - see Architectural Science for information.

ASC730/AR8201 CONSTRUCTION CASE STUDIES ADVANCED
Instructors: Atkinson, Wójs
Course Calendar Description:
Through lectures and a case study approach, students investigate recently completed architectural projects, analysing their tangible, material resolution as an expression of design intent. A major component of this course will involve students undertaking a detailed case study of one such architectural project.

ASC731/AR8205 THE ARCHITECTURE OF URBAN HOUSING
Instructor: MacBurnie
Course Calendar Description:
This course explores the impact that globalization has had on the design and development of urban housing and its implications for critical practice in Canada. Through the lens of critical practice, students will be exposed to cultural, political, economic and other factors that have an effect on the design of contemporary housing and associated living environments. This reading-intensive course will include discussion sessions led by the instructor and/or invited guests on one or more of the subject’s core themes, augmented by comparative analyses of seminal housing projects located in major urban centres worldwide.

ASC732/AR8202 ARCHITECTURAL THEORY SINCE 1968
Potential Instructors: Cirka, Polo, Ripley
Course Calendar Description:
This course surveys the major trajectories in architectural theory since 1968 that form part of the context for current architectural practice. The first half of the course will focus on a number of trajectories that can now be treated historically; semiotics, critical histories, phenomenology, deconstruction, critical regionalism, and identity politics. Building on this foundation, the second half of the course will consider current and emerging theoretical frameworks for architecture.
ASC733/AR8206 CANADIAN ARCHITECTURE SINCE 1945
Instructor: Polo
Course Calendar Description:
This course exposes students to the recent history of Canadian architecture, from the immediate post-war to the present. The conditions will be examined that led to and facilitated the spread of modernism as an important mode of architectural production and expression in post-war Canada, and how these contributed to a national architectural identity, particularly in the context of Canada's celebration of the 1967 centennial of Confederation.

ASC734/AR8209 DIGITAL DESIGN
Instructors: Cirka, Hui
Course Calendar Description:
Digital design using computer software has evolved through a number of modes of design practice. Recent software applications have introduced more fluid interfaces that allow for serendipitous design discovery that can emerge from sketching and experimenting with forms. Students in this course will explore the potential of a number of types of software to support the digital design process. These digital tools will be examined within a general creative context.

ASC735/AR8214 HERITAGE CONSERVATION THEORY AND PRACTICE
Instructor: Etkind
Course Calendar Description:
A course on the theoretical and practice issues of heritage conservation, particularly with regard to the preservation of buildings and sites of architectural, historical and cultural significance in the Canadian context. The course reviews theories of conservation and explores methods of documenting heritage resources and methodologies and techniques available for physical interventions into heritage structures.

ASC750/AR8204 ARCHITECTURE AND PUBLIC POLICY
Instructor: Leshchyshyn
Course Calendar Description:
This course investigates the application of architectural principles and processes to facets of public policy not traditionally addressed by the discipline of architecture. The intent is to identify how such principles and processes can shed new light on, and positively contribute to, the evolution of public policy. Some of the public policy issues to be considered include: infrastructure (transportation, waste handling, supply of water, energy and communication), social policy (relating to poverty, homelessness and health), education and governance.

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ASC751/AR8203 ARCHITECTURAL WRITING
Instructors: Polo, Schank Smith

Course Calendar Description:
The objective of the course is to provide students with exposure to the various forms of writing related to architecture as a professional practice and critical/cultural discipline. The goal is to improve students’ writing and verbal communication in the context of architectural practice and discourse. The process of critical assessment and documentation of architecture will help students focus and clarify the intentions underlying their own design work.

ASC752 BUSINESS PRACTICES IN THE AEC INDUSTRY
Potential Instructors: Norrie

Course Calendar Description:
The structure of the AEC industry is examined from the perspective of the shareholders and stakeholders of a design, management or construction firm. The application of tools essential for the effective management of resources in a firm are considered. Principles of business negotiations as they apply to scope of work, professional fees and value for services are also considered. Students are exposed to fundamental theories of ethics encountered in professional practice.

ASC753/AR8207 CONTEMPORARY THEORIES OF URBANISM
Instructor: MacBurnie

Course Calendar Description:
This course considers relationships between contemporary theories of urbanism, the role of urbanism as an instrument of analysis and criticism, and associated implications for critical practice in Canada. Theoretical issues surrounding urban design and strategy are investigated through the lenses of architecture, urbanism, and the humanities. Through an engagement of the writings and projects of contemporary urban theoreticians, and with strong emphasis on relationships between key theoretical concepts and the generation of new urban forms, this reading-intensive course offers a comparative analysis of the changing nature of urban theory in the context of globalization.

ASC754/AR8208 CREATIVE SPACE SIMULATION
Potential Instructors: Cirka

Course Calendar Description:
Increasingly, computer modeling allows designers to simulate a range of performance factors of a building, including thermal performance, ventilation, lighting, acoustics, structure and others. This course will allow students to experience
the use of such software and explore the opportunities for the design of spaces and for current architectural practice. Students will use simulation software to analyze spaces and develop design proposals based on the results of simulation.

**ASC755/AR8210 DIGITAL TOOLS**

Instructors: Cirka, Hui, Wrigglesworth

**Course Calendar Description:**

Digital Tools: Ways of conceiving and communicating architectural ideas. An advanced level seminar taught by department faculty members, either singly or as a team. Topics offered in various semesters will be determined by faculty expertise available at the time. Open to students in all architectural science options.

**ASC756/AR8212 FIRE SAFETY IN THE BUILT ENVIRONMENT**

Instructor: Liao

**Course Calendar Description:**

This course provides students with an introduction to fire safety engineering. The principal objective of fire safety engineering is to provide an acceptable level of safety when an accidental fire occurs. Computational simulation software packages will be used to demonstrate fire growth and smoke movement under different scenarios. This course is designed for architecture students who have developed some basic understanding of fire and knowledge about regulations associated with fire safety in buildings.

**ASC850/AR8225 GLOBALIZATION AND THE CONSTRUCTION INDUSTRY**

Instructor: Hao

**Course Calendar Description:**

The objective of this course is to encourage students to think globally and to understand the growing importance of international business and globalization and how they relate to construction at large and to the Canadian construction industry.

**ASC851/AR8215 HOW BUILDINGS WORK**

Potential Instructors: TBD

**Course Calendar Description:**

Knowledge of how our buildings work is crucial to creating better architecture. Without feedback loops informing architects of the performance of their designs, most buildings become prototypes and the knowledge that could be gained from each building is lost. This course will allow students the opportunity to study, examine and understand in detail the performance of an existing building. This will help develop a perspective for the long term performance of buildings and
develop an understanding of buildings as they develop after architects have completed their design. Students may be asked to select an existing building and collect detailed information on performance from uses, management, designers and client, and present a critical analysis to the group.

**ASC852/AR8216 LANDSCAPE AND ECOLOGICAL DESIGN IN THE PHYSICAL ENVIRONMENT**

Instructor: Benvie

**Course Calendar Description:**

In this course students will explore the fundamentals of landscape design principles and applied ecological form. This course will focus on theories of both designed and natural composition of landscape elements. The course objectives are achieved through lectures, field trips, case studies and in-class assignments.

**ASC853/AR8217 LANDSCAPE DESIGN, THEORY AND APPLICATION**

Potential Instructors: TBD

**Course Calendar Description:**

This course in landscape design, site and environmental planning engages students in the development and application of personal design philosophy towards the built and naturalistic environment. This is achieved through researching the professional work, styles and paradigms of internationally recognized architects, landscape architects, artists, planners and designers from the 19th-21st Century.

**ASC854/AR8218 PERFORMANCE MODELLING**

Potential Instructors: TBD

**Course Calendar Description:**

This course investigates issues associated with modelling, and very specifically its application to building performance. Principles associated with the modelling of a structure, building envelope, or other part of a building and its energy performance will be addressed and relevant examples will be given. The relevance of results and verification means will be addressed. The focus of this course will be energy consumption modelling and day lighting.

**ASC855/AR8220 SUSTAINABLE RATINGS SYSTEMS**

Instructors: Gorgolewski, Straka

**Course Calendar Description:**
The course will be focusing on the environmental impact assessment method which should be used in Canada since the launch of Canadian LEED in December 2004. Designing with LEED deals with the use of the LEED green building rating system as a design tool for the creation of environmentally responsible buildings. There are other environmental issues which are assessed by other methods not necessarily included in LEED.

**ASC856/AR8219 THE SMALL BUILDING**

Instructors: Komisar, Zone

**Course Calendar Description:**

Throughout history, the small building has engaged the landscape and been part of the urban environment. This course will study the small building in many cultures and will provide a greater understanding of human scale, meaning, symbol, and function, and the relationship of these factors to architecture.

**ASC857/AR8213 GLASS IN ARCHITECTURE**

Instructors: Atkinson, Balbaa, Ripley

**Course Calendar Description:**

This course will take us on an in-depth study of that most expressive of modern materials, glass. The material will be looked at in a holistic manner, that is, we will approach our study from technical, historical, theoretical, and expressive directions.

**ASC858 TORONTO: Architecture and Urbanism**

Potential Instructors: MacBurnie

**Course Calendar Description:**

An in-depth study of Toronto, architecture and urbanism, from its founding to the present. The course will examine conditions which led to the development of the city form and its architecture. This will reflect urban development, evolving building typologies, the role of the practitioner and builder, material and technological developments, and changing demographics. Topics for study include: Toronto's urban morphology, domestic and institutional precedents, transportation and impact on architecture/urbanism, and economic growth in the post-war metropolis.

**ASC900 - ASC909 SELECTED TOPICS IN ARCHITECTURAL SCIENCE**

Potential Instructors: Various

**Course Calendar Description:**

An advanced level course taught by Department faculty members either singly or as a team. Topics offered in any semes
ter determined by faculty expertise available. Open to all three options and to graduate students as a professional elective. Registration may be limited to students in a specific year of the program at the Department’s discretion and numbers will be limited. Not offered every year.

**AR8211 ECOLOGY**
Instructor: Benvie

**Course Calendar Description:**
This course explores the basic dynamics of ecology through the study of varied and typical environments. The relationships between the primary factors of geology, surface deposits, hydrology, flora and fauna, together with the impact of urbanization and human activity on the natural ecosystem, are studied.

**AR8221 ARCHITECTURAL REPRESENTATION**
Instructor: Smith

**Course Calendar Description:**
The emphasis of this course is to read, write and discuss issues of architectural representation. Representation, very basically - imitation with a change, is a key element in how we read and provide meaning in architecture. The main goal of this class is to learn how concepts of Representation impact the architecture that we make and the architecture that we experience.

**AR8222 SUSTAINABLE HOUSING DESIGN**
Potential Instructors: Gorgolewski, Richman

**Course Calendar Description:**
Sustainable Housing deals with the design of low rise residential housing which demonstrates and promotes advanced levels of energy efficiency, resource conservation strategies, healthy environments, cultural appropriateness and sustainable development principles. Sustainable housing is viewed from a holistic approach, investigating issues as they relate to architecture, social context, building science, and mechanical systems.

**AR8223 BUILDING MANAGEMENT SYSTEMS**
Potential Instructor: Liao

**Course Calendar Description:**
This course provides students with opportunities to explore the fundamentals of control engineering and its applications in building automation. This course focuses on how building services systems (such as HVAC, lighting and solar protection) are controlled for optimal performance and how building management systems (BMS) can help save energy and
improve indoor environment control in buildings. Students will learn how to carry out integrated architectural design that allows for optimal controllability of buildings and building systems.

**AR8224 DESIGNING THE PRODUCTIVE CITY**

Instructor: Komisar

**Course Calendar Description:**
Architects can contribute to the transformation of our cities into more sustainable environments. This task encompasses designing higher density living and working environments, including farmers’ markets, greenhouses, edible landscapes, living walls, productive green roofs, community gardens, and other strategies. The course will review these strategies and apply them to a real-world project in Toronto, looking at actual and proposed development projects that allow food production and provision inside planned and existing neighborhoods.

**AR8226 DIRECTED STUDIES IN CANADIAN CONSTRUCTION**

Instructor: TBD

**Course Calendar Description:**
This course is available to internationally educated students enrolled in the graduate program in architecture, who lack the knowledge of Canadian Construction. Students are required to present appropriate assignments (exam, report, etc) for assessment as agreed by the supervisor and Program Director. Registration approval is required from the Program Director of the M.Arch. program.

**AR8227 MINIMAL HOUSING**

Instructor: TBD

**Course Calendar Description:**
This course examines housing design related to the issues of affordable housing, to explore new and innovative approaches to minimal housing and to engage students in issues of affordable/minimal housing through direct involvement.

**AR8228 RESEARCH SEMINAR: Global Communities**

Potential Instructor: Various

**Course Calendar Description:**
What is the meaning of community in a globally connected world? How is architecture as a discipline affected by the increasingly charged relationship between the local and the global? What new insights, processes and methods does an architect need to practice effectively in such a world? In this seminar, students will prepare and present research papers discussing the architectural opportunities and consequences of globalization as well as participating in discussions and focused readings on a theme put forward by the instructor and approved by the Program Committee.
AR8229 RESEARCH SEMINAR: Emerging Technologies
Potential Instructor: Various

Course Calendar Description:
Digital fabrication, parametric design and mass customization offer not only form-making tools for designers but can also enhance the performative qualities of our buildings. How do we harness and mobilize these tools for the future? How can architecture respond to the hybridization of real and virtual spaces to enrich human experience? In this seminar, students will prepare and present research papers discussing the architectural effects of emerging technologies as well as participating in discussions and focused readings on a theme put forward by the instructor and approved by the Program Committee.

AR8230 RESEARCH SEMINAR: Sustainable Design
Potential Instructor: Various

Course Calendar Description:
How do we ensure that our world is available for the use and enjoyment of future generations? How do we offer a better quality of life to more citizens through the built environment? Beyond the design of energy-efficient buildings, our holistic view of social, cultural and economic sustainability looks to uncover and design the new infrastructures that will be needed to ensure a healthy, vital future. In this seminar, students will prepare and present research papers discussing aspects of sustainable design as well as participating in discussions and focused readings on a theme put forward by the instructor and approved by the Program Committee.

BSC 721 THEORY/PERFORMANCE 1: Existing Buildings
Required for Building Science option students
Instructor: Ramakrishnan

Course Calendar Description:
Looking at Existing Buildings. This course examines the role of the building forensic consultant. Students learn the processes, methodologies and techniques used for diagnosing failures in building systems and/or building components. The theories behind protocols for testing and surveying are discussed and familiarity with the role of Codes, Standards and construction documentation is developed. Post-occupancy evaluation of buildings, and how this can be used as a diagnostic tool, is presented and developed. There will also be a focus on the theory and practice of decision-making related to building performance, including economic considerations using techniques presented in ASC 522.

BSC 722 SUSTAINABLE ENVIRONMENTAL CONTROL SYSTEMS
Required for Building Science option students

Ryerson University
Department of Architectural Science
Architecture Program Report
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Instructor: Ge, Liao

Course Calendar Description:
This course explores the role of sustainable mechanical, electrical and control systems for buildings. Students explore innovative ways of heating, cooling, ventilating and lighting buildings. The course will consider renewable energy technologies, such as solar, wind, geothermal, and biomass energy, and the implications of their use on architectural form and details. Analytical techniques for choosing appropriate options are presented.

BSC 821 THEORY/PERFORMANCE 2: Sustainable Detail Design
Required for Building Science option students
Instructors: Doshi, Kolbasenko, Ng

Course Calendar Description:
This course focuses on issues of detail design, particularly with reference to sustainable buildings. It addresses the concept of integrated design of components and systems, and strategies for innovations to reduce environmental impacts. Students develop a detailed knowledge of the issues related to construction systems aimed to minimize environmental impact. The course develops some of the underlying theories of appropriate decision making such as the role of statistics in data analysis and synthesis, and the importance of Life Cycle Assessment. Students become knowledgeable in green building ratings, and are introduced to environmental modeling programs.

BSC 822 ADVANCED ENVELOPES/COMPONENTS
Required for Building Science option students
Instructors: Ge, Horvat

Course Calendar Description:
This course develops an advanced level of understanding of the design of building envelopes and cladding. Students investigate new and advanced forms of cladding and cladding systems, and develop an understanding of complex detail design. Sustainability aspects of alternative materials and systems are considered.

PMT 721 ECONOMICS FOR PROJECT MANAGEMENT: Financing, Cost Planning & Control
Required for Project Management option students
Instructor: Katsanis, Regmi

Course Calendar Description:
Financing, cost planning and control are addressed in depth. In the course, the physical factors affecting the value of real...
property, methods of budget determination, quantity and scope of work estimation, elemental cost analysis and determination, and planning, scheduling and control are explored. These are considered in the programming, planning and approvals stages of developments, and are applied to a range of ownership options and building types. Tools and techniques for building programming, decision-making, implementation control and life cycle costing will be evaluated.

PMT 722 INFORMATION SYSTEMS: Financing, Cost Planning & Control

*Required for Project Management option students*

Instructor: Mackenzie

**Course Calendar Description:**

This course provides students with an in-depth exposure to the information systems, tools and techniques that are commonly used in the AEC industry. The course examines how management information systems, using current computer technology, can provide project managers with the data necessary to perform their management functions. Information systems currently in use in the industry are examined, with particular emphasis on project planning, scheduling, resource allocation and the control of time and cost, from both practical and theoretical standpoints. Innovative approaches are also explored.

PMT 821 CONSTRUCTION PRACTICES & MANAGEMENT

*Required for Project Management option students*

Instructor: Poh

**Course Calendar Description:**

Students undertake a detailed study of the materials and methods of construction service, delivery and control as applied to a variety of building types. Included are investigations of building materials, construction techniques, and contract and cost control methodologies. Attention is given to the context of the AEC industry, organizations and the project manager’s roles and responsibilities. Students will appraise the multiple aspects of site operations and evaluate site management performance. There is a focus on the role of value engineering as an integrated decision making tool throughout all phases of a construction project.

PMT 822 PROCUREMENT AND CONSTRUCTION MANAGEMENT

*Required for Project Management option students*

Instructors: Hao, Katsanis

**Course Calendar Description:**

This course presents a study of the project management process as applied to projects of the built environment, with an emphasis on novel methods of project delivery and procurement procedures, site management, commissioning, and
facility management. The use of project control systems in the management of these phases is studied, as are techniques of construction management in relation to the planning and control of site operations. Students are introduced to contemporary construction methods and equipment. The importance of the role of the project manager in ensuring the buildability and cost efficiency of the project is stressed and environmental management issues in the construction process are presented. In a review of the construction industry, the changing roles of the participants, and current trends and problems are discussed.
Cheryl Atkinson, B.E.S., B.Arch., OAA, MRAIC
Assistant Professor

Date of Appointment 2010
Area of Expertise Design, Design & Health, Design & Phenomenology, Design & Public Space, Design & Construction
Recent Teaching Assignments

<table>
<thead>
<tr>
<th>Year</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Year</th>
<th>Course Code</th>
<th>Course Name</th>
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<tr>
<td>2012 - 2013</td>
<td>ASC 520</td>
<td>Integration Studio I</td>
<td>2010</td>
<td>ASC102</td>
<td>The Built World</td>
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<td>ASC 620</td>
<td>Integration Studio II</td>
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<td>2011 - 2012</td>
<td>ASC 520</td>
<td>Integration Studio I</td>
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<td>AR8106</td>
<td>Current Topics in Architectural Praxis I</td>
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<td>ASC 620</td>
<td>Integration Studio II</td>
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<tr>
<td>2010 - 2011</td>
<td>ASC 301</td>
<td>Design Studio II</td>
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<td>ASC730</td>
<td>Construction Case Studies (Advanced)</td>
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<td>ASC 857</td>
<td>Glass in Architecture I</td>
<td></td>
<td>AR8103</td>
<td>Studio in Collaborative Practice</td>
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<td></td>
<td>ASC202</td>
<td>The Building Project</td>
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Education

<table>
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<tr>
<th>Year</th>
<th>Degree</th>
<th>Institution</th>
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<tbody>
<tr>
<td>1984</td>
<td>Bachelor of Architecture</td>
<td>University of Waterloo, Waterloo, Ontario</td>
</tr>
<tr>
<td>1982</td>
<td>Bachelor of Environmental Science</td>
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Teaching Experience

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>1986</td>
<td>Adjunct Faculty</td>
<td>University of Waterloo School of Architecture and the John H. Daniels Faculty of Architecture, Landscape and Design, and Ryerson</td>
</tr>
<tr>
<td>-2002</td>
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Professional Experience

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<tr>
<th>Year</th>
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<th>Institution</th>
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<tbody>
<tr>
<td>1991 - 2008</td>
<td>Senior Associate</td>
<td>Teeple Architects Inc., Toronto</td>
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<td>1988 - 1991</td>
<td>Private Practice</td>
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<td>1987</td>
<td>Oleson Worland Architects</td>
<td>Toronto</td>
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<tr>
<td>1985 - 1987</td>
<td>Curtner/Brown Architects</td>
<td>Quadrangle Architects, Toronto</td>
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</tbody>
</table>

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Cheryl Atkinson
Section 4.4 Page 200
Recent Honours and Awards

2010 Prairie Design Award of Excellence from Alberta Association of Architects (in association with Kaisan Architecture) for the Montrose Cultural Centre, Grande Prairie Alta.
2008 Governor General’s Award Winner and 2009 OAA Award of Excellence for the Scarborough Chinese Baptist Church, Toronto
2008 SAB Mag (Sustainable Architecture and Building Magazine) National Green Building Award and Holcim award for the Langara College Library and Classroom Building and Master Plan, Vancouver with Teeple Architects
2006 St. Joseph’s Media Office Interiors National Post Design Exchange Media Awards and Best of Canada Awards, Canadian Interior Magazine with Teeple Architects
2005 National Post Design Exchange Award, Early Learning Centre at the University of Toronto

Recent Publications


SRC Activities

Creative: Competition for the Helsinki Central Library with Student Group (2012), Private Residence and Art Gallery Toronto, House and Landscape Master Plan Westport CT
Research: Healing Environments, Member of Bridgepoint Health Collaboratorium,

Academic, Professional, and Public Service

2009-2012 Supervisor of 8 Graduate Student Theses—two of which won best thesis awards for their year
Board Member of Subtle Technologies and Symposium Co-Coordinator
1995-2011 OAA Mentor for 14 intern architects pursuing professional accreditation
2011- Atkinson Architect www.atkinsonarchitect.com
1991- 2008 Senior Associate, Teeple Architects Inc., Toronto
1988 -1991 Private Practice: c.atkinson I Buildings, Toronto
1987 Oleson Worland Architects, Toronto
1985 to 1987 Curtner/Brown Architects, Quadrangle Architects, Toronto
1985 Jedd Jones Architect, Toronto
John Cirka, B.Arch., M.Sc.Arch, Ph.D.
Associate Professor, Tenured

Date of Appointment 2004
Area of Expertise Advanced Design Methods in Architecture
Recent Teaching Assignments
2012 - 2013 AR 8101 - Studio in Critical Practice
ASC 621 - Tectonics and Materiality
2011 - 2012 ASC 301 - Design Studio II
ASC 621 - Tectonics and Materiality AR 8103 - Studio in Collaborative Practice
ASC 8209/ ASC 734 - Advanced Design Methods
2010 - 2011 AR 8102 - Seminar in Critical Practice
ASC 621 - Tectonics and Materiality

Education
2011 PhD in Media and Communications, European Graduate School
1984 Master of Science in Architecture (Building Design), Columbia University
1980 Bachelor of Architecture, Carleton University

Teaching Experience
2012 Associate Professor, Department of Architectural Science, Ryerson University
2004 - 2012 Assistant Professor, Department of Architectural Science, Ryerson University
1988 - 1997 Adjunct Assistant Professor, School of Architecture, University of Toronto, Toronto, Ontario
1984 - 1987 Assistant Professor, School of Architecture, Carleton University, Ottawa, Ontario

Professional Experience
2003 - 2004 Senior Designer, Teeple Architects, Toronto, Ontario
1993 - 2002 Senior Designer, Zeidler Roberts Partnership, Toronto, Ontario

Ryerson University
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Recent Honours and Awards

Fellow, International Institute for Advanced Studies

Recent Publications


“What are the impediments to deep architectural research?” Published in https://www.acsa-arch.org/conferences/2008teachersseminar_post.aspx, White Paper


Academic, Professional, and Public Service

2000 Adjudicator for The Art of CAD. Canadian Architect
Hitesh Doshi, BTech, MAsc., PEng.
Professor, Tenured

Date of Appointment 1994
Area of Expertise Building Science
Recent Teaching Assignments
2012 - 2013  ASC520 - Integration Studio I  BSC821- Theory/Performance II
            ASC303 - Structures II
2011 – 2012  Leave of Absence
2010 - 2011  ASC 520 - Integration Studio
            ASC 303 - Structures II
            ASC 620 - Integration Studio
            ASC 605 - Collaborative Exercise

Education 1983 - 1985  Master of Applied Science (Civil Engineering), University of Toronto, Toronto, Ontario
            1978 - 1983  Bachelor of Technology (Civil Engineering), Indian Institute of Technology, Mumbai, India

Registration and Licensure 1987 - Pres.  Member of Association of Professional Engineers of Ontario, P. Eng.

Teaching Experience 2001 - Pres.  Associate Professor, Dept. of Architectural Science, Faculty of Engineering and Applied Science, Ryerson University
                            2000 - 2003  Assistant Chair and Program Director, Department of Architectural Science, Ryerson University
                            1994 - 2001  Assistant Professor, Dept. of Architectural Science, Faculty of Engineering and Applied Science, Ryerson University

Professional Experience 1994 - Pres.  Sole Proprietor, Registered Engineering Firm (Architectural Engineering Services)
                            Provided architectural engineering, building science and structural engineering services related to building performance, building durability, product development, failure assessment, and code consulting. Involved with the design and evaluation of walls, windows, and interior separators.
Recent Honours and Awards

2002  Teaching Excellence Award - Faculty of Engineering and Applied Science Teaching Excellence Award, Ryerson University
2001  ACSA Fellowship - Association of Collegiate School of Architecture Fellowship
2000  Teaching Award - GREET Teaching Award, Ryerson University

SRC Activities

- Green roofing
- Performance and rehabilitation of buildings and durability of building envelope components
- Value engineering, life cycle costing, decision theory and building economic modeling
- Visualization of building envelope details
- Technology and teaching

Recent Publications

2008  City of Toronto Green Roof Standard, Research Report for the City of Toronto.
2007  Using GIS to Rank Potential Sites Based on Green Roof Impact, Proceedings of the Fifth Annual Greening Rooftops for Sustainable Communities Conference.
2006  Benefits of Green Roof on a City Scale, Proceedings of the Conference on Greening Rooftops for Sustainable Communities.

Professional Experience

1991 - 1994  Department Head and Associate Building Science Engineer, Trow Consulting Engineers Limited
Provided Engineering Advice – design, construction and rehabilitation of building envelope systems.
Administered and Managed Construction Projects. Developed Business and Managed Technical Competency.

Academic, Professional, and Public Service

Design and contract administration related projects - Klaus Dunker Architect Residence - Roofing and thermal design Toronto International Airport.
Construction Quality Control - Brampton Hydro building, Brampton
Bank of Canada building, Mississauga
Building system evaluation and testing - City of Etobicoke City Hall
Building evaluation-environmental - Toronto International Airport

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Hitesh Doshi
Masha Etkind, BArch, MArch, MRAIC
Professor, Tenured

Date of Appointment 1989

Recent Teaching Assignments

<table>
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<tr>
<th>Year</th>
<th>Course(s)</th>
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<tr>
<td>2011-2012</td>
<td>ASC 306 - Ideas Technologies and Precedents II</td>
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<td>On Sabbatical</td>
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<td>ARC720 - Architecture Option Studio</td>
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<td>2011-2012</td>
<td>ASC 301 - Design Studio II</td>
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<td>ASC 306 - Ideas Technologies and Precedents II</td>
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<td>ARC720 - Architecture Option Studio</td>
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<td>2010-2011</td>
<td>ASC 301 - Design Studio II</td>
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<td>ASC 306 - Ideas Technologies and Precedents II</td>
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<td>ARC720 - Architecture Option Studio</td>
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<td>AARC 735/ AR 8214 - Heritage Conservation Theory and Practice</td>
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Education

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<th>Year</th>
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<tbody>
<tr>
<td>1981</td>
<td>M.E.S, completed required course work, York University, Faculty of Environmental Studies, Toronto, Ontario.</td>
</tr>
<tr>
<td>1979</td>
<td>Master of Architecture, University of Toronto, School of Architecture, Toronto, Ontario.</td>
</tr>
<tr>
<td>1971</td>
<td>Bachelor of Architecture, Leningrad State University, Department of Architecture and Urban Planning, Russia.</td>
</tr>
</tbody>
</table>

Teaching Experience

1989 - Pres. Professor, Ryerson University, Department of Architectural Science

Professional Experience

1979 - 1983 Coombes, Kirkland, Berrige Architects and Planners
SRC Activities
- History and theory of architecture
- Conservation & preservation
- Architecture education

Recent Publications

Academic, Professional, and Public Service
Interactive Concept Discovery in Cultural Heritage Knowledge Repositories (with Uri Shafrir). First International Workshop on Cultural Heritage on the Semantic Web, Busan, Korea, November 2007
Identifying Conceptual Thinking in History of Architecture Students (with Colin Ripley), Teaching and Learning Conference, Ryerson University, May 2004
Invariant structure of concepts and cultural transmission of knowledge (with Uri Shafrir), Invited Paper, Seminar on Exact Methods in the Humanities, Institute for World Culture, Moscow State University, July 2004
Quality of Knowledge Media Design for Instruction Must Be Evaluated By Pedagogical Outcomes (with Uri Shafrir), Invited Lecture, Knowledge Media Design Institute (KMDI), University of Toronto, January 2004
Meaning Equivalence Reusable Learning Objects: Evaluative Implementations in Architecture, English, Mathematics and Science (with Kavita Seeratan and Uri Shafrir), Teaching and Learning Conference, Ryerson University, November 2003

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Masha Etkind

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Leila Marie Farah, PhD, M.Arch, DPLG
Assistant Professor, Tenure-Track

Date of Appointment 2011
Recent Teaching Assignments
2012 - 2013 ARC720 - Architecture Studio
AR8106 - Current Topics in Archit. Praxis
ASC 403 – Site Development and Planning
ASC 401 – Design Studio

2011 - 2012
ASC 403 – Site Development and Planning
ASC 401 – Design Studio
ASC 301 – Design Studio

Education
2006 M. Arch., McGill University, School of Architecture, Montreal, Canada.
2011 Ph.D., McGill University, School of Architecture, Montreal, Canada

Registration and Licensure
2011 Membre of the Ordre des Architectes en Île-de-France

Teaching Experience
2011 - Pres. Tenure-track Assistant Professor, Department of Architectural Science, Ryerson University.
2011 - 2009 Lecturer, McGill University, School of Architecture.
2008 - 2006 Teaching Assistant, McGill University, School of Architecture

Professional Experience

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Recent Honours and Awards


1997 Evergreen Foundation Award for Design Excellence, Discovery Gardens for Elementary School

SRC Activities

‘Paysage Solidaire’, Prof. Vikram Bhatt (Principal investigator) and Leila Marie Farah (grant co-author and Research Associate), Granted by International Development Research Centre, Design of a fertile infrastructure in the borough of Mercier-Hochelaga-Maisonneuve, Montreal, Canada, April 2010 - July 2011.

Recent Publications


National Urban Design Award (Urban Fragments Category) and travelling exhibition across Canada. Awarded jointly by the Royal Architectural Institute of Canada, the Canadian Institute of Planners and the Canadian Society of Landscape Architects. ‘Making the Edible Campus’ with Vikram Bhatt. 2008.

Academic, Professional, and Public Service


Member of the Jeanne Sauvé Foundation Search Committee. 2008 - Pres.

Invited to address Her Excellency The Right Honourable Michaëlle Jean, the Governor General of Canada, on architecture in Montreal, Jeanne Sauvé Foundation, Montreal. February 2010.

Invited member of the jury for the new logo of the McGill University’s School of Urban Planning. 2009.
Paul Floerke, Architect, Dr.-Ing., Dipl.-Ing.
Assistant Professor, Tenure-Track

Date of Appointment 2012
Area of Expertise Architectural Design, Theory, Methods and Processes, Building Construction
Recent Teaching Assignments

2012 - 2013
ASC 304 - The Construction Project
ASC 520 - Integration Studio I
ASC 620 - Integration Studio II

Education
1994  PhD (Architecture and Engineering: Dr.-Ing. German standard)
1992  DAAD-Scholarship to support research stays in: Berkeley, California/ USA; Toronto and Ottawa/
      Canada, London/ England; Gothenburg und Stockholm/ Sweden
1990  Scholarship from the University of Hannover to promote the dissertation: „ Architecture has no
      spectators only participants - consistency and diversity in the office environment as part of a prac-
      tice orientated architectural theory”

Teaching Experience
1998 - 2012  Assistant Professor at the Technical University of Dortmund, Faculty of Architecture and Civil
              Engineering, Department of Design and Building Construction, Prof. Gunter R. Standke
2008 - 2012  Lecturer at the University of Applied Sciences Detmold, Building Construction and Building Physics

Professional Experience
2009  Extension to residential building in Detmold
2006 - 2007  Siemens VDO - developing planning modules for office buildings and production halls
2005  Dortmund, remodeling of a condominium, handicapped accessible (building built in 1909)
2004  Community Center Brackel, Dortmund, invited competition participant
2003  Rotterdam harbor, high density housing in collaboration with West E, Rotterdam; JHK Architects,
      Utrecht; Joe Coenen und Hermann Zeinstra
2002  Conference Pavilion at the TU Dortmund, steel skeleton building in collab with B. Kaiser, A. Brünig,

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Paul Floerke
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SRC Activities

Project Director of Architectural Research “Bauen im Bestand” (Building in existing contexts and structures) incorporating steel light weight constructions, promoted by FOSTA / AIF, 2009 - 2013

Recent Publications

2011 Existing buildings - Potentials of lightweight design of steel structures. Bauen im Bestand - Potenziale und Chancen der Stahl-/Stahlleichtbauweise, journal article, Stahlbau, October 2011, n. 10 v. 80
2010 Architektur lehren (On Teaching Architecture), The Red Book, TU Dortmund
2008 Realität lehren (Teaching Reality), Brochure of the Institute
2007 Siemens VDO Design Manual for office Buildings and Production Halls
2000 New Procedures in City Planning, lecture at the Congress in Hannover

Academic, Professional, and Public Service

Guest critic and participant at several Workshops as well as presentations at congresses/ conferences at different Universities and institutions in Germany and the Netherlands
At the University of Dortmund, Germany:
Member of the committee for dissertations at the faculty
Tutoring foreign students in the programme: Projekt 2 - Dortmunder Modell Bauwesen - from Kansas City, USA and Venice, Italy. Student’s office - consulting students at the faculty in BA an MA affairs.
Hua Ge, Ph.D., P.E.
Assistant Professor, Tenure-Track

Date of Appointment 2009
Area of Expertise
Recent Teaching Assignments

2011 - 2012  BL8101 - Building Envelope Systems  BSC722 - Environmental Control Systems
            BL8104 - Building Design Studio/Seminar  BSC 822 - Advanced Envelope Systems/Comp.

2010 - 2011  BL8101 - Building Envelope Systems  BSC722 - Environmental Control Systems
            BL8104 - Building Design Studio/Seminar  ARC 402 - Bodily comfort systems

Education
2002  Ph.D., Building Studies, Concordia University, Montreal, Canada
1995  M.A.Sc., Thermal Energy, Tianjin University, China
1992  B.S, Civil Engineering, Major in HVAC, Tianjin University, China

Registration and Licensure
ASHRAE, Member of Building Research Committee, Professional Engineer

Teaching Experience
2009  Co-supervision of graduate students, Concordia University, Montreal, Canada
1997 - 2002 Research and Teaching Assistant, Building Envelope Performance Laboratory Department of Building,
    Civil and Environmental Engineering, Concordia University, Montreal, Canada
1995-1997 Lecturer, Department of Civil Engineering Tianjin University, Tianjin, China

Professional Experience
2004 - 2008  Director, Building Science Centre of Excellence, School of Construction and the Environment British
              Columbia Institute of Technology, BC, Canada
2003 -2004  Postdoctoral Fellow, Building Envelope Performance Laboratory Department of Building, Civil and
              Environmental Engineering Concordia University, Montreal, Canada

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Recent Publications


Academic, Professional, and Public Service

Member of editorial board for Journal of Architecture Science Review
Participant in the Japan-Canada Housing Research and Development Experts Working Group in 2002
Mark Gorgolewski, BSc, Msc, Dip Arch, PhD, ARB, LEED AP
Professor, Tenured

Date of Appointment 2003
Area of Expertise Sustainable Design
Recent Teaching Assignments
2012 - 2013 ARC720 - Architecture Option Studio BL8102 - Ecological Resource Efficient Design
2011 - 2012 AR 8101 – Studio in Critical Practice BL8102 - Ecological and resource Efficient Design
2010 - 2011 AR 720 – Architecture Option Studio BL8102 - Ecological and resource Efficient Design

Education
1993 Master of Science, (Energy in Buildings), Cranfield University, Cranfield, Bedfordshire, England
1990 RIBA Professional Practice part 3, Oxford Brookes University, Oxford, England
1983 Bachelor of Science in Architecture, Honours, University College, London, England RIBA professional qualification part 1

Registration and Licensure
Architects Registration Board Of the United Kingdom LEED Accredited Professional

Teaching Experience
2008-Pres. Professor, Ryerson University, Director of Graduate Program in Building Science
2003- 2008 Associate Professor, Ryerson University, Toronto, Ontario
1994 - 1998 Part-time Technical Lecturer, Oxford Brookes University, School of Architecture, Oxford, UK
Recent Publications

Pinto, Ivan Gorgolewski, Mark, & Straka, Vera, Life cycle assessment of Canadian steel building design and case studies comparison limitations, Sustainable Buildings 581 conference, Helsinki, Finland, October 2011.
Nasr, J., Komisar, J. & Gorgolewski, M.T., Designing for Food and Agriculture: Recent Explorations at Ryerson University, Open House Journal Vol. 34, No. , June 2009
Gorgolewski, M.T., Designing with reused building components: some challenges, Building Research and Information, Volume 36 Issue 2, 175, March 2008

Academic, Professional, and Public Service

Board Member, Canada Green Building Council, 2007- present
Participant of IISBE Canada 2010 – present
Member Sustainable Built Environment Committee Ontario Association of Architects, 2009 - present
National representative for Canada, CIB W115 Working Commission - Construction Materials Stewardship, 2007- present
Member, CIB Working Commission W116 - Smart and Sustainable Built Environments (formerly Task Group TG55), 2007- present
Board Member, Canada Green Building Council Greater Toronto Chapter, 2006 - 2008
Chairperson, Association for Environment Conscious Building, 2002 – 2003 (also member of the board from 1997 – 2003)

Professional Experience Continued

1995 - 2003 Principal Architect & Environmental Consultant. Steel Construction Institute, Ascot, UK. - The development of existing and new research into the environmental impacts and architectural issues concerning the use of steel in construction.

SRC Activities
- Sustainable Construction
- Urban Agriculture and Design
- Energy efficiency
- Resilient Cities
- Recycling and Reuse
- Adaptable buildings
Jane Hao, PhD  
Associate Professor, Tenure Track

Date of Appointment: August 2008  
Area of Expertise: Construction Project Management and Structural Engineering  
Recent Teaching Assignments:
- 2012-2013: PMT720 - Project Management Studio, ASC522 - Project Economics, PMT822 - Procure and Const Management, ASC850/AR8225 - Globalization & Construction  
- 2010-2011: ASC522 - Project Economics, ASC520 - Integration Studio, PMT820 - Project Management Studio, ASC850/AR8225 - Globalization & Construction  

Education: 2002  
PhD, the Hong Kong Polytechnic University, Department of Building & Real Estate

Registration and Licensure: MCSCE (Member of Canadian Society of Civil Engineers)

Teaching Experience: 20 years in Building Structures, Construction Technologies, and Construction Management related courses in China and Hong Kong.

Professional Experience:  
- 2008: Associate Professor, Dept. of Architectural Science, Ryerson University  
- 2003: Assistant Professor, Dept. of Building & Real Estate, the Hong Kong Polytechnic University

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Jane Hao  
Section 4.4 Page 216
**Recent Honours and Awards**

Outstanding Paper Award for Construction Innovation Journal in 2008

**Recent Publications**


**Academic, Professional, and Public Service**

Liaison Professor for OIQS and Dept. of Architectural Science, Ryerson University.

Editorial Board Member of International for International Journal of Project Management.

Conference committee member and reviewer for the CRIOCM conferences - Symposium on “Advancement of Construction Management and Real Estate.”

Jane Hao
**Miljana Horvat, B.Arch., M.Arch., Ph.D**  
**Associate Professor, Tenured**

**Date of Appointment** 2004  
**Area of Expertise** Architecture and Building Science  
**Recent Teaching Assignments**

<table>
<thead>
<tr>
<th>Year</th>
<th>Courses</th>
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| 2012 - 2013 | ASC 302 - Envelope Systems  
BL8101 - Building Envelope Systems |
| 2011 - 2012 | On Sabbatical: Visiting Researcher at the Department of Architecture and  
Built Environment, Division of Energy and Building Design, Lund University, Sweden |
| 2010 - 2011 | ASC 302 - Envelope Systems  
BL8101 - Building Envelope Systems  
ARC 820 - Options Studio  
BSC822 - Advanced Envelopes / Components |

**Education**

- **2005**  
  *Ph.D.*, Department of Building, Civil and Environmental Engineering, Concordia University, Montreal, QC, Canada.
- **1998**  
  *M.Arch.*, School of Architecture, McGill University, Montreal, QC, Canada,
- **1992**  
  *B. Arch.*, Faculty of Architecture, University of Belgrade, Belgrade, Yugoslavia

**Registration and Licensure**

- **2005**  
  *Ph.D.*, Concordia University, Montreal, QC, Canada.

**Teaching Experience**

- **2010 - Pres.**  
  *Associate Professor, Department of Architectural Science, Ryerson University, Toronto, Ontario*
- **2004 - 2010**  
  *Assistant Professor, Department of Architectural Science, Ryerson University, Toronto, Ontario*
- **1999 - 2004**  
  *Assistant Instructor & Marker, Department of Building, Civil and Environmental Engineering, Concordia University, Montreal, Quebec*
- **1992 - 1995**  
  *Part-time Instructor, Department of Structures and Materials in Architecture, Faculty of Architecture, University of Belgrade, Belgrade, Yugoslavia*

**Professional Experience**

- **1994**  
  *Junior Architect*, University of Belgrade, Faculty of Architecture, Belgrade, Yugoslavia.
- **1992 - 1995**  
  *Junior Architect*, KOLING DD (Engineering & Construction Company), Belgrade, Yugoslavia.
- **1993**  
  *Junior Architect*, Nas Stan (Architectural & Engineering Company), Belgrade, Yugoslavia.
Recent Publications


Academic, Professional, and Public Service

2009 - Pres. Reviewer for Elsevier journals
2008 - Pres. Reviewer for Several Scientific Conferences
2009-2011 Yeats School of Graduate Studies Scholarships and Awards Committee member

Ryerson University
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Miljana Horvat
Section 4.4 Page 219
Vincent Hui, B.E.S., M.Arch, C.U.T., M.B.A, MRAIC, Assoc. AIA
Associate Professor, Tenured

Date of Appointment 2009
Area of Expertise Digital Design and Prototyping
Recent Teaching Assignments
2012 - 2013 ASC101 - Communications Studio  ASC401 - Design Studio III
ASC755 - Digital Tools
2011-2012 ASC101 - Communications Studio  ASC755 - Digital Tools
ASC820 - Architecture Option Studio  ASC203 - Structures I
2010-2011 ASC101 - Communications Studio  ASC755 - Digital Tools
ASC820 - Architecture Option Studio

Education 2011 Leader in Energy and Environmental Design (LEED) Accreditation, Canada Green Building Council
2008 Master of Business Administration, Schulich School of Business, York University
2003 Master of Architecture, University of Waterloo
2003 Certificate in University Teaching, University of Waterloo
2000 Bachelor of Environmental Studies, Pre-architecture, University of Waterloo

Registration and Licensure
Associate AIA, American Institute of Architects
MRAIC, Royal Architectural Institute of Canada

Teaching Experience 2009 Assistant Professor, Department of Architectural Sciences, Ryerson University
1999 Adjunct Professor, University of Waterloo School of Architecture, School of Planning
2000 - 2008 Guest Critic/Lecturer/Thesis Advisor, University of Waterloo, University of Toronto, York University
School of Architecture, School of Planning, Fine Arts

Professional Experience 2003 Partner, Atelier Anaesthetic, Toronto and Montreal, Canada
2007 - 2008 Marketing & Design Consultant, Apple Canada, Markham, Canada
2000-2005 Assistant Project Designer, Zeidler Roberts Partnership Architects, Toronto, Canada
1999 Intern Architect, Sunnybrook & Women’s Health Centre, Toronto, Canada
1998 Intern Architect, Wong and Tai Associates Architects, Hong Kong, People’s Republic of China

Vincent Hui
Section 4.4 Page 220
Recent Honours and Awards

- 2012: Creative Grant, Ryerson University
- 2012: Dean's Travel and Departmental Travel Grant, Faculty of Engineering, Architecture, and Science
- 2012: Student Initiative Funding, PFACS
- 2011: Student Engagement Spaces, PFACS
- 2011: Service Award, Building Technology Educators’ Society
- 2011: Come Up To My Room, Gladstone Hotel
- 2011: Equipment Grant, Canadian Wood Council
- 2011: Journal Funding, Faculty of Engineering, Architecture, and Science

SRC Activities

Recent Publications

- 2012: “Sixth Annual USC BIM Symposium”, Technical Review Committee “Practical BIM”, Reviewer for Douglas Noble's symposium on “current, near-future, and real-world issues” related to BIM in the academic and professional realm
- 2012: “Commuting and Computing | Ryerson University’s Mobile Advantage”, Presentation, “Ryerson University’s May Faculty Conference 2012”, Toronto, Canada
- 2012: “Leading and Learning: [ARCN]et Augmented Reality Course NETwork” (pending) Learning, Media and Technology, Routledge ISSN 1743-9884
- 2011: “Integration, Not Segregation: Interdisciplinary Design Pedagogy for the Second 100 Years”, reviewer 100th ACSA Annual Meeting, Topic Chair: Kevin Dong and James Doerfler Boston, MA, USA

Academic, Professional, and Public Service

App Platform Developer, Ontario Association of Architects, 2012
Historical Tours Developer, Toronto Society of Architects, 2012
Faculty Supervisor, Come Up To My Room 2012
Faculty Advisor, 2012 Nuit Blanche Installation, Aura
Faculty Advisor, 2011 Nuit Blanche Installation, Cirrus

Vincent Hui

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George Thomas Kapelos, AB MCP MArch OAA FRAIC RPP MCIP
Associate Professor, Tenured

Date of Appointment 2000
Area of Expertise Architecture
Recent Teaching Assignments
2012 - 2013  ASC103 – The Built Context
ASC301 – Design Studio II
ARC820 - Option Studio
ASC205/405/605/805 - Collaborative Exercise
2011 - 2012  ASC103 – The Built Context
ASC301 – Design Studio II
2010 - 2011  ASC103 – The Built Context
ASC403 – Site Planning and Development
ARC720 – Option Studio
ASC 401– Design Studio III
PL8313 – Nature as a Cultural Construct (Graduate Planning Seminar)
AR8105 – Intensive Research Studio and Seminar

Education
1993   Master of Architecture, Yale University,
1975   Master of City Planning, Harvard Graduate School of Design,
1971   Bachelor of Arts (Magna cum laude), Princeton University, Architecture and Urban Planning

Registration and Licensure
Architect, Ontario Association of Architects
Member, Canadian Institute of Planners
Member, Ontario Provincial Planners Institute

Teaching Experience
2005 - 2010  Visiting Professor, Daniels Faculty of Architecture, Landscape and Design, University of Toronto
2000 - Pres.  Associate Professor, Ryerson University, Department of Architectural Science (Toronto), Mode II Faculty,
Teaching Focus, Granted Tenure, 17 March 2003
1988 - 2003  Assistant Professor and Adjunct Assistant Professor, University of Toronto, School of Architecture,
Landscape and Design
2000   Lecturer, Harvard Design School, Career Discovery Program (Cambridge), MA
1992 - 1993  Teaching Assistant, Yale College (New Haven), CT

Professional Experience
2000  Principal, George Thomas Kapelos Architect (Toronto), OAA, Certificate of Practice 3645
1995 - 2000  George Thomas Kapelos Design and Planning (Toronto),
1982 - 1995  Design Competition and Independent Consulting
1997 - 1999  Architect (Intern), Quadrangle Architects Limited (Toronto)

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George Thomas Kapelos
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Recent Honours and Awards

2008  Senior Fellow, Massey College, Toronto (ongoing)
2007  Fellow, RAIC
1995  Award for Outstanding Achievement / Prix d’Excellence, Canadian Museum Association for Interpretations of Nature
1993  Resident, Leighton Artists’ Colony, Banff Centre for the Arts
1993  Christopher Tunnard Memorial Scholarship, Yale University
1993  Finalist, All-School Design Competition, Yale School of Architecture
1991 - 1993  Canada Mortgage and Housing Corporation Graduate Scholarship
1971  A.B. (Magna cum laude), Princeton University

SRC Activities

Design for UVR protection and skin cancer prevention
19C and 20C Canadian architecture and planning
Architecture, landscape, phenomenology and identity
Architectural pedagogy

Recent Publications


“Teaching with the Canadian Architect Funds – a collaboration between Ryerson University librarians and instructors in architecture using Special Collections.” With Susan Patrick, Ryerson University Library and Archives. Art Documentation. accepted for publication, July 2012.


“City of Toronto Parks and Water Play Facilities Shade Audit Pilot Study. Paper, Ryerson University, Daphne Cockwell School of Nursing Annual Research Day, June 2009.


Elected Faculty Member, Ryerson University Board of Governors (2012-2014)
Member, Ontario Sun Safety Working Group, Toronto Cancer Prevention Coalition (UVR Working Group); Elected Faculty Representative, University Senate (2009 – 2010); Member University Master Planning Committee; Health Science Building Steering Committee; NCARB Accreditation Team Visiting Member (ACSA Representative); 2010, 2012. Board Member, Factory Theatre (Toronto).

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George Thomas Kapelos
Section 4.4 Page 223
Constantine Katsanis, Phd (Hons), BEng, Meng, Peng, Eng, MSCSE, MASCE, MASRM, MPMI
Associate Professor, Tenured

Date of Appointment
Area of Expertise: Architecture
Recent Teaching Assignments

2011 - 2012
PMT 721 - Economics for Project Management
PMT 820 - Project Management Studio II
PMT 720 - Project Management Studio I
PMT 822 - Procurement and Construction Management

2010 - 2011
ASC 520 - Integration Studio
PMT 721 - Economics for Project Management
ASC 620 - Integration Studio II
PMT 720 - Project Management Studio I
PMT 822 - Procurement and Construction Management

Education
1998
Ph.D. (with Honors), Universitè de Montreal, Montreal, QC, Faculty of Environmental Planning and Design (Faculté de l’Aménagement).

1982
M.Eng., (Building Engineering - Project Management), Concordia University Faculty of Engineering.

1979
B.Eng., (Civil Engineering), Concordia University, Faculty of Engineering

Teaching Experience
2001 - Pres.
Associate Professor, Ryerson University, Faculty of Engineering and Applied Science, Department of Architectural Science

2002 - 2006
Assistant Chair (Faculty Affairs), Ryerson University, Faculty of Engineering and Applied Science, Department of Architectural Science

1998 - 2000
Assistant Professor, Concordia University, John Molson School of Business, Department of Management

1999 - 2000
Faculty Member, Concordia University, John Molson School of Business, Executive MBA Program

1997 - 1998
Lecturer, Concordia University, John Molson School of Business, Department of Management

Summer 1999
Lecturer, Université de Montréal, Faculty of Environmental Planning and Design

Fall 1991
Associate Professorial Lecturer, The George Washington University, School of Engineering and Applied Science

1984 - 1985
Lecturer, Concordia University, Faculty of Engineering

Fall 1985
Sessional Lecturer, Concordia University, Faculty of Engineering

1979 - 1981
Laboratory Instructor, Concordia University, Faculty of Engineering
Constantine Katsanis

Recent Honours and Awards


Liste d’honneur - Doyen de la Faculté des Études Supérieures, Université de Montréal.


Recent Publications (Selected)


Professional Experience

1989 - 1991 Vice President and General Manager, Andrew Chartwell & Co. (Washington)
1986 -1989 Senior Project Manager, MMP International Inc. (Washington)
1982 - 1983 Project Manager, Hanscomb Consultants Inc. (Montreal)
1981 - 1982 Assistant Project Manager and Value Analyst, Hanscomb Consultants Inc. (Montreal)

Recent Honours and Awards


Liste d’honneur - Doyen de la Faculté des Études Supérieures, Université de Montréal.


Recent Publications (Selected)


Academic, Professional, and Public Service

Technical Committee Member, Canadian Society for Civil Engineering (CSCE) Conference. June 2005
Technical Committee Member, 1st International Conference. World of Construction Project Management, May 26-28, 2004
Local Organizer and Host, CIB W102 – Information and Knowledge Management in Building. Conference, Ryerson University, April 28-30, 2004
Reviewer, CIB W102 – Information and Knowledge Management in Building. Conference, Ryerson University, April 28-30, 2004
Co-Chair, Organizing Committee. 1st International Conference. World of Construction Project Management, May 26-28, 2004
Faculty Advisor and Liaison, Project Management Institute – Southern Ontario Chapter, Advisor Ryerson PMI student Chapter. 2002 - Present

Ryerson University
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June Diana Komisar, BA, MSc, Ph.D., MRAIC, AIA
Associate Professor, Tenured

Date of Appointment 2003
Area of Expertise Architectural Design, Theory and History of Architecture, Designing for Urban Agriculture
Recent Teaching Assignments
2012 - 2013 ASC101 - Communications Studio ASC 406 - Ideas, Technologies and Precedents III ASC 201 - Design Studio I

Education
2004 Ph.D, University of Michigan, Taubman College of Architecture and Urban Planning, Ann Arbor, MI
1999 M.Sc, University of Michigan, Taubman College of Architecture and Urban Planning, Ann Arbor,
1980 M. Arch, Yale University School of Architecture, New Haven, CT
1976 AB, Clark University, Worcester, MA

Registration and Licensure
Registered Architect, Massachusetts

Teaching Experience
2004 - Pres. Associate Professor, Ryerson University, Department of Architectural Science, Toronto, ON
2003 - Pres. Adjunct Professor, University of Central England, Faculty of the Built Environment, Birmingham, UK
2002 - 2003 Lecturer, University of Michigan, College of Engineering, Ann Arbor, MI
1999-2000 Teaching Assistant, University of Michigan, Taubman College of Architecture & Urban Planning,
1997-1998 Ann Arbor, MI

Professional Experience
2004- Pres. Architectural Consultant
1996 - 1997 Project Architect. Childs Bertman & Tseckaris Architects, Boston, MA

Ryerson University
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Recent Honours and Awards

2012 - 2013 Learning and Teaching Enhancement Fund (LTEF) grant recipient. PI for “Arch-app: city as classroom builder” (Co-applicants: Vincent Hui, Arthur Wrigglesworth, John Cirka, Viswam Ramasubramanian)

2011, 2012 Co-Grantee with associates of Ryerson CSFS for Rye’s Home Grown, a design and urban agriculture initiative.

2009 - 2011 Ryerson Research Assistant Grant: Ryerson Research Assistant Program

2005 New Opportunities Fund Award from the Canadian Foundation for Innovation

2005 2004 Distinguished Dissertation Award at the Taubman College of Architecture and Urban Planning, University of Michigan

2005 2005 Award from the Institut national d’histoire d’art to attend their joint conference with the Society of Architectural Historians

2003 Hewlett International Travel Grant category.

2002-2003 Fellowship, De Montequin Fellowship, SAH, United States

SRC Activities

Carrot City Research Group (designing for urban agriculture)
Arch-app: city as classroom builder (PI, research group)
CFI Grant REAL LAB, PI

Recent Publications


Academic, Professional, and Public Service

Council Member of the Toronto Food Policy Council, 2008 - present

Associate, Ryerson Centre for Studies in Food Security, 2008 - present

Member, DAC (Department Appointments Committee), Ryerson Department of Architectural Science, 2008 - 2009, 2011 - 2012

Member, IAC (Instructor Appointments Committee) member, Ryerson Department of Architectural Science, 2008 - 2009

Faculty advisor for graduate students in the Ryerson Department of Architectural Science Master of Architectural program, 2008 - present

Advisory board member, Urban Agriculture Summit, Toronto 2012

Member of the Scientific Committee SSAC (Society for the Study of Architecture in Canada) annual conference, 2009.

Member of the Scientific Committee Greenlines Institute Heritage 2010 Conference, Evora, June 2010.


Guest critic for design reviews at American University in Beirut, Birmingham City University, Ryerson University, University of Toronto, Yale University

June Diana Komisar

Ryerson University
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Yew-Thong Leong, BTech, B.Arch, OAA, MRAIC, FIAS  
Associate Professor, Tenured

**Date of Appointment** 1996  
**Area of Expertise** Architectural Design  
**Recent Teaching Assignments**

<table>
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<th>Year</th>
<th>Course Name</th>
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| 2012 - 2013 | ASC 520 - Integration Studio | ASC 620 - Integration Studio  
AR 8104 - Sem. in Contemporary + Future Practice |
| 2011 - 2012 | ASC 520 - Integration Studio | ASC 620 - Integration Studio  
AR 8104 - Sem. in Contemporary + Future Practice |
| 2010 - 2011 | ASC 520 - Integration Studio | ASC 620 - Integration Studio  
AR 8104 - Sem. in Contemporary + Future Practice |

**Education**

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<th>Year</th>
<th>Degree</th>
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<td>1985</td>
<td>Certificate in Contemporary Economic Analysis</td>
<td>Ryerson University</td>
</tr>
<tr>
<td>1985</td>
<td>Bachelor of Technology (Architecture)</td>
<td>Ryerson University</td>
</tr>
<tr>
<td>1985</td>
<td>Bachelor of Architecture</td>
<td>Pratt Institute</td>
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**Registration and Licensure**

<table>
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<th>Year</th>
<th>Organization</th>
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| 2000 - Pres. | OAA  
RAIC |

**Teaching Experience**

<table>
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<th>Year</th>
<th>Position</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 - Pres.</td>
<td>Associate Professor, Ryerson University, Toronto, Canada</td>
<td></td>
</tr>
<tr>
<td>1996 - 2000</td>
<td>Assistant Professor, Ryerson University, Toronto, Canada</td>
<td></td>
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<tr>
<td>1995 - 1996</td>
<td>Lecturer, Ryerson University, Toronto, Canada</td>
<td></td>
</tr>
<tr>
<td>1988 - 1995</td>
<td>Instructor, Ryerson University, Toronto, Canada</td>
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</table>

**Professional Experience**

<table>
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<th>Year</th>
<th>Position</th>
<th>Company/Institution</th>
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<tbody>
<tr>
<td>1987 - 2007</td>
<td>Partner, Robbie/Young + Wright Architects Inc</td>
<td>Robbie/Young + Wright Architects Inc</td>
</tr>
</tbody>
</table>
Recent Honours and Awards

- 2007: OAA Award of Design Excellence
- 2006: Governor Generals Architecture Medal
- 2005: Canadian Institute of Steel Construction Award
- 2005: Toronto Architecture and Urban Design Awards
- 2004: Best of the Best Award, Toronto Construction Association

SRC Activities

- Digital architecture and design
- Practice management
- Architectural Preservation and Conservation

Recent Publications


Y.T. Leong, “Historic Districts: Making a Case from an Embodied Energy Point of View”, Presented at the 17th International Conference on Systems Research, Informatics and Cybernetics, Baden-Baden, Germany, August 1-6, 2005


Y.T. Leong, “Cyberspace Floweth Over Professor Moriarty’s Trip Through the Holodeck and Other Contemporary Tales”, Presented in absentia at the 12th International Conference on Systems Research, Informatics and Cybernetics, Baden-Baden, Germany, July 31-August 5, 2000


Academic, Professional, and Public Service

Toronto Society of Architects, Chair 1999/2000
Toronto Preservation Board, 2004-2007
Toronto Arts and Letters Club, 1999/2000

Yew-Thong Leong
Ryerson University
Department of Architectural Science
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Section 4.4 Page 229
Jurij Leshchyshyn, BA, BTech, March, OAA, MRAIC
Professor, Tenured

Date of Appointment 1989
Area of Expertise Architecture
Recent Teaching Assignments

<table>
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<th>Year</th>
<th>Assignment</th>
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<td>2012-2013</td>
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<td>2011-2012</td>
<td>ASC 750 – Architecture and Public Policy</td>
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<td>ASC 201- The Built World</td>
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<td>2010-2011</td>
<td>ASC101 – Communications Studio</td>
</tr>
<tr>
<td></td>
<td>ASC 201 - Design Studio I</td>
</tr>
<tr>
<td></td>
<td>ASC 205.405/605/805 - Collaborative Exercise</td>
</tr>
</tbody>
</table>

Education
B.A. (Hons.) Geography and Urban Studies, York University, Toronto
Bachelor of Technology - Architectural Science, Ryerson Polytechnical Institute, Toronto, Ontario
Master of Architecture, University of Manitoba, Winnipeg, Ontario

Registration and Licensure
Ontario Association of Architects, Architect
Toronto Society of Architects

Teaching Experience
Jurij Leshchyshyn began teaching in the Department of Architectural Science in 1984 as a part-time instructor. In 1989 he joined the full-time faculty and was awarded tenure shortly thereafter. Professor Leshchyshyn has taught in all four years of the program, including design studios and architecture thesis, component/technical courses, systems and site planning courses, as well as graphics. As a coordinator for various studio and component courses, he initiated and maintained ongoing reviews and refinements to course content, assignments and design projects. Professor Leshchyshyn has also involved students in the previously held Ontario Concrete Block Association’s Student Design Competitions, where students submitted winning entries as well as entries receiving honourable mention. Such events provided opportunities to use skills and knowledge gained in class, in challenging and mind-expanding applications. He has also taught the ‘Fundamentals of Design’ course in the Continuing Education program.

As an alumnus of the program, Professor Leshchyshyn brings to his teaching a deep understanding of the Department’s historic perspective on, and approach to, the teaching of architectural science.

Jurij Leshchyshyn
Ryerson University
Department of Architectural Science
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These include the recognition of the holistic nature of the discipline, as well as the need, within the construction industry and profession of architecture, to develop the ability to put theory into practice. Professor Leshchysyn’s teaching strategies are intended to always deal with particular architectural issues within the context of the whole. A similar approach is used to guide students in the development of a clear and robust architectural design process. The overall educational intent is to provide graduates with the skills, knowledge and values needed for them to successfully engage in a range of positions within the industry or to pursue further academic and professional goals. These are the attributes of the graduates upon which the Department’s excellent reputation rests.

Professional Experience
Jurij Leshchysyn joined Annau Associates Architects in Toronto in 1984, where he was involved in a wide range of projects and feasibility studies, which included many aspects of architectural and urban design, office and site construction administration, and building and material technology.

Jurij Leshchysyn was the project manager for Ludwig Engel Canada Ltd. in Guelph, Ontario, which involved major additions and alterations to the head office building and adjoining plant. Also, he was project manager for the Becker Milk Company in Toronto, which involved major renovations to the head office building and the development of a design proposal for a potential addition. He provided design and technical documentation expertise for the South Common Leisure Pool, in Mississauga, and for the Seventh Street Public School, in Etobicoke. He was also the project architect for the tendering and construction phases of the school project.

Jurij Leshchysyn was the site architect in charge of two major projects constructed in Don Mills, Ontario, the one, an office complex of over 28,000 M2 and the other a twin-tower condominium complex of 800 suites, with a combined budget of $120 million. In this capacity, his responsibilities were diverse and included the ongoing review of construction, coordination of engineering consultants, clarification of construction documents, evaluation of materials and assemblies, the review of the design for potential cost savings and, as required, the development of specific design and technical solutions.

SRC Activities
- Architectural design
  - Design studio applications
  - Systems approach
- Architecture and language
  Curriculum development

Academic, Professional, and Public Service
- Ryerson University – Master Plan Charrette
- OAA Building Code Designation System (DCDS) review of draft tests
- A Charrette in the City, The Gardiner Expressway, OAA Convention
- Icelandic Concert Halls International Competition, Honourable Mention
- Manhattan Island West Side Revitalization Competition, Submission

Jurij Leshchysyn
Department of Architectural Science
Architecture Programme Report
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Zaiyi Liao, BEng, MEng, PhD, PEng
Associate Professor, Tenured

Date of Appointment: 2004
Area of Expertise: Architecture
Recent Teaching Assignments:
- 2010 - 2011: (On sabbatical)

Education:
- 2001: Ph.D, in Building Services Engineering, the Hong Kong Polytechnic University (Thesis title “Forecasting Residential Energy Consumption in China: An Approach to the Technological Impacts”)
- 1990: M.Phil in Building Services Engineering, School of Architecture, Tsinghua University, China
- 1988: Bachelor’s Degree in Building Services Engineering, School of Architecture, Tsinghua University, China

Registration and Licensure:
P.Eng, Engineering Science, the University of Oxford
Ph.D, in Building Services Engineering, the Hong Kong Polytechnic

Teaching Experience:
- 2004 - Pres.: Associate Professor, Dept. of Architectural Science, Faculty of Engineering and Applied Science, Ryerson University.
The courses taught include: BSC504 (Building Science: Services II), BSC604 (Building Science: Services III), BSC505 (Components II), BSC605 (Components III), BSC031 (Building Science: Studios III).

Professional Experience:
- 2004 - Pres.: Associate Professor, Dept of Architectural Science, Ryerson University, Canada
- 1999 - 2004: Senior Scientist, Building Research Establishment (BRE), UK
- 1994 - 1999: Dept. of Architecture, The Chinese University of Hong Kong
- 1990 - 1994: Senior engineer and division manager, Beijing Tsinghua Tong Fang

Ryerson University
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Zaiyi Liao

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Recent Honours and Awards
NSERC DG
NSERC RTI
OCE Collaborative Research
OPIC

SRC Activities
- Building physics
- Computational modeling and simulation of dynamic systems
- Intelligent building automation
- Energy efficiency and sustainability of the built environment
- Fire and risk science
- Electronic and control engineering

Recent Publications
R Ng, Z Liao (2012), “Evaluating the need and potential of equipping North American houses with multi-zone VAV systems”, (Accepted for publication by Applied Mechanics and Materials)
K A Hafeez, L Zhao, Z Liao, B Ma (2011), “OFDMA-Based MAC Protocol (COMAC) for Vehicular Ad Hoc Networks”; accepted by EURASIP Journal on Wireless Communications and Networking
Ian MacBurnie, Ph.D, AA Grad. Dip., B.Arch, BScArch, OAQ
Associate Professor, Tenured

Date of Appointment 2003
Area of Expertise Architectural Design, Housing, Urbanism
Recent Teaching Assignments

2012-2013
PLX 599 - The Human World: Urban Structures and Processes
ASC 520 - Integration Studio
ARC 820 - 4th Year Option Studio
ASC 731 - The Architecture of Urban Housing

2011-2012
PLX 599 - The Human World: Urban Structures and Processes
AR 8228 / ASC 901: Research Seminar: Global Communities
AR 820 - 4th Year Option Studio

2010-2011
PLX 599 - The Human World: Urban Structures and Processes
ASC 520 - Integration Studio
Sabbatical

Education
1979 Bachelor of Architecture, McGill University, Montréal, Canada
1978 Bachelor of Science in Architecture, McGill University, Montréal, Canada

Registration and Licensure
OAQ

Teaching Experience
2003 - Pres. Associate Professor, Department of Architectural Science, Ryerson University, Toronto, Canada
1999 - 2002 Director, The Montréal Summer School of Texas Tech University and McGill University, Montréal, Canada
1997 - 2002 Assistant Professor /Instructor, College of Architecture, Texas Tech University, Lubbock, Texas
1996 - 1997 Instructor, College of Architecture and Planning, University of Colorado at Denver, Denver, Colorado

Professional Experience
1985 - Pres. Architect, Ian MacBurnie, OAQ
1982 - 1984 Principal, Atelier Arcadia

Ian MacBurnie
Ryerson University
Department of Architectural Science
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Recent Honours and Awards

2010  
Travel Grant. Faculty of Engineering, Architecture and Science (FEAS) and DAS, RU. To present kindergarten school design/build initiative to faculty and students at KNUST, Kumasi, and representatives of Canadian High Commission, Accra, Ghana.

2009-2010  
Donations/Grants. The Ghana Project. Approximately $50,000. Contributed by the Office of the Vice President of University Advancement, RU, and other donors; in addition, coordinated the preparation and submission of over twenty successful applications by students eligible to receive Ryerson University travel and study abroad scholarship funds valued at approximately $40,000.

2008-09  
Grant. Research Assistant. $1,500. From Office of Research Services (ORS), RU.

2008  
ACSA-AIA Housing Design Education Award. With Dr. Mark Gorgolewski.

2007  
Travel Grant, Department of Architectural Science, Faculty of Engineering and Applied Science, Ryerson University, Toronto: To present paper ACSA Annual Meeting, Philadelphia, U.S.A.

2007  
Travel Grant. FEAS and DAS, RU. To present paper at I-REC Post-Disaster Relief Housing Conference, University of Canterbury, Christchurch, New Zealand.

2007  
Travel Grant. DAS, RU. To make presentation and participate in panel session at ACSA Annual Meeting, Houston, Texas.

SRC Activities

- Housing
- Urbanism
- Urban design
- Infrastructure
- Social equity

Recent Publications


Academic, Professional, and Public Service

2012  
Director, The Andokope Project, DAS with Arup and Orphan’s Heroes, 330-student School + Medical Clinic in Volta Region of Ghana

2010  
Director, The Katebi Project, DAS with Arup and Pamoja Tugende, Medical Clinic and Kindergarten Project in DR Congo

2009  

2007  
Director, The Pakistan Post-Earthquake Re-housing Project, DAS with KTA Architects, ARCOP, Muzzafrabad, Pakistan

2007  
Chair, The University and the City: Tapping the Potential of Ryerson’s Master Plan, Department of Architectural Science, Ryerson University, and Toronto.

2006  
Chair, O’Keefe Lane Revitalization, Department of Architectural Science, Ryerson University, Toronto.

2002  
Chair, Re-inventing Downtown Big-D, symposium, HLM Architects and Texas Tech University College of architecture, Dallas, Texas.
Paul Poh, Ph.D, BSc (Hons.), MBA, PEng, CEng, EurIng, MICE, MIES, MCSCE
Associate Professor, Tenured

Date of Appointment 1999
Area of Expertise Project Management
Recent Teaching Assignments
2012-2013 Sabbatical PMT 820 - Project Manag. Studio II
PMT 821 - Constr. Practices and Management

2011-2012 ASC 304 – The Constr Project PMT 820 - Project Management Studio II

Education
1985 PhD, The Effects of Soil Restraint on Crack Propagation in Gas Pipelines, University of Edinburgh, United Kingdom
1993 MBA, Construction Management, Distinction, University of Dundee, United Kingdom
1981 BSc (Hons), Civil Engineering, First Class Honours, University of Edinburgh, United Kingdom

Teaching Experience
1999 - Pres. Associate Professor, Ryerson University, Toronto, Ontario
1992 - 1998 Senior Lecturer, Nanyang Technological University, Singapore
1990 - 1991 Lecturer, Nanyang Technological University, Singapore

Professional Experience
1987 - 1990 Deputy Director (Planning), BatamIndo Industrial Management Pte Ltd
1986 - 1987 Singapore Senior Civil Engineer, Reliance Contractors Pte Ltd, Singapore
1986 - 1987 Graduate Engineer, Scott Wilson Kirkpatrick & Partners (Scotland), United Kingdom
1976 - 1978 Technical Officer (Civil), Public Works Department, Singapore
SRC Activities
Organizing Committee, Second International Conference, World of Construction Project Management, Coventry UK, 2010
Referee, Canadian Journal of Civil Engineering, 2004
Referee, The International Journal of Construction Management, Hong Kong, 2004
Chair, Organising Committee, First International Conference, World of Construction Project Management, Toronto, Canada, 2004
Referee, Journal of Construction Management and Economic, United Kingdom, 1996

Recent Publications

Academic, Professional, and Public Service
Chair Search Committee, 2011.
External Reviewer, George Brown College, 2010
External Reviewer, Southern Alberta Institute of Technology, 2008
Member, Academic Council Appeals Committee, 2005-2007
Chair, Departmental Appointments Committee, 2006-2007
### Marco L. Polo, B.A., B.Arch. (UBC), OAA, FRAIC

**Associate Professor, Tenured**

**Date of Appointment** 2002

**Area of Expertise** Architecture

**Recent Teaching Assignments**

<table>
<thead>
<tr>
<th>Year</th>
<th>Course Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 - 2013</td>
<td>AR8106 - Current Topics in Architectural Praxis</td>
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<td></td>
<td>ARC200 - Sustainable Practices</td>
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<tr>
<td>2011 - 2012</td>
<td>ASC 301 - Design Studio II (Studio Master)</td>
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<tr>
<td>2010 - 2011</td>
<td>AR8101 - Studio in Critical Practice</td>
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<td>ASC 406 - Ideas, Technologies and Precedents III</td>
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<tr>
<td></td>
<td>ASC 733/AR8226 - Canadian Architecture Since 1945</td>
</tr>
<tr>
<td></td>
<td>ASC 205/405/605/805 - Collaborative Exercise</td>
</tr>
</tbody>
</table>

**Education**

- 1985: Bachelor of Architecture, University of British Columbia, School of Architecture
- 1981: Bachelor of Arts, University of British Columbia, Faculty of Arts

**Registration and Licensure**

- 1992 - : Member, Ontario Association of Architects

**Teaching Experience**

- 2009 - : Program Director, Bachelor of Architectural Science program, Department of Architectural Science, Ryerson University, Toronto
- 2008 - 2009: Visiting Professor, Centre for the Study of Theory and Criticism, University of Western Ontario, London, Ontario
- 2007 - : Associate Professor, Department of Architectural Science, Ryerson University, Toronto (RFA Mode 2)
- 2002 - 2007: Assistant Professor, Department of Architectural Science, Ryerson University, Toronto (RFA Mode 2)
- 2001 - 2002: Thesis Co-ordinator, Department of Architectural Science and Landscape Architecture, Ryerson University, Toronto
- 2001: Instructor, Department of Architectural Science and Landscape Architecture, Ryerson University, Toronto, Continuing Education Division, 2001
- 1996 - 1997: Adjunct Assistant Professor, University of Toronto School of Architecture and Landscape Arch.

**Professional Experience**

- 1997 - 2003: Editor, Associate Publisher and Editorial Director, Canadian Architect

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012

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Marco L. Polo

Section 4.4 Page 238
Recent Honours and Awards

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Elected to College of Fellows, Royal Architectural Institute of Canada (FRAIC)</td>
</tr>
<tr>
<td>2008</td>
<td>Co-curator, with John McMinn, of 41° to 66° Architecture in Canada: Region, Culture, Tectonics, selected as the official Canadian representation at the 2008 Venice Biennale of Architecture</td>
</tr>
<tr>
<td>2006</td>
<td>Faculty of Engineering, Architecture and Science Research Excellence Award</td>
</tr>
</tbody>
</table>

SRC Activities

- Modern and contemporary Canadian architecture
- Architectural design
- Architecture theory, history, criticism
- Architectural Education since 1960
- Cultural Dimension of Sustainability
- Regionalism

Recent Publications

McMinn, John and Marco Polo “Sustainable Architecture as a Cultural Project: Regionalism as an Approach to Sustainability”. Presented at the Eight International Conference on Environmental, Cultural, Economic and Social Sustainability, Vancouver, B.C., January 10-12, 2012.


Polo, Marco “The Accidental Archive” in Canadian Architect, Vol. 54 No. 9, September 2009.


Academic, Professional, and Public Service

Assessor, Killam Research Fellowship Grant Application, Canada Council for the arts, September 2012.

Session co-chair, with Prof. Colin Ripley, “Critical Pedagogies: Architectural Education after 1968” at the Annual Conference of the Association of Collegiate Schools of Architecture, Montreal, Quebec, March 3-6, 2011.

Member of Scientific Committee and Session Chair, Conference of the Society for the Study of Architecture in Canada, Ryerson University, Toronto, May 2009


External assessor, ACSA 2005 International Conference.

Member, Editorial Advisory Board, Canadian Architect Magazine, since 2003.

Marco L. Polo

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Ramani Ramakrishnan, D.Sc., M.S, B. Tech
Associate Professor, Tenured

Date of Appointment 2000
Area of Expertise Building Science in Architecture
Recent Teaching Assignments
2012 - 2013
ASC521 - Sound and Light in Architecture
BSC820 - Building Science Studio
BL8211 - Lighting Design in Buildings
BSC721 - Performance I

2011 - 2012
ASC521 - Sound and Light in Architecture
BSC820 - Building Science Studio
BSC721 - Performance I

2010 - 2011
ASC521 - Sound and Light in Architecture
BSC820 - Building Science Studio
BSC721 - Performance I

Education
1965 - 1970 B. Tech (I Class) Civil Engineering, Indian Institute of Technology, Madras, India

Registration and Licensure
P. Eng; Member of the Professional Engineers of Ontario (since 1984)

Teaching Experience
2000 - Pres. Associate Professor, Ryerson University, Department of Architectural Science, Toronto
1984 - 2000 CUPE Member, Ryerson University, Department of Architectural Science, Toronto – Offered between one to two courses every winter term
1977 - 1979 Senior Post-Doctoral Research Fellow, University of Southampton, Institute of Sound and Vibration Research (ISVR), England
Professional Experience

1997 - 2000  Senior Acoustician, Aerodynamics Group, Aiolos Engineering Corporation
1991 - 1992  Technical Specialist - Noise Control, Ontario Hydro Corporation
1980 - 1982  Scientist, Lockheed - Georgia Corporation, Atlanta, GA, USA

Recent Honours and Awards

1992  Board of Directors (Elected), Canadian Acoustical Association and completed one four year term, 1992
1992  Appeared in the 1994 issue of WHO’s WHO in Science and Engineering in America
1989  Ramakrishnan and Ball. ‘Air Handling Systems.’ Patent Pending in Canada and India

SRC Activities

- Acoustical modeling; Noise control; Architectural acoustics; and Aero-acoustics

Recent Publications (Selected)

Peter Waudby-Smith and Ramani Ramakrishnan 2007. ‘Wind Tunnel Resonances and Helmholtz Resonators.’ Canadian Acoustics Journal, Vol. 35 (1) 3-11 (Refereed Publication)

Academic, Professional, and Public Service

Technical Chair, Acoustics Week in Canada, Windsor, Ontario, 1994
Editor-in-Chief, Canadian Acoustics Journal – since 1998,
Chair – Research and Development Committee, Department of Architectural Science, Ryerson University – since 2002
Member of Faculty Annual Report Committee. - Faculty of Engineering Architecture and Science, Ryerson University – since 2004
Founder, Publisher and Editor-in-Chief – Kala Arts Quarterly – publication focussing on the classical arts of the South Asian community, Toronto from 1996 till 2004.
Conference Chair, Acoustics Week in Canada, Niagara-on-the-Lake, Ontario 2009.

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Department of Architectural Science
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Ramani Ramakrishnan

Section 4.4 Page 241
Russell Richman, Ph.D., M.A.Sc., B.A.Sc.
Assistant Professor, Tenure-Track

Date of Appointment: 2009
Area of Expertise
Recent Teaching Assignments
2012 - 2013
ASC520 - Integration Studio I
BL8100 - Building Science Theory
ASC620 - Integration Studio II
BSC822 - Advanced Envelopes/Components
2011 - 2012
ASC520 - Integration Studio I
BL8100 - Building Science Theory
ASC620 - Integration Studio II
ASC200 - Sustainable Practices
2010 - 2011
ASC520 - Integration Studio I
BL8100 - Building Science Theory
ASC620 - Integration Studio II
ASC200 - Sustainable Practices

Education
2008
Ph.D., University of Toronto, Civil Engineering
2002
M.A.Sc., University of Toronto, Civil Engineering
1999
B.A.Sc., University of Toronto, Civil Engineering

Registration and Licensure
Member, Professional Engineers of Ontario, Ontario Building Envelope Council, American Society of Heating, Refrigeration and Air Conditioning Engineers

Teaching Experience
Present
Assistant Professor, Ryerson University Department of Architectural Science
2001-2008
Instructor/Co-Instructor, Department of Civil Engineering, University of Toronto.

Professional Experience
2005-present
President, Russell Richman Consulting Ltd.
1999-2005
Project Manager, Façade and Roofing, Yolles Partnership Inc.
Recent Honours and Awards

2007  Department of Civil Engineering Bronze Faculty Teaching Award, University of Toronto
2006  Chair’s Award for Excellence in Research, University of Toronto
2005  General Conference Best Paper Award, Canadian Society of Civil Engineers

SRC Activities

Recent Publications


Academic, Professional, and Public Service

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Colin Ripley, M.Arch, B.Eng, MSc, McM, OAA, MRAIC
Chair and Associate Professor, Tenured

Date of Appointment 2003
Area of Expertise Architectural Design and Theory
Recent Teaching Assignments

2012-2013 AR8102 - Seminar in Critical Practice
2011-2012 AR 8101 - Seminar in Critical Practice ASC 401 - Design Studio III
2010-2011 On Leave ASC401 - Design Studio III

Education
1994 M.Arch, Architecture, Princeton University, Princeton, N.J.,
1991 (Finished five semesters of six semester program), University of Waterloo, Waterloo, Ontario,
1986 M.Sc., Physics, University of Toronto, Toronto, Ontario,
1985 B.Eng., Engineering, McMaster University, Hamilton, Ontario, (Graduated first in class and Summa Cum Laude)

Registration and Licensure
OAA, 2003

Teaching Experience
2008 -2012 Associate Professor and Graduate Program Director, M.Arch., Ryerson University
2004 - 2008 Assistant Professor, Department of Architectural Sciences, Ryerson University
2007 Visiting Faculty, University of Waterloo School of Architecture

Professional Experience
2007 - Pres. Director, RVTR
1997 - 2003 Principal, Heavyweight Studio, Toronto.
1997 Designer, Taylor Hariri Pontarini Architects, Toronto

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Recent Honours and Awards
2011  SSHRC Research/Creation Grant in Fine Arts - The Stratus Project
2011  Canada Council Aid to Independant Curators of Architecture - The Centennial Projects
2009  Professional Prix de Rome, RVTR
2009  SSHRC Research/Creation Grant in Fine Arts - The Post-Carbon Highway
2006  Governor-General’s Medal for Architecture, UTM Student Residence

SRC Activities
Architectural Design; Sound in Architecture; National Identity in Architecture

Recent Publications
the International Society of the Arts, Sciences and Technology, 45:4, 2012: 348-357. (R)
Volume.
tecture Culture. Volume 3, Iss. 1-2: 43-58. (R)
RVTR. rvtr: matters of concern. Solo exhibition. Cambridge, ON: Cambridge Galleries at Riverside. October 2008 to Janu-
ary 2009.
City/MIT Press.
RVTR (Ripley, Colin, Geoffrey Thün Kathy Velikov and Paul Raff) (2009). RVTR. In Heather Dubbeldam and Lola Sheppard,
Ripley, Colin with Marco Polo and Arthur Wrigglesworth, eds., In the Place of Sound: Architecture|Music|Acoustics.

Academic, Professional, and Public Service
Conference Chair, ZEMCH, Glasgow, 2012.
Session Chair, ACSA Conference, Montreal, 2011.
Founding Member, Future City Lab, 2011.
Member, OAA Sub-committee on Building Codes and Regulations, 2006-04-20

Colin Ripley
Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012

Section 4.4 Page 245
Kendra Schank Smith, Ph.D.
Past Chair and Associate Professor

Date of Appointment 2007
Area of Expertise Architecture
Recent Teaching Assignments
2012 - 2013 On Leave
2011 - 2012 AR 8203/ASC 751 - Architectural Writing
2010 - 2011 AR 8106 - Current Topics in Architectural Praxis

Education
1992 Doctor of Philosophy (Ph.D.) in Architecture, Georgia Institute of Technology
1980 Master of Architecture (M. Arch.) Professional Degree, Virginia Polytechnic Institute and State University
1975 Bachelor of Arts (B.A.) Art and Education, Southern Illinois University

Teaching Experience
2007 - Pres. Chair and Associate Professor, Department of Architectural Science, Ryerson University, Toronto
2005 - 2006 Associate Professor / Chair of the Department of Architecture, University of Hartford
2003 - 2004 Associate Professor / with Tenure, University of Utah
1996 - 2003 Assistant Professor, University of Utah
1995 - 1996 Cass Gilbert Visiting Assistant Professor, University of Minnesota
1993 - 1995 Visiting Assistant Professor, State University New York, Buffalo
1991 - 1993 Assistant Professor, Southern College of Technology
1987 - 1991 Instructor (Full -Time), Georgia Institute of Technology
1984-1987 Instructor/Assistant Professor, Texas A&M University

Professional Experience
1984 - Pres. Design Consultant, Smith and Smith Design

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Recent Honours and Awards

<table>
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<tr>
<th>Year</th>
<th>Honours and Awards</th>
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<tr>
<td>2011</td>
<td>2011 Ryerson University Fall/Winter RA Program</td>
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<td>2011</td>
<td>2011 URO Summer Undergraduate Research Opportunity</td>
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<td>2010</td>
<td>2010 Ryerson University Fall/Winter RA Program</td>
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<tr>
<td>2007</td>
<td>ACSA Award for Service, conferred at the Association of Collegiate Schools of Architecture Annual Meeting, Philadelphia, Pennsylvania</td>
</tr>
<tr>
<td>2006</td>
<td>Research/Publication Grant, College of Engineering, Technology and Architecture, University of Hartford</td>
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</table>

Recent Publications (selected)


Academic, Professional, and Public Service


CACB Visiting Team Member, University of Calgary, 2011.

Chair, Canadian Council of University Schools of Architecture (CCUSA), 2010 - Present.

Paper Reviewer, ACSA Annual Meeting, Montreal, Quebec, 2010.


Mathematics Department Chair Search Committee, 2010.

National RAIC Board, Representative from CCUSA, 2010 – Present.

Department Teaching Standards Committee, 2010-2011.

Search Committee for Chair of Civil Engineering, 2010-2011.

Chair, FEAS Service Awards Committee, 2010-2011.


Albert Smith, PH.D., R.A.
Associate Professor, Tenure-track

Date of Appointment 2007
Area of Expertise Architecture, Design, Communications
Recent Teaching Assignments
2012-2013
ASC 301 - Design Studio II
AR8221/ASC 900 - Architectural Representation
ARC 820 - Architecture Studio
ASC206 - Ideas, Tech and Precedents I
2011-2012
ASC 101 - Communications Studio
ARC 820 - Architecture Studio
AR8221/ASC 900 - Architectural Representation
2010-2011
ASC 101 - Communications Studio
ASC 201 - Design Studio I

Education
1995 Doctor of Philosophy (Ph.D.) in Architecture, Georgia Institute of Technology
1980 Master of Architecture (M.Arch.) Professional Degree, Virginia Polytechnic Institute and State University
1975 Bachelor of Arts (B.A.) Art and Education, Southern Illinois University

Registration and Licensure
Registered architect in New York State, license # 028154-1.
In the process of obtaining a NCARB registration.

Teaching Experience
2009 - Pres.
Associate Professor, Ryerson University
2007 - 2009
Assistant professor (Limited Term Appointment), Ryerson University
2004 - 2007
G3 Full-Time, Department of Architecture, University of Hartford
1996 - 2004
Assistant Professor (Lecturer), (Full Time and Multi-Year), University of Utah
1995 - 1996
Visiting Assistant Professor, (Cass Gilbert Visiting Professor), University of Minnesota
1993 - 1995
Visiting Assistant Professor, State University of New York
1992
Instructor (part-time), Southern College of Technology
1987 - 1992
Doctoral Teaching Fellow (full-time), Georgia Institute of Technology
1985 - 1986
Assistant Professor (tenure track), Texas A&M University
1984 - 1985
Instructor (full-time, tenure track), Texas A&M University

Professional Experience
1980 - 1984
Architectural Designer, Kevin Roche John Dinkeloo and Associates
1984 - 1985
Design Consultant, Smith and Smith

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Recent Honours and Awards

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<tr>
<th>Year</th>
<th>Award</th>
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<tr>
<td>2003</td>
<td>University of Utah Teaching Grant</td>
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<td>2002</td>
<td>Graham Foundation Grant</td>
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<td>2001</td>
<td>University of Utah Faculty Research Grant</td>
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Recent Publications (Selected)


Academic, Professional, and Public Service

Albert been involved with developing the Curriculum for new Department of Architecture located in Herat, Afghanistan. This project is being developed through the College of Engineering, Technology and Architecture of the University of Hartford, with funding from the World Bank (2006 - 2007).
Vera Straka, M.Eng., MISTRUCTE, B.Sc., PEng, FCSCE
Associate Professor, Tenured

Date of Appointment 1992
Area of Expertise Structural Design, Building Science
Recent Teaching Assignments

2012 - 2013
ASC 855 - Sustainable Rating Systems
BSC 720 - Building Science Studio

2011 - 2012
ASC 303 - Structures II
ASC 855 - Sustainable Rating Systems
BSC 720 - Building Science Studio

2010- 2011
ASC 203 - Structures I
BSC 720 - Building Science Studio
BSC 41A/B - Thesis
ASC 855 - Sustainable Rating Systems

Education
2004
LEED®, Leader in Energy and Environmental Design, certification exam

1989
M.Eng., University of Toronto, Toronto, Department of Civil Engineering

1978
MISTRUCTE, Institution of Structural Engineers (London) part 3 examination (for licensing and designation as a member)

1972
B.Sc. (1st class honour), Imperial College, University of London (England), Department of Civil Engineering. Awarded Pippard’s medal for excellence in Structures

Teaching Experience
1992 - Pres.
Associate Professor, (RFA Mode 2), Ryerson University, Toronto

1979 - 1981
Lecturer, University of Witwatersrand, Johannesburg, South Africa, Department of Civil Engineering

Professional Experience
1991 - 2003
Director, VAS Engineering, Toronto, Ontario

1986 - 1991
Senior Project Engineer, NORR Engineering Limited, Toronto, Ontario

Recent Honours and Awards
2007
Nominated for OCUFA teaching award 1997

2004
Certificate of Appreciation, Professional Engineers Ontario

2002
Fellow of the Canadian Society for Civil Engineering (FCSCE)

1997
GREET Teaching Award, Ryerson University, Toronto Ontario

1972
Awarded Pippard’s medal for excellence in Structures, Imperial College, London

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012

Vera Straka
SRC Activities
- Sustainability
- Materials/ Theory & Design
- Durability
- Structural design

Recent Publications
Papers in refereed conference proceedings:
Reports:

Academic, Professional, and Public Service
CSA A135T Committee on Sustainability: a committee member since 2002; main action was getting standard CSA Z783-12: Deconstruction of buildings and their related parts out for publication.
CSA Steering committee on CSA standards for masonry: a committee member since 2002
Professional Engineers Ontario: Equity and Diversity Committee: a committee member
Ontario Society of Professional Engineers: Women in Engineering: a committee member
Ontario Division of the Institution of Structural Engineers, a Chair
DMRI, a member of executives of local rate payer association

Vera Straka
Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Edward Wojs, B.Tech., B.Arch, OAA, MRAIC  
**Associate Professor, Tenured**

**Date of Appointment** 1999  
**Area of Expertise** Architecture  
**Recent Teaching Assignments**

<table>
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<tr>
<th>Year</th>
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<th>Year</th>
<th>Courses</th>
<th>Year</th>
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<tr>
<td></td>
<td>ASC 202 - The Building Project, ARC 820 - Architecture Option Studio</td>
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<td>ASC 202 - The Building Project, ARC 820 - Architecture Option Studio</td>
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<td>Sabbatical</td>
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</tbody>
</table>

**Education**

- 1984 | Courses toward Master of Architecture, Pratt Institute, New York, NY  
- 1984 | Bachelor of Architecture, Pratt Institute, New York, NY  
- 1978 | Bachelor of Technology (Architectural Science), Ryerson Polytechnical Institute

**Teaching Experience**

- 1999 - Pres. | Associate Professor, Ryerson University, Department of Architectural Science, Toronto, Ontario  
- 1996 - 1999 | Instructor (CUPE, part-time and sessional), Ryerson Polytechnic University, Department of Architectural Science and Landscape Architecture, Toronto, Ontario

**Professional Experience**

Recent Honours and Awards

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
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<tbody>
<tr>
<td>2007</td>
<td>Honourable Mention, Ideas Competition for Downtown Stratford, Ontario</td>
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<tr>
<td>1991</td>
<td>Ontario Interior Design Award as Project Architect with Brisbin Brook Beynon Architects for Skyboxes in Skydome Stadium, Toronto, Ontario</td>
</tr>
<tr>
<td>1985</td>
<td>Ontario Renews Award (Urban Design Category) with Richard Williams Architect, for the design of the Walper Terrace Hotel, Kitchener, Ontario</td>
</tr>
<tr>
<td>1984</td>
<td>Artistic work (drawings and paintings) exhibited A.I.R Gallery, New York City and selected as best of showing by C.G. Jung Foundation jury</td>
</tr>
<tr>
<td>1980</td>
<td>Competition Winner, L.E.B.D.A. with Robbie Williams Kassum Architects for Sustainable Building Prototype in Winnipeg, Manitoba</td>
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<tr>
<td>1977</td>
<td>Construction Specifications Award “Best Canadian Specification” with Proctor and Redfern Engineers, Architects and Planners</td>
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SRC Activities
- Art and Theory of Architectural practice and Studio based Architecture
- Industrial Design applied to Building Science
- Issues of the spirit in architecture and sacred Architecture

Academic, Professional, and Public Service

Wójs, Edward Architect, CUPE Office Building, Markham, Ontario. (Completion 2012)
Arthur Wrigglesworth, B.Tech (Architecture), MArch., OAA, NCA
Associate Professor, Tenured

Date of Appointment 2002
Area of Expertise Architectural Design, Project Management
Recent Teaching Assignments

<table>
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<tr>
<th>Year</th>
<th>Course</th>
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<tr>
<td>2012 - 2013</td>
<td>Non-teaching Term</td>
<td>2011 - 2012</td>
<td>ARC 720 Architecture Option Studio</td>
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<td>AR8105 Intensive Research Studio and Seminar</td>
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<td>2010 - 2011</td>
<td>ASC 102 The Built World</td>
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<td>ASC 623 Principles of Detailing</td>
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<td>ASC S20 Integration Studio I</td>
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<td>ASC 620 Integration Studio II</td>
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<tr>
<td></td>
<td>AR8105 Intensive Research Studio and Seminar</td>
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</tbody>
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Education

1989 Master of Architecture, Southern California Institute of Architecture
1986 Bachelor of Technology in Architectural Science, Ryerson Polytechnical Institute
1979 Fine Arts Program, Art Gallery of Ontario

Registration and Licensure

Architect, Certificate of Practice – Ontario Association of Architects

Teaching Experience

2012 Interim Assistant Chair
2011 - Pres. Associate Professor, Ryerson University, Toronto, Ontario
2002 - 2011 Assistant Professor, Ryerson University, Toronto, Ontario
1999 - 2002 Industry Mentor, Ryerson Polytechnic University, Toronto, Ontario
1997 - 1999 Sessional Instructor, Ryerson Polytechnic University, Toronto Ontario

Professional Experience

1998 - Pres. Principal, Wrigglesworth Collaborative; Arthur Wrigglesworth Architect
1997 - 1999 Project Team Member, Design Architect, Moriyama & Teshima Architects
1995 - 1997 Project Architect, Simon Davis Architects
1991 - 1995 Principal, Wrigglesworth Collaborative
1989 - 1991 Project Manager, Coop Himmelblau
Recent Honours and Awards

1991 Progressive Architecture Award – First Prize: Open House, Malibu, California. (Coop Himmelblau)
1990 Progressive Architecture Award – Citation: Arts Park L.A. Theatre Complex, Los Angeles, California. (Morphosis and Coop Himmelblau)
1987 State of California Fellowship for Graduate Studies (Architecture)
1979 Scholarship – Art Gallery of Ontario Fine Arts Program

SRC Activities

Architectural design, The Stop-Night Market Food Cart design and fabrication, invited particip. in group show, 2012
Theatre design, “Up in the Attic” stage play, 2012
“The Herd”, Sculpture/Site-specific installation. Part of the “Responding” exhibition (Big on Bloor festival), 2011
Theatre design, “Hero” stage play, 2011

Recent Publications


Academic, Professional, and Public Service

PPR chair, 2011 - 2012
DAC chair, 2011 - 2012
DAC member, 2007 - 2008, 2010 - 2011
SRC committee
Awards committee chair, 2010 - present
Departmental Council, Chair, F02-F04, F06-S08
Operations and Policy Committee (Curriculum), member, F02-present
Promotions and Tenure Committee (Departmental Council), member, F03-W06
Information Communication Technology Committee, member, F03-present

Arthur Wrigglesworth
Department of Architectural Science
Architecture Programme Report
September 2012
Baruch Zone, B.Arch
Associate Professor, Tenured

Date of Appointment 1999
Area of Expertise Architectural Design

Recent Teaching Assignments

<table>
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<tr>
<th>Year</th>
<th>Course 1</th>
<th>Course 2</th>
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<tr>
<td>2012 - 2013</td>
<td>ASC101 - Communications Studio</td>
<td>ASC401 - Design Studio III</td>
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<td>ASC856 - The Small Building</td>
<td>ASC622 - Documentation: The Construction Contract</td>
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<td>2011 - 2012</td>
<td>ASC101 - Communications Studio</td>
<td>ASC201 - Design Studio I</td>
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<td>ASC856 - The Small Building</td>
<td>ASC622 - Documentation: The Construction Contract</td>
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<tr>
<td>2010 - 2011</td>
<td>ASC 101 - Communications Studio</td>
<td>ASC622 - Documentation: The Construction Contract</td>
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<td>ASC201 - Design Studio I</td>
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Education

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<tr>
<td>1974</td>
<td>Bachelor of Architecture, University of Waterloo</td>
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<tr>
<td>1972</td>
<td>Bachelor of Environmental Studies, University of Waterloo</td>
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Registration and Licensure

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<tr>
<th>Year</th>
<th>Certificate/License</th>
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<tr>
<td>1980</td>
<td>Certificate of Practice, ZONE Architect</td>
</tr>
<tr>
<td>1977</td>
<td>Membership, Ontario Association of Architects</td>
</tr>
<tr>
<td>1977</td>
<td>Membership, Royal Architectural Institute of Canada</td>
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Teaching Experience

<table>
<thead>
<tr>
<th>Year</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>Assistant Professor [RFA]</td>
</tr>
<tr>
<td>1985</td>
<td>Instructor [CUPE]</td>
</tr>
<tr>
<td>1982</td>
<td>Sessional Instructor [CUPE]</td>
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</tbody>
</table>

Professional Experience

<table>
<thead>
<tr>
<th>Year</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>Principal, ZONE Architect</td>
</tr>
</tbody>
</table>

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
SRC Activities
- Design, methods and materials
- Affordable and SRO housing issues and strategies,
- Health and long-term care [transitional and longterm,
- community-based residential housing]

Recent Publications
B. Zone, “From Proposal to Implementation” and introducing “Testing the Hypothesis” presented at EDRA 35,
Y.T. Leong, M. Polo, E. Wojs, B. Zone, “Managing and Delivering Studio-Based Learning at the Department of Architectural
Science”, presented at the Greet Conference, Ryerson University, May 2003.

Academic, Professional, and Public Service
Mississauga City Hall Competition, Mississauga, Ontario
Kitchener City Hall Competition, Kitchener, Ontario
Renovations to Rideau Hall for the National Capital Commission, Ottawa
Trinity Park Competition for the City of Toronto
Cumberland Street Park Competition for the City of Toronto, Phase II finalists
West Hollywood Civic Center Competition, West Hollywood, California
Erindale College Student Centre Competition, Mississauga, Ontario
Town of Oakville Urban Design Awards, Oakville, Ontario
2003.
Taymoore Balbaa, M.Arch., B.ES.
Instructor

Date of Appointment 2009
Area of Expertise
Recent Teaching Assignments
2009-2010 ASC 101 - Communications Studio ASC 201 - Design Studio I
ASC 102 - The Built World

Education
1/02-10/03 M.Arch, University of Waterloo School of Architecture Waterloo, Ontario
1995-1999 B.ES, University of Waterloo School of Architecture Waterloo, Ontario

Registration and Licensure
OAA, RAIC, USGBC

Teaching Experience
Present Assistant Professor, Ryerson University, Department of Architectural Science
2007 - 2009 Sessional Professor, University of Toronto, Landscape, and Design
Adjunct Assistant Professor, University of Waterloo, School of Architecture
1998 -2002 Teaching Assistant, University of Waterloo, School of Architecture

Professional Experience
Present Principle, TABA_design, Toronto
2009 EUROPA N X International Competition (Vardo, Norway): Northern Encounters
Wildflower Centre International Competition (Liverpool, UK) _in progress

Recent Honours and Awards
2005-2006 Prix de Rome in Architecture for Emerging Practitioners (Canada Council for the Arts)
2007 Canada Council for the Arts Travel Grant (Tunisia)
2006 Canada Council for the Arts Travel Grant (Greece & Egypt)

Taymoore Balbaa
Section 4.4 Page 258
Brendan D. Bowles, Honours B.A., O.B.A.
Instructor

Date of Appointment 2008
Area of Expertise Construction Law
Recent Teaching Assignments
2009 - 2010          PMT 606 - Construction Law
2008 - 2009          PMT 606 - Construction Law

Education
2004          Associate in Canadian Surety Bonding, Surety Association of Canada
2000          Called to the Bar of Ontario
1998          LL.B. Queen’s University
1995          Honours B.A. Queen’s University

Teaching Experience
Present          Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario

Professional Experience
Present          Partner, Glaholt LLP, Toronto, Ontario

Recent Honours and Awards

Brendan D. Bowles
Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Jeff Geldart, B.Arch.Sci., M. Arch.
Instructor

Date of Appointment: 2010 - Present
Area of Expertise: Design and Graphic Communication
Recent Teaching Assignments
ASC 520 - Integration Studio I
ASC 620 - Integration Studio II

Education
2005 - 2008  Masters of Architecture, Yale School of Architecture, New Haven, Connecticut
1998 - 2003  Bachelor of Architectural Science, Ryerson University, Toronto, Ontario

Teaching Experience
2008 - Pres.  Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario

Professional Experience
2011 - Pres.  Project Manager, Intern Architect, Urban Capital Property Group, Toronto, Ontario
2008 - 2011  Project Manager, Intern Architect, Rounthwaite, Dick & Hadley Architects ,Toronto, Ontario

Recent Honours and Awards
2008  Moulton Andrus Award, Yale University
2008  Charles Gwathmey Scholarship, Yale University
2005 - 2008  Merit Scholarship, Yale University

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Michelle Grant, OAA, M.Arch, B.Arch, BS. Arch, NCARB, LEED AP
Instructor

Date of Appointment 2009
Area of Expertise  Spatial Perception and Phenomenology
Recent Teaching Assignments
2011 - 2012  ASC 301 - Design Studio II, ASC 401 - Design Studio III
2010 - 2011  ASC 301 - Design Studio II, ASC 401 - Design Studio III
2009 - 2010  ASC 301 - Design Studio II

Education
2005  M.Arch, Cranbrook Academy of Art, Bloomfield Hills, Michigan
1994  B.Arch Kent State University, Kent State, Ohio
1993  BS.Arch Kent State University, Kent State, Ohio
1991  Study Abroad Program Centro Linguistico Italiano Dante Alighieri, Kent State University Florence, Italy

Teaching Experience
2009 - Pres.  Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2009  Assistant Professor American University of Sharjah, School of Architecture + Design Sharjah, United Arab Emirates
2004  Adjunct Instructor University of Detroit Mercy, School of Architecture Detroit, Michigan

Professional Experience
2010 - Pres.  Partner, simonjames, design consulting, Toronto, Ontario
2005  Architectural Consulting, Private residential design, Providence, Rhode Island

Recent Honours and Awards
2008  Student First Place Design Award Young Designers of the Year (sponsor, Al Habtoor)
Frank Alfred Hamilton, B.Arch, O.A.A.
Instructor

Date of Appointment 1999
Area of Expertise Architectural Design, Hotel and Vacation Homes and Villas, Tropical Architecture
Recent Teaching Assignments
2011 – 2012 ASC 101 - Communications Studio ASC 201 - Design Studio I
2010 – 2011 ASC 101 - Communications Studio ASC 201 - Design Studio I
2009 - 2010 ASC 101 - Communications Studio ASC 201 - Design Studio I

Education
B.Arch Honours, University of British Columbia, Vancouver, BC

Teaching Experience
1999 - 2009 Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
1992 Teaching Assistant, University of British Columbia, Vancouver, BC

Professional Experience
Present Vacation Home for Nuton and Suresh Bhalla in Anguilla
2005 - 2008 Vacation Villa, Caribbean Sea, St. Lucia
2002 - 2006 Anse Chastanet Resort, St. Lucia

Recent Honours and Awards
John Ingrao,
Instructor

Date of Appointment
Area of Expertise
Recent Teaching Assignments
2009 - 2010  ASC520 - Integration Studio  ASC 620 - Integration Studio
ARC 41A - Thesis  ARC 41B - Thesis
2008 - 2009  ARC 31A - Studio III  ARC 31B - Studio III
ARC 41A - Thesis  ARC 41B - Thesis

Education

Teaching Experience  Present  Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario

Professional Experience

Recent Honours and Awards

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Dieter Janssen, M. Arch, B.A.S.
Instructor

Date of Appointment 2009
Area of Expertise
Recent Teaching Assignments
2009 - 2010 AR8101 - Studio in Critical Practice

Education 1997 - 1999 Masters of Architecture, Princeton University, School of Architecture
1991 - 1996 Bachelors of Architecture with honours, University of Toronto, School of Architecture and Landscape Architecture

Teaching Experience Present Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2005 - 2009 Sessional Professor, University of Toronto, John H. Daniels Faculty of Architecture, Landscape, and Design
2005 - 2007 Adjunct Professor, University of Waterloo, School of Architecture

Professional Experience 2008 Intern Architect, Kongats Architects
2001 - 2003 Project Coordinator/Intern Architect, Guy Nordenson and Associates Structural Engineers

Recent Honours and Awards 2008 - 2009 Radiant Dark. MADE Toronto ON
"Flight Jam #1" and "Las Vegas Poles #1". File Magazine Summer 2008.

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Stanislav Jurkovic, M.Arch, B.E.S., MRAIC
Instructor

Date of Appointment 2009
Area of Expertise
Recent Teaching Assignments
2009 - 2012 ASC 201- Design Studio I

Education
2005 Master of Architecture, University of Waterloo Waterloo, Ontario
1999 Bachelor of Environmental Studies, Pre-Professional Architecture, University of Waterloo Waterloo, Ontario
2000 Study Abroad Exchange Programme, Universita G. D’Annunzio - Facolta di Architettura Pescara, Italy

Teaching Experience
Present Founding Partner, Atlier 3AM, Toronto, Ontario
2008 Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2000 Adjunct Assistant Professor, School of Architecture, University of Waterloo, Waterloo, Ontario
Teaching Assistant, University G. D’Annunzio, Facolta di Architettura, Pescara, Italy

Professional Experience
2008 Design Lead, Project Manager, TAS Design Inc., Toronto, Ontario
2001 Reich + Petch Architects Toronto, Ontario

Recent Honours and Awards
2011 2G Award
2011 eme_3 International Architecture Festival
2011 Place Yalla Yeddouna (Atlier 3AM)
Olena Kobets-Singkh, M.Arch, M. Arch Sci
Instructor

Date of Appointment: 2009
Area of Expertise
Recent Teaching Assignments

- 2011 - 2012, ASC 101 - Communication Studio
- 2011 - 2012, ASC 201 - Design Studio I
- 2010 – 2011, ASC 101 - Communication Studio
- 2010 – 2011, ASC 201 - Design Studio I
- 2009 – 2010, ASC 301 - Design Studio II

Education

- 2008, M.Arch, Ball State University, Muncie, Indiana, USA
- 1990, M. Arch Sci, Kiev Civil Engineering Institute, Kiev, Ukraine

Teaching Experience

- Present, Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
- 2008, Instructor, Schools of Applied Technology, Architectural Department and Department of Interior Design, Humber College, Toronto, Ontario
- 2001 - 2006, Assistant Professor, Architectural Department, Ball State University, Muncie, IN

Professional Experience

- 2012 - Pres., Architectural Designer, Architecture Unfolded, Toronto, ON
- 2010-2012, Freelance Designer, Toronto, ON
- 2006 - 2008, Kitchen Designer, Home Depot Canada

Recent Honours and Awards

- 2004, Excellence in Small Town and Rural Planning Award, Small Town and Rural Planning Division, American Planning Association Somerset County Communities, Somerset County, Pennsylvania

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Christine Leu, M.Arch, B.E.S., MRAIC, LEED
Instructor

Date of Appointment 2009
Area of Expertise
Recent Teaching Assignments
2010 - 2012 ASC 201 - Design Studio
2009 - 2010 ASC 101 - Communications Studio

Education
2003 - 2004 M.Arch, School of Architecture, University of Waterloo
1997 - 2002 B.E.S., School of Architecture, University of Waterloo
1996 -1997 Landscape Architecture Major, School of Architecture, Landscape, and Design, University of Toronto

Teaching Experience
Present Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2006 - Pres. Adjunct Professor, University of Waterloo, School of Architecture, Cambridge, Ontario
2010 Instructor, Ryerson University, Chang School of Continuing Education, Toronto, Ontario

Professional Experience
2011 - Pres. RAW Design
2010 - Pres. LeuWebb Projects
2009 - 2010 Paul Raff Studio
2005 - 2009 Kearns Mancini Architects Toronto, Ontario

Recent Honours and Awards
2005, 2011 Ontario Arts Council Exhibition Assistance Grant
2004 Ron Simms Purchase Prize finalist
University of Waterloo Provost Incentive Fund Scholarship
Taiwan Merchant's Association of Toronto Scholarship

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Brigette Luzar, M.Arch, B.Arch, Arch Dip
Instructor

Date of Appointment 2009
Area of Expertise
Recent Teaching Assignments
2009 - 2010  ASC 101 - Communications Studio  ASC 201 - Design Studio I
2008 - 2009  ASC 201 - Design Studio I

Education 2011  Post Professional M.Arch, University of Toronto, Landscape and Design, Toronto, Ontario
1997  B.Arch, University of Toronto, School of Architecture and Landscape Architecture, Toronto
1992  Ontario Arch Dip., Sheridan College, Brampton, Ontario

Teaching Experience 2009 - Pres  Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2009 - Pres  Ontario Adjunct Faculty, University of Waterloo, School of Architecture
2007 - 2008  Adjunct Faculty, University of Toronto, Toronto, Ontario

Professional Experience 2004 - 2008  Project Architect, Kohn Shnier Architects
2001 - 2004  Project Architect, 3rd Uncle Design

Recent Honours and Awards 2011  Muskoka Cottage – project architect for Kohn Shnier
2011  Governor General Award
2011  RAIC Wood Design Award
2011  OAA Award

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Alistair MacKenzie, B.Sc.(Eng), P.Eng., FCSCE, FEIC, PQS, C.Eng., MICE, M.ASCE
Professor Emeritus

Date of Appointment
Area of Expertise: Construction Project Management
Recent Teaching Assignments
Fall 2011  PMT 720 – Project Management Studio 1
          PMT 722 – Information Systems
Fall 2010  PMT 722 – Information Systems

Education
1964     Certificate in Construction Management, Urwick Management Centre, Slough, England
1959     B.Sc. (Eng), University of Aberdeen, Scotland

Teaching Experience
2006 - 2010 CE 3R03, Project Management with Construction Applications, McMaster University, Department of Civil Engineering
2002 – 2008 CVL 742, Project Management, Ryerson University, Department of Civil Engineering

Professional Experience
2004 - 2008  Project Architect, Kohn Shnier Architects
2001 - 2004  Project Architect, 3rd Uncle Design

Recent Honours and Awards
1959 – 1992 Construction Executive and Project Manager on Major International Civil Engineering and Building Projects
Michael Miller, FRAIC, B.Arch, LEED
Instructor, Professor Emeritus

Date of Appointment
Area of Expertise
Recent Teaching Assignments
2009 - 2010 ARC 41A - Thesis ARC 41B - Thesis
2008 - 2009 PMT 31B - Studio III

Education
B.Arch, University of British Columbia, Vancouver, BC

Teaching Experience
Present Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2004 - 2008 Academic Advisor, Ryerson University, Department of Architectural Science, Toronto, Ontario
Academic Advisor, Centennial College, Toronto, Ontario

Professional Experience
Present Principle, Michael Miller Architects Inc., Toronto, Ontario

Recent Honours and Awards
Garth Norbraten, M.Arch., B.E.S., OAA, MRAIC
Instructor

Date of Appointment: September 2010

Area of Expertise:

Recent Teaching Assignments
2011 - 2012   ASC401 - Design Studio III
2010 - 2011   ASC401 - Design Studio III

Education
1984       Master of Architecture, University of Manitoba, Winnipeg, Manitoba
1981       Fellowship, Helsinki University of Technology, Otaniemi, Finland
1980       Bachelor of Environmental Studies, University of Manitoba, Winnipeg, Manitoba

Teaching Experience
Present
2008 - 2010   Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
               Instructor, University of Toronto, John H. Daniels Faculty of Architecture Landscape and Design, Toronto, Ontario

Professional Experience
1999 - Pres.  JNA, Toronto, Ontario (ongoing collab. b/w Garth Norbraten Architect Inc. and Daniel Johnson Architect Inc.)
1989 - 1996   Jerome Marksan Architects, Toronto, Ontario
1988 - 1989   Moriyama and Teshima Architects, Toronto, Ontario

Recent Honours and Awards

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Julie Ourenceau, B.Arch
Instructor

Date of Appointment
Area of Expertise
Recent Teaching Assignments
2011 - 2012 ASC 301 - Design Studio II, ASC 401 - Design Studio III
2010 - 2011 ASC 301 - Design Studio II, ASC 620 - Integration Studio
2009 – 2010 ASC 520 - Integration Studio

Education
2000 B.Arch Sci., Ryerson Polytechnic University, Toronto, Canada
2002 D.E.A., ENSA Paris-Val de Seine, Paris, France

Teaching Experience
Present Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
Teaching Assistant, Faculty of Architecture, Universite Laval, Quebec

Professional Experience
2006 - 2012 Designer, Freelance, Toronto, Ontario
2006 Junior Architect, Robbie/Young + Wright Architects Inc., Toronto, Ontario
2004-2006 Design Coordinator, LCBO Store Planning, Toronto, Canada
2003-2004 Designer, Royal Haskoning, Ho Chi Minh City, Vietnam

Recent Honours and Awards
Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Dimitri Papatheodorou, B.Arch, BES, OAA, MRAIC
Instructor

Date of Appointment 2005
Area of Expertise Practicing Architect, Visual Artist (Painting), and Sound Artist
Recent Teaching Assignments
2011 - 2012 ARC720 - Option Studio ASC 401 - Design Studio III
2010 - 2011 ASC 301 - Design Studio II ASC 401 - Design Studio III
2009 - 2010 ASC 301 - Design Studio II ASC 401 - Design Studio III

Education
1989 B.Arch., University of Waterloo, Cambridge, Waterloo
1987 BES, University of Waterloo, Cambridge, Waterloo

Teaching Experience
Present Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2003 - Pres. Guest Critic: University of Toronto, University of Waterloo, OCAD University
2007 - 2011 Faculty, Institute Without Boundaries, George Brown College

Professional Experience
1999 - Pres Principle, Dimitri Papatheodorou Architect, Toronto, Ontario
Represented by the James Baird Gallery, Newfoundland; Elan Fine Art, Vancouver; The Weiss Gallery, Calgary

Recent Honours and Awards
2011 College - Brunswick Parkette Competition: 2nd Prize
2010 Painting Architect & Song, a monograph on his work published by the Institute Without Boundaries, George Brown College, Toronto.
2010 The Current, St. Johns Newfoundland
2009 One Hour Empire, Issue #2
2008 Toronto Life, October Issue - Art Section

Dimitri Papatheodorou
Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Vis Ramasubramanian, B.Arch, OAA & NY AIA
Instructor, Limited Term Faculty

Date of Appointment  2009
Area of Expertise
Recent Teaching Assignments
            Topic: Complex Building Design Development
2011            ASC 820 - Option Studio. Topic: City #3 Toronto's Inner Suburbs
2010            ASC 401 - Design Studio III. Topic: Multi-unit Residential Housing.
2009            ASC 401 - Design Studio III. Topic: Multi-unit Residential Housing.

Education
2011  Registered Architect, Ontario Association of Architects (OAA)
1999  B.Arch, School of Architecture and Landscape Architecture, University of Toronto, Toronto, Ontario

Teaching Experience
Present  Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2008  Adjunct Faculty, University of Waterloo, School of Architecture

Professional Experience
2008  Intern Architect, Planning Alliance, Toronto
2007 - 2008  Principle Designer, Jane and Finch Youth Centre, Toronto, Ontario

Recent Honours and Awards
2011  DX Silver Award – Nathan Phillips Square Podium Roof Garden (Perkins + Will in joint venture with PLANT Architects)
2011  Toronto Urban Design Award – Nathan Phillips Square Revitalization – Podium Roof Garden (Perkins + Will in joint venture with PLANT Architects)
2011  Speaker at ‘RYERSON FACULTY CONFERENCE’ - “Teaching Today’s Learners”, University of Ryerson (2011, May 17). Lecture and poster exhibition of work from 4th year B.Arch Option Studio: “City #3 Toronto's Inner Suburbs - From Marginalization to Revitalization?”

Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Tulsi Regmi, B.S., M.S., Ph.D.
Professor

Date of Appointment: 2012

Recent Teaching Assignments
Fall 2012 PMT 721 - Economics for Project Management

Education
Ph.D. - Environmental Engineering, University of Missouri, Missouri, USA
MS - Civil Engineering, University of Missouri, Missouri, USA
BS - Construction Engineering, Kiev National University of Construction and Architecture, Ukraine

Teaching Experience
2011- Pres. Professor, George Brown College, Toronto, Ontario

Professional Experience
2000 - 2011 Senior Consultant, Altus Group, Toronto, Ontario

Recent Honours and Awards
Court Sin, M.Arch, Honours B.AS, OAA Intern
Instructor, Limited Term Faculty

Date of Appointment 2009
Area of Expertise
Recent Teaching Assignments
2009 - 2010 ASC 401 - Design Studio III

Education 2007 M.Arch, Honours B.AS, University of Waterloo School of Architecture, Waterloo-Cambridge

Teaching Experience Present Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario

Professional Experience Present Principle Agent, Agents of Urban Change, Toronto, Ontario
Present Media Designer, Quadrangle Architects Ltd., Toronto, Ontario

Scott Sorli, B.Arch, BA Sc
Instructor, Limited Term Faculty

Date of Appointment
Area of Expertise
Recent Teaching Assignments
2009 - 2010 ASC 301 - Design Studio II ASC 401 - Design Studio III

Education
2012 MS_DR, University of Michigan (design research: the political aesthetics of police kettling)
1998 - 2010 OAA Intern Architect status
1998 BArch (Honours) terminal professional degree, University of Toronto
1990 PEng license granted
1985 BASc terminal professional degree, University of Waterloo

Teaching Experience
2009 - Pres. Instructor, Ryerson University, Department of Architectural Science, Toronto, Ontario
2007 - Pres. Adjunct Assistant Professor, University of Waterloo School of Architecture
1997 - Pres. Sessional Lecturer 2, University of Toronto Faculty of Architecture

Professional Experience
2002 - Pres. Principal, Sorli Associates, Toronto, Ontario
1997 - 2002 Ian MacDonald Architect Inc.

Recent Honours and Awards
2007 Lifetime YYZ Member in honour of board service
2006 Royal Architectural Institute of Canada Certificate of Merit for TSA Guide Map
2005 Toronto Architecture and Urban Design Award of Excellence TSA Guide Map
2004 Ontario Association of Architects Award for TSA Guide Map

Scott Sorli
Ryerson University
Department of Architectural Science
Architecture Programme Report
September 2012
Evan Webber, OAA, DGC, IATSE, LEED AP  
Instructor  

Date of Appointment  
Area of Expertise  
Recent Teaching Assignments  
2012 AR8101 - Studio in Critical Practice  

Education  
1995 Bach. of Architecture, University of Waterloo  
1987 Bach. of Environmental Studies, University of Waterloo  

Teaching Experience  
2011 - 2012 Adjunct Lecturer, AR8103, Ryerson University  
2009 Design Studio Advisor, University of Detroit - Mercy  
2006 - 2007 Mentor, fourth year students, Ryerson University  

Professional Experience  
2005 - 2011 Assistant Design Director, Vice President, HOK Canada  
1999 - Pres. Director, Consultant to Collaborative Creative Industries, Luminous Line Incorporated  
1997 - 1998 Designer, Job Captain, Taylor Hariri Pontarini  
1988 - 1997 Associate, Job Captain, Kuwabara Payne McKenna Blumberg  

Recent Honours and Awards  
2010 Top Ten Green Buildings, AIA, King Abdullah University of Science + Technology, HOK  
1997 Governor General's Award, Government of Canada, Kitchener City Hall, KPMB  
1997 Governor General's Medal, Government of Canada, Reisman/Jenkinson House, KPMB  

Ryerson University  
Department of Architectural Science  
Architecture Programme Report  
September 2012
4.5 Visiting Team Report from the Previous Visit

The appendix of the APR must include a copy of the report from the previous site visit in its entirety.

Attached is the VTR from our 2010 Initial Accreditation Visit.
2010 Initial Accreditation Visiting Team

Master of Architecture Programme
Ryerson University
Ryerson University

Initial Accreditation Visiting Team Report

Date: March 13-17, 2010

E-mail: info@cacb.ca
Website: www.cacb-ccca.ca

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I. Introduction

II. Summary of Team Findings
   1. Programme Strengths
   2. Causes of Concern
   3. Team Comments
   4. Programme's Progress in Addressing Past Deficiencies
      a) Team Concerns (from 2008 CVTR)

III. Compliance with the Conditions for Accreditation

IV. Appendices:
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      1. Brief History of Ryerson University
      2. Institutional Mission
      3. Programme History
      4. Programme Mission
      5. Programme Strategic Plan
   B. The Visiting Team
   C. The Visit Agenda

V. Report Signatures
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I. Introduction

II. Summary of Team Findings
   1. Programme Strengths
   2. Causes of Concern
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   4. Programme’s Progress in Addressing Past Deficiencies
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III. Compliance with the Conditions for Accreditation

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   A. Programme Information
      1. Brief History of Ryerson University
      2. Institutional Mission
      3. Programme Mission
      4. Programme Strategic Plan
   B. The Visiting Team
   C. The Visit Agenda

V. Report Signatures
Introduction

The Architecture Program at Ryerson University was visited by an accrediting team representing the Canadian Architectural Certification Board. The team reviewed the professional degree program: Master of Architecture.

1. Accreditation

The Canadian Architectural Certification Board receives its authorization as the accrediting agency for professional degree programmes in architecture from the Canadian Architectural Licensing Authorities (CALA) and the Council of Canadian University Schools of Architecture (CCUSA).

The CACB -CCCA was first established by the participating provincial architectural licensing authorities in 1976 to certify the academic credentials and educational experience of applicants for professional internship.

Until 1991, its membership comprised one representative from each of the participating licensing authorities. In 1991, by agreement between the CALA and CCUSA, the Board’s original mandate for professional degree certification was re-affirmed and its responsibilities were extended to the accreditation of professional degree programmes in Canadian university schools of architecture. Simultaneously, its membership was revised to reflect its additional accrediting role, to comprise three members representing the CALA, three members representing the CCUSA, three members drawn from professional practice mutually agreeable to the CALA and the CCUSA, one member representing a national organization of students of architecture and one member representing the public interest.

The CACB awards accreditation only to professional degree programmes in architecture. These are normally:

- Bachelor of Architecture programmes requiring a minimum of five years of study, except in Quebec, where four years of professional studies follows two years of CEGEP studies;
- Master of Architecture programmes with a related pre-professional bachelor’s degree requirement, typically amounting to six years of study;
- Master of Architecture programmes without a pre-professional requirement, comprising an undergraduate degree plus a minimum of three years of professional studies.

Accreditation does not distinguish between the Bachelor’s and Master’s degree titles.

The process of accreditation begins at the school with the preparation of the Architectural Programme Report (APR). The APR identifies and defines the programme and its various contexts, responding to the Conditions and Procedures for Accreditation established by the CACB -CCCA. 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 Board, an accreditation visit is scheduled. The CACB -CCCA’s decision on accreditation is based upon the capability of the school’s programme 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 programme 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 team makes observations and expresses compliments and concerns about the programme and its components. It also offers suggestions for programme enrichment and makes...
Introduction

The Architecture Program at Ryerson University was visited by an accrediting team representing the Canadian Architectural Certification Board. The team reviewed the professional degree program:

Master of Architecture

The two year Master of Architecture, a professional degree program, follows a four year Bachelor of Architectural Science (or equivalent) degree from Ryerson University.

1. Accreditation

The Canadian Architectural Certification Board receives its authorization as the accrediting agency for professional degree programmes in architecture from the Canadian Architectural Licensing Authorities (CALA) and the Council of Canadian University Schools of Architecture (CCUSA).

The CACB-CCCA was first established by the participating provincial architectural licensing authorities in 1976 to certify the academic credentials and educational experience of applicants for professional internship. Until 1991, its membership comprised one representative from each of the participating licensing authorities.

In 1991, by agreement between the CALA and CCUSA, the Board's original mandate for professional degree certification was re-affirmed and its responsibilities were extended to the accreditation of professional degree programmes in Canadian university schools of architecture. Simultaneously, its membership was revised to reflect its additional accrediting role, to comprise three members representing the CALA, three members representing the CCUSA, three members drawn from professional practice mutually agreeable to the CALA and the CCUSA, one member representing a national organization of students of architecture and one member representing the public interest.

The CACB awards accreditation only to professional degree programmes in architecture. These are normally:
- Bachelor of Architecture programmes requiring a minimum of five years of study, except in Quebec, where four years of professional studies follows two years of CEGEP studies;
- Master of Architecture programmes with a related pre-professional bachelor's degree requirement, typically amounting to six years of study;
- Master of Architecture programmes without a pre-professional requirement, comprising an undergraduate degree plus a minimum of three years of professional studies.

Accreditation does not distinguish between the Bachelor's and Master's degree titles.

The process of accreditation begins at the school with the preparation of the Architectural Programme Report (APR). The APR identifies and defines the programme and its various contexts, responding to the Conditions and Procedures for Accreditation established by the CACB-CCCA. 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 Board, an accreditation visit is scheduled. The CACB-CCCA's decision on accreditation is based upon the capability of the school's programme 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 programme 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 team makes observations and expresses compliments and concerns about the programme and its components. It also offers suggestions for programme enrichment and makes
recommendations, which, in the judgment of the team, are necessary for the programme's improvement and continuing re-accreditation.

II. Summary of Team Findings

The visiting team reviewed the Architecture Programme and completed body of work represented the Bachelor of Architectural Science and Master of Architecture curricula. The findings of the team are summarized in the strengths and causes of concern of the programme.

1. Programme's Strengths

1. The student body in the Department of Architectural Science at Ryerson University is a culturally and socially diverse group that reflects the constituency of the Greater Toronto Area. They are articulate, resourceful, responsible, involved, dedicated and hard-working. This is formally manifested by well-organized improvements, leadership, and development of a supportive and collaborative environment. Further, the entire administrative team should be commended for the efforts they have made to implement the new programmes.

2. The Department chair, Dr. Kendra Schank Smith, should be recognized for her organizational improvements, leadership, and development of a supportive and collaborative environment. Further, the entire administrative team should be commended for the efforts they have made to implement the new programmes.

3. The teaching faculty, including adjunct instructors, and support staff have demonstrated focus and a strong commitment to the programme vision, and bring a positive, professional and dedicated energy to the Department. The team acknowledges the recent purchase of digital fabrication equipment and the outstanding contributions of the workshop staff.

4. President Dr. Sheldon Levy, Provost Dr. Alan Shepard and Interim Dean of Engineering Dr. Mohamed Lachemi affirmed very strong support for the role of the Department of Architectural Science and its aim to be a professionally accredited Master of Architecture degree within the University. The University has taken measures to fund improvements to the building, the number of support staff positions, and teaching ratios since the last visit in 2008.

5. The programme has maintained its traditional focus on issues of building science and architectural technology and has hired new faculty in key areas of strength. The structuring of the programme into the three areas of Architecture, Building Science and Project Management is supported by the introduction of a year of undergraduate specialization and Masters programs implemented or proposed in each area.

6. The Department plays an active and participatory role in the University, the profession, and the city. This fits well with the University and its mission. All indications are that the architecture programme will continue the Department's history of producing highly competent graduates who are well-suited to the profession.

2. Causes of Concern

1. Despite the long history of the Department producing highly employable graduates, there should be further efforts to develop a professional culture within the Department and this has ramifications for a series of courses and accreditation criteria. There is a lack of suitable courses and course content in professional practice, particularly in the areas of ethics, professional judgment and leadership. Ryerson is well placed to develop innovative coursework in professional practice.

2. The team recognizes the valued tradition of Ryerson's technical program. However, the development of the professional degree requires a broader education and greater emphasis on the Liberal Arts. Numerous shortcomings within the professional curriculum may exist because of the shortcomings within the Liberal Arts.

3. Generally, writing, research, and critical thinking abilities evident throughout the curriculum do not meet the expectations for accredited architectural programs; this has impact on many other performance criteria.
4. The undergraduate curriculum has an excessive course load, a very concentrated weekly timetable, and numerous assignments. Further, there is some concern about the length of the six-semester Masters programme. The Department is encouraged to review the curriculum to address these concerns.

5. The strength of the applied aspects of the curriculum, particularly in building science, does not appear in the graduate programme in any depth. There is significant potential for developing excellence in this area, building on the unique history of the Department.

6. The workshop is not adequate in size to serve the current number of students.

7. It is important that the approved upgrades to the building’s HVAC system be addressed immediately, particularly with respect to the area dedicated to digital fabrication.

3. Team Comments

1. The team commends the University for its progress in addressing issues associated with the building, support staff and teaching loads since the last visit. However, there is a concern about the teaching loads of Department administrators.

2. The Department is encouraged to develop its plans to redevelop the entire building with a new envelope system (as a demonstration green facility) and expanded facilities. The Department is strongly encouraged to develop a Building Sciences laboratory commensurate with the expertise in the programme.

3. The current history courses need development, with a stronger emphasis on writing and critical skills, and on teaching in regional and national traditions. There is an opportunity to more strategically utilize faculty members with backgrounds in architectural history and to develop its history and theory stream.

4. The Department’s international programmes, visiting lecture series and enrichment programmes are to be commended for their breadth and comprehensiveness.

5. The Department is encouraged to develop a fund-raising campaign to secure monies for research, infrastructure expansion, and scholarships. The development of awards and scholarships is particularly important for the new Masters programme.

6. The visiting team would like to commend the programme for the high quality of the team room, and the enthusiastic involvement of the administration, students, faculty and support staff in the accreditation process.

7. The team acknowledges the recent purchase of digital fabrication equipment and the outstanding contributions of the workshop staff.

4. Programme’s Progress in Addressing Past Deficiencies

Since the previous Candidacy visit in 2008, the programme has undertaken a number of changes to its facilities, teaching loads, and curriculum. The following observations were made by the visiting team in response to the concerns in the 2008 CVTR:

a) Team Concerns (from 2008 CVTR)

Human Resources

1. As the architecture programme expands, and the learning and research activities grow in proportion, the demand on human resources will also grow accordingly. This condition is currently creating a negative impact as follows:
   • Faculty with teaching loads that are too large and therefore impede the ability to do research, service, and appropriately engage their students.
   • Administrative support staff that cannot meet the growing demands of faculty and a student body of
approximately 600.

- IT support staff that cannot meet the ever evolving needs of new digital technology, an increasing reliance on digital design exploration by students and faculty, and the provision and maintenance of digital infrastructure.
- Workshop support staff that cannot meet the needs of students engaged in design thinking through making, and the opportunities presented by materials and methods testing.

The faculty teaching loads have been adjusted to meet accreditation standards. However, faculty members with administrative responsibilities (undergraduate and graduate coordinators) have loads which exceed limits of sustainability. Administrative support staffing levels continue to be of concern to the accrediting team and current staffing cannot meet the growing demands of faculty and student body. One IT support staff has been hired who is very qualified and will likely bring strong benefits to the programme. An additional position has been requested to meet the growing digital demands of an emerging professional programme (including digital fabrication). This additional position is considered essential to the programme. The workshop support staff has been supplemented by the one hire within IT who is capable of addressing issues of digital fabrication.

2) During the Team’s meetings with senior administration, there was not an integrated perspective articulated towards the recognition of insufficient resources and how to appropriately deal with them.

The Team’s meetings with senior administration found strong recognition of the resources required for the professional programme. The Team is optimistic about the positive role the President, Provost and Dean will play in the programme’s development.

**Physical Resources**

3. **Overall Building.** The Ryerson Architecture Building, designed in the late 1970’s, is now the product of too many years of deferred maintenance, resulting in the critical need for an overall building upgrade, including the HVAC system, glazing systems and building envelope, comprehensive elevator upgrade, lighting system, building security system and electrical distribution.

   The building has had a number of upgrades, and significant progress has been made in improving the physical facilities. Portions of the HVAC have been upgraded; the elevator replaced; the lighting system improved; a building security system installed; and the electrical distribution updated. Safety in the studios is currently being improved through the addition of glazed partitions and card-access doors. Major deficiencies still exist within the HVAC system and the building envelope. Discussions with the President and Provost indicate that they are aware of these deficiencies and will address these shortcomings.

4) **Studio Space.** With the current cohort of students, the area of the studio space is cramped and not conducive to cultivating a functional and positive studio environment. Exacerbating the lack of functionality of the studio space, is the critical need for an upgrade to the building infrastructure. The studio space is drafty and cold in winter and overheated in summer, is inadequately illuminated, without an electrical system that supports digital design pursuits, and lacks adjacent storage space that facilitates occupation by the students.

   The studio spaces are much improved and address most concerns. However, because of an inadequate HVAC system and building envelope, the studios continue to be drafty and cold in winter and overheated in summer. New workstation furniture has been designed for the studios, and is being implemented. In spite of these major shortcomings, the Team is pleased to see significant progress toward meeting the deficiencies. See Section 7 (Physical Resources).

5. **Digital Technology Infrastructure.** With professional practice increasing reliance on digital media and its integration in design exploration, dissemination of ideas, instruction, and design reviews, a more comprehensive electronic information infrastructure, including internet capability throughout the school, data projection equipment, and plotting capabilities, need to be acquired and distributed as a complete network by the School in order to ensure the currency of instruction.

   This concern has been met.
6. **Office Spaces.** The space allocated to full time faculty appears to be adequate for the current cohort of faculty members; however any increase in faculty numbers will need an increase in space. The office space for part time faculty seems much less accommodating, and we recommend a closer look at how these instructors’ space needs can be met.

Office space continues to be a problem. See Section 7 (Physical Resources).

7. **Workshop.** The workshop is well-equipped and organized, and is led by two dedicated and talented technicians. This obvious quality, which should clearly be applauded, is continuously challenged by the large demand for this facility from the school’s explicit culture of making. The workshop is a cornerstone to the school’s pedagogical mission, and as digital fabrication methods continue to develop, and as material research and testing grow within the school, it is clear that this facility desperately needs expansion.

The size of the workshop continues to be a concern, see “Causes for Concern.”

8. **Computer Lab.** Proposed initiatives for a laptop policy may decrease the pressure on this facility that, at the current time, is overwhelmed by the student needs. The demands put on the students for the conception, development, documentation and presentation of ideas within a digital realm requires a matching commitment on the part of the architecture program for digital resources in the form of computer terminals, access to hardware and software, and printing services.

There have been improvements to computer output devices and student connectivity. See Section 7 Physical Resources for comments on resource issues.

9. **Gallery Space.** The school is in need of exhibition space that can contribute to the culture of the school and the community through its flexibility, functionality, accessibility, and security for the exhibited material.

A temporary gallery space has been set up in the Student Engagement Centre. Space for a permanent gallery has been allocated, but its construction is awaiting funds to match committed University funds.

10. **Faculty Research Space.** With the emergence of a new culture of research, adequate space with services appropriate to that research will need to be provided.

Research space remains a problem. The administration is willing to find space for successful grantees, however many find it easier to share laboratory space in other departments and universities. This is not conducive to an improved research programme in the Department.

11. **Based on observations during the visit, a comprehensive life safety and accessibility audit is recommended.** As well, it is clear that the architecture program is aware of the inadequacies of the physical resources, as evidenced in Architecture Program Report and based on the survey document listing proposed renovations to the building entitled “Renovations for the Architecture Building” dated February 21, 2008.

The life safety and accessibility audit has been done. No problems were found. The physical resources while still remaining inadequate have received substantial upgrades. See Section 7 Physical Resources.
III. Compliance with the Conditions for Accreditation

1. Programme Response to the CACB-CCCA Perspectives

Programmes must respond to the relevant interests of the constituencies that make up the CACB-CCCA: education (CCUSA), members of the practicing profession, students and interns, provincial associations of architects (CALA) and public members.

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A. Architecture Education and the Academic Context

The programme must demonstrate that it both benefits from and contributes to its institutional context.

Well met. Ryerson University’s traditional strength in the development of technical expertise and education is fully embraced by the Department of Architectural Science. Additionally, the Department has aligned itself with the University’s mission to achieve professional school accreditation and graduate programme status throughout the University. With the introduction of the Master of Architecture programme, and parallel Masters of Building Science and Masters of Project Management the Department of Architectural Science should anticipate a gradual increase in the research profile of the Department, and increased opportunities for collaborative research opportunities across the University campus.

Meetings with the President Dr. Sheldon Levy, Provost Dr. Alan Shepard and Interim Dean of Engineering Dr. Mohamed Lachemi affirmed strong support for the role of the Department of Architectural Science and the professionally accredited Master of Architecture degree within the University. All spoke glowingly about the past and current role of the department and the potential for stronger institutional relationships. They understand the department is a studio-based learning unit and the associated needs and resources required.

The Department plays an active and participatory role in positively effecting the built environment at Ryerson University through design charrettes, public involvement and studio assignments. The President and others are often asked to participate. Overall, the Department of Architectural Science is well integrated into the University context.

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B. Architecture Education and the Students

The programme must demonstrate that it provides support and encouragement for students to assume leadership roles during their school years and later in the profession, and that it provides an interpersonal milieu that embraces cultural differences.

Well met. The student body at Ryerson is a culturally and socially diverse group that reflects the constituency of the Greater Toronto Area. They are articulate, resourceful, responsible, involved, dedicated and hard working. This is formally manifested as a well-organized group represented by three student organizations. The Architecture Course Union (ACU) represents the student body within the Department of Architectural Science focusing on extra-curricular activities, studio culture, and professionally-related events.

The Canadian Architecture Students Association (CASA / ACEA) represents the students nationally. The Department holds the only Canadian membership in the American Institute of Architecture Students (AIAS), which brings students opportunities to participate in design competitions, to publish, and to attend conferences. Commendably, Ryerson will host the 2010 National AIAS conference.

The department should attract outstanding students from beyond the Province of Ontario. Greater geographic diversity would add both breadth and depth to both the undergraduate and graduate programmes.
C. **Architecture Education and Registration**

*The programme must demonstrate that it provides students with a sound preparation for the transition to internship and licensure.*

The Department of Architectural Science, because it has not been accredited to date, has not had strong direct connections with the provincial association. However, graduates of the Department have long had success in the industry, this is supported by many of the teaching staff who are registered architects. The use of an office concept in the comprehensive studio is a good idea, and should be developed further. A strength of the programme is the enthusiastic interest on the part of students in pursuing registration. However, the formal instruction in professional practice, including registration procedures, does need development.

D. **Architecture Education and the Profession**

*The programme 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.*

The professional courses need to be further developed to address the fundamentals of practice, ethics, and leadership, and can continue to be expanded to include more advanced areas of practice. Because of the strong commitment to the profession of architecture, the new graduate programme may provide additional opportunities for innovative research, including in areas of practice and building science, which could ultimately influence architectural practice. Professional practitioners are well integrated into the curriculum, and students understand the complexities of team work and collaboration through the integrated studio and other courses.

E. **Architecture Education and Society**

*The programme must demonstrate that it not only equips students with an informed understanding of social and environmental problems but that it also develops their capacity to help address these problems with sound architecture and urban design decisions.*

The Greater Toronto Area provides an outstanding laboratory for studying, living and working. Students are immersed within a rich and complex urban environment which significantly contributes to their ability to understand and address social and environmental issues. The department has developed a number of significant off campus travel/study programmes in both the graduate and undergraduate programmes. This includes programmes which travel to the United States, Israel, China, Brazil, and Turkey. The programme utilizes these contexts to increase awareness through seeing, immersion and analysis. The team encourages further refinements of the curriculum to provide the students with the intellectual tools/abilities to meet the immense challenges that are, and will be, facing our society and environment.

2. **Programme Self-assessment**

*The programme must provide an assessment of the degree to which it is fulfilling its mission and achieving its strategic plan.*
The self-assessment processes are in place at Ryerson, and at the departmental level (including the Strategic Plan 2008-2013). The programme has many the opportunities for thorough examination and evaluation of overall learning in the curriculum. The different processes include external review by the Academic Council, by the School of Graduate Studies, by the Ontario Council on Graduate Studies, as well as by the Periodic Programme Review required by the University. Internally, the Programme Advisory Council provides critical feedback, and the Departmental Council is required to meet at least once a term. Performance of full-time and part-time faculty is reviewed through clear processes. DAS has developed a suitable Strategic Plan, and is working successfully to meet the goals in its plan in a timely manner. Finally, the CACB accreditation provides a key assessment process.

It was noted that grading at the undergraduate level is not reviewed for student performance trends, nor a process in place for faculty to identify student concerns or student success in a holistic way. However, at the graduate level, grades information is reviewed and student performance holistically assessed. This model might be applied to the undergraduate programme, recognizing growth at the master’s level will increase the demands of staff time. As well, this would require ensuring sufficient human resources available for curriculum advising, with a view towards individual improvement.

3. Public Information

The programme must provide clear, complete, and accurate information to the public by including in its catalogue and promotional literature the exact language found in Appendix A-2, which explains the parameters of an accredited professional degree programme.

4. Social Equity

The programme must provide all faculty, students, and staff—irrespective of race, ethnicity, creed, national origin, gender, age, physical ability, or sexual orientation—with equitable access to a caring and supportive educational environment in which to learn, teach, and work.

The Department appears quite diverse in terms of both faculty and students. Equity is satisfactory and improving amongst the Faculty—with recent hires that include three women and three minority full-time positions. The student population is roughly equal in terms of gender. The faculty population is steadily increasing towards gender balance, currently women hold 28% of faculty positions. As admission decisions are made strictly on performance, the overall population is diverse largely due to the University’s position in the culturally and ethnically diverse downtown Toronto. Students apply social equity issues through instruction, supported by University organizations, research, charrettes, community outreach programmes and projects.

5. Human Resources

The programme must demonstrate that it provides adequate human resources for a professional degree programme in architecture, including a sufficient faculty complement, an administrative head with enough time for effective administration, administrative and technical support staff, and faculty support staff.

a. Students: Student enrollment has been decreased since 2008 to ensure that CACB teacher/student ratios are met. The student cohort in the Department is accomplished and highly regarded by the senior administration, including the Interim Dean. Application numbers and selection criteria are strong for the undergraduate programme. The graduate programme is steadily building up its numbers and procedures.
Generally, student graduation rates and retention is very good. There is a concern about the overall length of the programme (in semesters) and course loading at points in the curriculum.

b. Faculty: Faculty teaching loads have been adjusted. The weighting of supervision of Masters students has not been factored into loads, nor is there a clear guideline for teaching release due to research. Generally the Faculty is productive in scholarship, research and practice at rank expectations. There are opportunities to capitalize on research expertise in the Department.

c. Administration: The Department is very well administered by the leadership team, although this group continues to maintain teaching loads that are too high.

d. Staff: The morale among the staff is extremely positive. The administration has created a supportive working environment. However, support staff are stretched to capacity, and IT and the digital fabrication equipment needs more support. The team recommends the anticipated hire of an additional IT support person be immediate. The staff in the workshop are universally regarded for their contributions to the Department.

Substantial improvements have been made overall staffing since the 2008. The Department of Architectural Science is staffed by a dedicated team who provide strong administrative and technical support for faculty and students. The staff, almost entirely new since 2008, expressed confidence in their ability to provide a strong and collaborative support system for students and faculty. The staff is comprised of the administrative leader, four administrative staff, one IT staff, and two craftsmen/technician, Workshop, and Lab staff.

The administrative leader brings a high degree of professionalism and leadership to the process. She leads by providing an open, collaborative team approach to the administration, and coordination of protocols and procedures. There is evidence staff are enthusiastic about improving the day-to-day functioning of the programme which, staff noted, has greatly improved since 2008. The staff seems highly aware of the ongoing necessity to improve an increasingly complex admissions process. Further, it is recognized the increased demands of the Master’s programme will strain to the limit, an already strained support staff. The administrative support staff should be commended for taking the undergraduate programme to a well managed set of processes. Improvements to student timetabling and efficiencies gained through a team approach, assist faculty and students alike. Submitting grades has greatly improved with the team approach, resulting in fewer grade changes, improved protocols, and grades now available on-line in a timely way.

The CVTR expressed concerns regarding the adequacy of the IT and technical shop and lab human resources. With only one IT staff, and a relatively new member of the team, has helped greatly during the transition, but there is a need for increased IT support, if, IT is expected to provide ongoing and long range technical support. It should be noted, the entire programme complement relies on one IT human resource staff member, and the team recommends addressing this obvious (1/628) staffing shortfall, as soon as possible. Equipment changes will stress the system, if sufficient resources are not allocated to support pre-planning and overview of the IT infrastructure, future planning and implementation.

The Shop and Laser Lab are managed by two highly valued staff. They provide instruction and support for all studio work, faculty needs, exhibition needs, and ongoing studio furniture and finishing. The professional Master’s programme, and emphasis on pre-fabrication and culture of ‘making’ will find itself strained to capacity, as enrollment increases. Further, additional human resources will be essential if Ryerson is to maintain a strong culture of laboratory research and development, and continue to service the pre-professional students, at the undergraduate level, in all three disciplines; Architecture, Building Science, and Project Management. The Shop and Lab is augmented by three part-time work/study students, however, this additional stress the Master’s programme has placed on human resources is ameliorated, by a focused and supportive senior administration, committed faculty, and enthusiastic and engaged students.
6. **Human Resource Development**

*Programmes must have a clear policy outlining both individual and collective opportunities for faculty and student growth within and outside the programme.*

The Department has adequate policies for human resource development, including student support services. The Department has a very comprehensive programme of guest reviewers, lecturers, conferences, and design charrettes. The same can be said of the study abroad programmes that take on socially and culturally engaging projects. The student societies are very active, and include the upcoming AIAS national conference. Students receive good financial support from the province, however, the internal awards and scholarships are not commensurate with the size of the student population. This is particularly the case with the new graduate programme.

The guidelines for tenure track faculty seem to be clear and fair, however, the annual reporting procedures for tenured faculty are not transparent. Tenured faculty members receive no formal response to their annual reports, which makes it very difficult for faculty to know how their careers are progressing. Ryerson University is encouraged to develop a two-way annual reporting system for tenured faculty. The University provides adequate starter grants for new faculty, and provides some funding to support faculty to conferences, etc. The Department maintains a healthy balance between practitioners and active researchers.

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7. **Physical Resources**

*The programme must provide physical resources that are appropriate for a professional degree programme 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.*

**Overall Building**

The need for upgrade of the Ryerson Architecture Building noted in the visiting team report in 2008 has been addressed in a partial way. Improvements to the building security system are underway and should be completed shortly. Important work still needs to be done on the HVAC system and on the building envelope. This could be an excellent opportunity for the University to improve greatly not only on the overall performance of the building but also to take advantage of the Department’s unique expertise, and to involve both staff and students in the process. The building can become an exemplary sustainable project, and contribute to the civic presence of the University in the city.

**Studio Space**

Ameliorations have been made to the studio space since 2008. New furniture (to be implemented) should also contribute to the general improvement of the working environment. The environmental control is still inadequate. Space per student should be compared with North American norms.

**Digital Technology Infrastructure**

Improvements have been made with the creation of a new Digital Fabrication Lab. However, the air quality in this lab is very poor and needs to be addressed through HVAC system improvements. A new Simulation (or Immersive Realities) Lab has been proposed and its implementation will compliment the other infrastructure in place.

**Lecture and Seminar Spaces**

Numerous spaces are available on campus for the delivery of lecture and seminar courses.

**Exhibition Areas**

Several informal, unsecured exhibition spaces are used throughout the building, particularly in the lobby and off the studios. A temporary gallery space has been set up in the Student Engagement Centre. Space for a permanent gallery has been allocated, but its construction is awaiting funds to match committed University funds.
Office Spaces
The office space for full time faculty appears to be adequate, however does not provide for an increase in faculty numbers. Security issues related to the seduced location of the office spaces were raised by faculty. The office space for part-time faculty is minimal.

Research Spaces
The faculty seemed to be confident in available research space, but this is likely to become more of an issue as the programme continues to transition at a university level and research expands. The potential use of the rooftop as an innovative research area is encouraged.

Workshop
Given the large number of students in the department and the strong culture of making, the workshop capacity should be expanded. Air quality issues specific to the shop need to be addressed.

8. Information Resources
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.

The architecture library resources are housed in the central Ryerson University Library, a short walk from the Department of Architectural Science. The library has a librarian who covers the acquisition of architecture and related materials as part of her mandate. The overall collection has been significantly added to since the previous team visit in 2008, and is adequate in size, scope, and content. Books, journals, visual resources and non-book resources are current and available. The library is strongly encouraged to continue to develop the breadth and depth of its collection, particularly to support the development of graduate programmes in the Department. The policies, reference services, access, and agreements with other academic libraries are all according to current library practices. The existing library will eventually be replaced by a new Ryerson University Student Learning Centre. The current facility has been partially renovated to accommodate a learning commons and an open work/study area. The steady state acquisitions budget for architecture and related materials should be made clear. The recent acquisition of the Canadian Architect archives is a notable addition to the collection. Overall, the Ryerson University Library provides a responsive and accessible facility for students in the Department. Further, students have access to other university and college libraries in the Toronto area.

Financial Resources
Programmes must have access to institutional support and financial resources comparable to those made available to the other relevant professional programmes within the institution.

The Department continues to receive the support of the University in terms of total budget despite a decrease in operating budget. This reflects a significant increase in the part-time sessional teachers budget. The total budget continues to increase a pace with the comparator engineering departments.

The candidacy report of 2008 emphasizes the necessity of additional resources beyond the comparator departments to accomplish a 12:1 to 14:1 studio teaching ratio. This team did find the letter of commitment to the CACB board from Ryerson University regarding appropriate resources, but no systematic way of measuring the impact of additional resources since 2008. In this initial period, it is important that this issue of teaching resources continues to be monitored and is documented on an annual basis in the required reports to the CACB.
Start up of a professional program requires additional one-time resources beyond the base annual budget to establish endowments, scholarship and development. University-wide scholarships must be equitable with comparator departments, priority must be given to attracting new scholarships to attract high-calibre graduate students and start-up funding to improve research infrastructure for the department and individual faculty. An endowment campaign for research infrastructure and scholarships should be established that is equivalent to comparator departments, this should be strategized with the Faculty development plans.

10. Administrative Structure (Academic Unit & Institution)

The programme must be a part of, or be, an institution accredited by a recognized accrediting agency for higher education. The programme must have a degree of autonomy that is both comparable to that afforded to the other relevant professional programmes in the institution and sufficient to ensure conformance with all the conditions for accreditation.

The Chair of the Department of Architectural Science is responsible for managing the resources allocated by the Dean of the Faculty of Engineering, Architecture and Science within a decentralized administration model, providing the Chair with one critical tool in order to facilitate the necessary autonomy to assure conformance with all the condition for accreditation. The Chair has an assigned 80% administrative load, and is supported by Programme Directors. The team was informed that the current Dean of Graduate Studies will soon retire and the Faculty of Graduate Studies responsibilities will likely be de-centralized. If such a move takes place it is important the Department of Architectural Science have adequate administrative responsibility and support staff to develop and maintain its graduate programme. Currently, the Department has adequate autonomy and is well served by the institution. There are preliminary discussions at Ryerson University regarding the possibility of creating a new Faculty of Design (including possibly planning and interior design). The Department of Architectural Science should carefully consider this option if and when it arises.

11. Professional Degrees and Curriculum

The CACB-CCCA only accredits professional programmes offering the Bachelor of Architecture and the Master of Architecture degrees. 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.

General Studies: The team is concerned that the programme does not adequately meet the criteria for general studies. Currently, general arts includes the six required liberal arts and sciences electives, history and theory courses, and some programme electives.

Professional Studies: The teaching of design is well demonstrated, particularly in the Masters programme. It should be noted that there is a lot of time devoted to small projects at the beginning of the design studio sequence in the undergraduate programme. The Department has strength in teaching the technical subjects, and has a strong comprehensive studio component. However, there are no required technical courses taught after the third year of the undergraduate programme. The professional practice courses need development. There is a lack of clarity and sequencing of professional practice components of the curriculum. This should be a strength of the Department based on the programme and university mission; build on their applied history in this area. The overall course requirements for the history courses needs reconsideration.

Electives: The Department provides a comprehensive range of electives.

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12. **Student Performance Criteria**

The programme 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.

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**12.1 Verbal and writing skills**

Ability to speak and write effectively on subject matter contained in the professional curriculum.

Evidence throughout the curriculum shows the impact of this deficiency. Despite students taking required liberal arts and science electives, there was not adequate evidence of university level writing skills. While a few courses required and achieved adequate levels of writing, the writing of properly researched and referenced term papers was not evident at a consistent level throughout the course work. Students demonstrated strong verbal skills.

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**12.2 Graphic skills**

Ability to employ appropriate representational media, including computer technology, to convey essential formal elements at each stage of the programming and design process.

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**12.3 Research skills**

Ability to employ basic methods of data collection and analysis to inform all aspects of the programming and design process.

While limited data collection and analysis may occur within the curriculum, there is insufficient evidence that the research skills are developed enough to inform all aspects of the programming and design process. Research methods are minimally explored. Additionally, clarity of process and accepted norms for research documentation falls short of expectations. This shortcoming is related to SPC 12.4. As the graduate programme develops, research abilities will be an essential element for success.

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**12.4 Critical thinking skills**

Ability to make a comprehensive analysis and evaluation of a building, building complex, or urban space.

Evidence throughout the curriculum shows the impact of this deficiency. The visiting team noted a general ability to observe and describe existing conditions using text, drawings, physical/digital models or other means. However, the team also noted a lack of general ability to move beyond the descriptive, to identify the meaning and significance of what is observed or expressed. Further, regarding textual or visual argument, the team observed a weakness in determining whether there is adequate justification to accept a result or conclusion as valid.

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**12.5 Fundamental design skills**

Ability to apply basic organizational, spatial, structural, and constructional principles to the conception and development of interior and exterior spaces, building elements, and components.
There is solid evidence that students acquire fundamental design skills, however, the introductory studios employ rather short exercises, spend too long on small scale projects, and do not transition well to larger projects and building typologies.

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<tr>
<th>12.6 Collaborative skills</th>
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<tbody>
<tr>
<td>Ability to identify and assume divergent roles that maximize individual talents, and to cooperate with other students when working as members of a design team and in other settings.</td>
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<tr>
<td>The integration of architecture, project management and architectural science within the first three years and throughout the electives promotes a collaborative spirit. The Integration Studio ASC520 sets up an innovative studio model, but the collaborative exercises seem to end after site analysis. There is an opportunity to push the collaborative aspect of this studio further. With the addition of the “Collaborative Exercise” vertical collaboration is also established. Future cooperative relationships with other related disciplines (engineering, planning, interior design, etc.) may add even more to the program.</td>
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<th>12.7 Human behaviour</th>
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<tr>
<td>Awareness of the theories and methods of inquiry that seek to clarify the relationships between human behaviour and the physical environment.</td>
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<th>12.8 Human diversity</th>
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<tr>
<td>Awareness of the diversity of needs, values, behavioural norms, and social and spatial patterns that characterize different cultures, and the implications of this diversity for the societal roles and responsibilities of architects.</td>
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<th>12.9 Use of precedents</th>
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<tr>
<td>Ability to provide a coherent rationale for the programmatic and formal precedents employed in the conceptualization and development of architecture and urban design projects.</td>
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<tr>
<td>While precedents are presented in various courses, there was insufficient evidence of the systematic analysis of precedents and their application to design.</td>
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<th>12.10 Western traditions</th>
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<tr>
<td>Understanding of the western architectural canons and traditions in architecture, landscape, and urban design, as well as the climatic, technological, socio-economic, and other cultural factors that have shaped and sustained them.</td>
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<tr>
<td>Marginally met. The first two (of three) required courses in architectural history do not provide adequate means of student evaluation.</td>
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12.11 Non-western traditions
Awareness of the parallel and divergent canons and traditions of architecture and urban design in the non-Western world.

Met Not Met
[X] [ ]

12.12 National and regional traditions
Understanding of the national traditions and the local regional heritage in architecture, landscape, and urban design, including vernacular traditions.

While there is some content in the third history course, and many assignments dealing with Toronto in the curriculum, the teaching of this subject is not adequately presented. It is noted that there is an elective course on this subject.

Met Not Met
[ ] [X]

12.13 Environmental conservation
Understanding of the basic principles of ecology and architects’ responsibilities with respect to environmental and resource conservation in architecture and urban design.

Met Not Met
[X] [ ]

12.14 Accessibility (Concern)
Ability to design both site and building to accommodate individuals with varying physical abilities.

Accessibility is clearly met through the third year building designs, but evidence is limited within site design. No evidence found in other courses.

Met Not Met
[X] [ ]

12.15 Site conditions
Ability to respond to natural and built site characteristics in the development of a programme and the design of a project.

Marginally met. ASC403 has much of the content and analytical exercises but does not translate well into design. Very few design projects focused on natural, or non-urban, sites.

Met Not Met
[X] [ ]

12.16 Formal ordering systems
Understanding of the fundamentals of visual perception and the principles and systems of order that inform two and three-dimensional design, architectural composition, and urban design.

The “Ideas, Technologies and Precedents” courses explore formal ordering systems satisfactorily through examples, assignments, and quizzes. However, the translation into studio design work is only marginally successful.

Met Not Met
[X] [ ]
12.17 Structural systems
Understanding of the principles of structural behaviour in withstanding gravity and lateral forces, and the evolution, range, and appropriate applications of contemporary structural systems.

The understanding, integration and application of structural principles and behaviors are complete and thorough. The use of building canopy projects repeated but seems disconnected from the overall comprehension of a building’s behavior; the focus and streamlining of courses would be an asset. Many structural problems tend to focus on conventional solutions.

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12.18 Environmental systems
Understanding of the basic principles that inform the design of environmental systems, including acoustics, lighting and climate modification systems, and energy use.

Well met. Translates into design at a conceptual level, students aspire to innovation.

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12.19 Life-safety systems
Understanding of the basic principles that inform the design and selection of life-safety systems in buildings and their subsystems.

Introduced early, and applied in the design studios.

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12.20 Building envelope systems
Understanding of the basic principles that inform the design of building envelope systems.

Strong presentation of principles demonstrated through graphics, calculations, and three dimensional models, with rather conventional translation into design and in ASC302. With the available building science expertise, innovative envelope systems could be further explored.

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12.21 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.

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12.22 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 design.

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12.23 Legal responsibilities
Understanding of architects' legal responsibilities with respect to public health, safety, and welfare; property rights; zoning and subdivision ordinances; building codes; accessibility and other factors affecting building design, construction, and architecture practice.

Professional practice courses tend to focus on the critical constructs of alternative practice. The teaching of basics of professional practice required, course learning outcomes, and assignments, should be more explicit.

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12.24 Building code compliance
Understanding of 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.

Addressed in two studio courses, but not enough focused attention on the subject.

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12.25 Building materials and assemblies
Understanding of the principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies.

Well met. The design work demonstrates an applied understanding of building materials and assemblies, and the preparation of specifications in ASC622 is a valuable introduction to the documentation and application of marketplace materials.

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12.26 Building economics and cost control
Awareness of the fundamentals of development financing, building economics, and construction cost control within the framework of a design project.

Well met. The Integration Studio (ASC520) is an excellent example on how to integrate the complexities of building economics and cost control into the design process within an academic setting. The team appreciates the coordinated and integrated approach to advance well beyond the “awareness” criteria.

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12.27 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 programmes.

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12.28 Technical documentation
Ability to make technically precise descriptions and documentation of a proposed design for purposes of review and construction.
Well met. Technical documentation is used to explore designs throughout the program, and is graphically strong in the Integration Studio (ASC620) through detailed wall sections. In particular, ASC622 provides an extensive exercise in documenting working drawings and specifications.

12.29 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.

Well met. The team recognizes the strength, and encourages development, of the office model. There is some concern whether or not all students get adequate consulting time for their projects.

12.30 Programme preparation
Ability to assemble a comprehensive programme for an architecture project, including an assessment of client and user needs, a critical review of appropriate precedents, an inventory of space and equipment requirements, an analysis of site conditions, a review of the relevant laws and standards and an assessment of their implications for the project, and a definition of site selection and design assessment criteria.

The role of programming is not explicit in the curriculum, although it is a component of the final thesis project.

12.31 The legal context of architecture practice
Awareness of the evolving legal context within which architects practice, and of the laws pertaining to professional registration, professional service contracts, and the formation of design firms and related legal entities.

12.32 Practice organization and management
Awareness of the basic principles of office organization, business planning, marketing, negotiation, financial management, and leadership, as they apply to the practice of architecture.

12.33 Contracts and documentation
Awareness 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.

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

Marginally met. This is no direct evidence of this in course outlines or assignments.
12.35 Architects' leadership roles
Awareness of architects' leadership roles from project inception, design, and design development to contract administration, including the selection and coordination of allied disciplines, post-occupancy evaluation, and facility management.

The leadership roles of architects is not directly addressed in course materials or assignments, other than indirectly through the organizational model of the integrated studio.

12.36 The context of architecture
Understanding of the shifts that occur - and have occurred - in the social, political, technological, ecological, and economic factors that shape the practice of architecture.

Met through a number of courses in the curriculum.

12.37 Ethics and professional judgment
Awareness of the ethical issues involved in the formation of professional judgments in architecture design and practice.

Not directly addressed in course work. No sense of procedures, transparency, self-governing processes, or critical/ethical thinking.

Ryerson University
Initial Accreditation Visiting Team Report
Date: March 13-17, 2010
IV. Appendices

Appendix A: Introduction to the programme

The following is based on the Architecture Program Report:

1. Brief History of Ryerson University

Since its founding as an Institute of Technology in 1948, Ryerson has been mandated to serve its larger community through the provision of “applied education”, a focus that we are proud to maintain. However, the societal context of applied education has changed radically during the past five and a half decades. The emergence of a knowledge-intensive economy, globalization, a radically altered technological environment, the revolution of rising expectations, and other forces have brought unprecedented new demands for a highly educated workforce and citizenry. Narrowly defined job skills are insufficient to guarantee a place in the modern economy, nor do they provide an adequate springboard to the range of personal opportunities and career options that our students expect after graduation. The new “applied education” is that which enables students to develop career-related competencies with a capacity for leadership and integrative, big-picture thinking. Applied education in today’s context is based on the nurturing of creativity and a broadly informed perspective as well as on the imparting of more specialized knowledge.

In this changing milieu, Ryerson has fulfilled its mandate by reinventing itself on an almost continuous basis. Each decade has seen profound, sometimes radical, change in how we have responded to society’s need for the “Ryerson style” of education. Our initial one and two year certificate programs had been in existence for less than five years when they began to give way to three year diplomas. The reason was quite simple: Greater breadth and depth of learning were required in order for academic programs to remain relevant. The same reason prompted Ryerson to augment diplomas with degree programs beginning in 1971, a revolutionary step that changed (by then) Ryerson Polytechnical Institute’s position in the post-secondary system of Ontario and set the direction for our evolution through the next two decades. By 1990 few diploma programs remained, having been replaced almost entirely by integrated four year honours-level degrees. In 1993, Ryerson achieved full university status and began immediately to assume the responsibilities associated with it, particularly scholarly, research, and creative (SRC) activity and graduate programming. The reason, once again, had to do with the increasingly multifaceted demands associated with professionally relevant education. In 2000-01 we introduced our first three graduate programs, a number that has now grown to thirty-three and will increase steadily. Throughout, the common denominator of Ryerson’s programs has been “learning for a purpose”: an intentional curriculum with societal relevance. Now, with a mandate that includes SRC activity, the same principles are being extended into each of what Ernest Boyer (1990) labelled the four kinds of scholarship: discovery, integration, application, and teaching.

Ryerson has now become a major university, with some 23,000 full-time undergraduate students and over 60,000 annual enrolments in what has become Canada’s leading institution for adult education, the G. Raymond Chang School of Continuing Education. Ryerson offers over eighty degree programs for full-time students, through five faculties:

- Faculty of Arts
- Faculty of Business
- Faculty of Communication & Design
- Faculty of Community Services
- Faculty of Engineering, Architecture and Science

Many of these programs are both innovative in scope and unique among Canadian universities, including Disability Studies, Early Childhood Education, Fashion, Graphic Communications Management, Health Services Management, Image Arts, International Economics, and Radio and Television.
Graduate education is new at Ryerson, but growing rapidly. Currently, graduate programs at the Master and/or Doctoral level are offered by the School of Graduate Studies in thirty-four different disciplines, with over 2000 students enrolled. These numbers are expected to increase significantly within the next three years. This rapid growth in graduate education is seen as one component of the equally rapid maturation of the institution; the University is also growing rapidly in terms of research activity and in terms of its public profile. The University is also growing rapidly in physical terms, with an intense building campaign currently underway.

Ryerson is located in the very heart of Canada’s largest and most culturally diverse city, less than a block from the corner of Yonge and Dundas Streets. Ryerson’s campus is embedded in the urban fabric, rather than being a separate enclave. The University is currently in the midst of a master-planning exercise designed to plan for triple the amount of academic space on campus.

Ryerson’s student population is highly diverse in cultural and ethnic terms. Although the large majority of students come from the greater Toronto area, currently some 900 international students study at Ryerson. President Levy has also announced plans to construct 2000 new residence spaces on campus; however, due to the location of Ryerson in downtown Toronto many students will continue to be commuters, living with family often in the outer areas of the city.

1. **Institutional Mission**

**RYERSON UNIVERSITY MISSION**

Ryerson’s mission statement was adopted by Ryerson’s Board of Governors on October 4, 1994.

In 2008, Ryerson released the report *Shaping Our Future: An Academic Plan for Ryerson 2008 – 2013*, and a summary has been included in Section 1.5 Programme Strategic Plan. The full document can be found on the Ryerson University website. This document identifies both long and short-term goals for the institution. Professional accreditation and graduate programs in architecture are clearly in line with these institutional goals.

The special mission of Ryerson University is the advancement of applied knowledge and research to address societal need, and the provision of programs of study that provide a balance between theory and application and that prepare students for careers in professional and quasi-professional fields.

As a leading centre for applied education, Ryerson is recognized for the excellence of its teaching, the relevance of its curriculum, the success of its students in achieving their academic and career objectives, the quality of its scholarship, research, and creative activity and its commitment to accessibility, lifelong learning, and involvement in the broader community.

2. **Programme History**

At the moment of its creation in August 1948, Ryerson was intended to be a unique educational experiment directly responding to the societal need of post-war Canada. Since Ryerson’s inception, architectural education has been central to Ryerson’s mission.

The School of Architectural Draughting [sic.] was one of Ryerson’s first programs and was created to provide a career-oriented two-year diploma training for architectural assistants. Evolution was a constant. In 1951 it became the School of Architectural Technology, and introduced a three-year diploma with third year options of architecture or building technology. In 1973 a four-year degree program with two foundation years and two final option years was introduced. This development was in parallel to Ryerson’s general expansion of programs from two-year to three-year diplomas to the degree-granting status of Bachelor of Technology and Bachelor of Applied Arts. Traditionally, and certainly since the 1980s, our students enrolled in graduate programs across Canada and the United States. Ryerson’s expansion in the current period culminated with the achievement of full university status in 1993 with a renewed emphasis on research and the introduction of graduate programs.
However while Ryerson is seen, and sees itself, as offering education that is equivalent in quality to that of a traditional university, it has consistently maintained the distinct focus on the immediate professional relevance of its education. This is what makes Ryerson unique, has been the source of its success and in marketing terms continues to provide it with a niche. Professional/industry relevance has been achieved through curriculum, faculty practitioners, industry-responsive research and through advisory committees.

At this time, fifteen years since Ryerson achieved full university status, the Department of Architectural Science has recreated the undergraduate Bachelor of Architectural Science degree interdependent with the new Master of Architecture degree for professional education in architecture. The M.Arch. program has been designed and approved, and the initial cohort of students entered the program on September 4, 2007. New faculty has been hired, research activities have been increased, facilities have been renovated and support for graduate programs achieved.

Throughout its history, Ryerson University has been committed to architectural education. The revisions to the undergraduate curriculum, together with the new graduate program will ensure the continued growth and evolution of the Department and maintain the important place that architecture has had in Ryerson since its inception and the important place that Ryerson’s graduates have in the professional communities served by this University.

3. Programme Mission

The Mission Statement of the Department of Architectural Science was prepared with input from the program’s constituents, the Advisory Board, students, alumni associations and faculty members. It was approved November 30, 2006 by the Departmental Council. It is reproduced in the Student Handbook and on the departmental website, and is as follows. There is no record of its official adoption by the University, but it is passed to appropriate university bodies by virtue of being approved by the Departmental Council.

The development and implementation of new programs in the department, particularly graduate and professional programs, as well as the increasing emphasis on research, require that this Mission Statement be continually revised and updated.

The Mission of the Department of Architectural Science is:

- To provide education for a wide range of professional roles in the design, construction and management of the built environment by developing, enhancing and maintaining undergraduate, graduate and certification programs of applied study, and research in the areas of design, building science, project management and landscape.

- To prepare professionals for leadership roles in the AEC (Architecture, Engineering and Construction) Industry in the Greater Toronto Area, in Canada, and internationally by focusing on the development of the fundamental skills, knowledge and critical judgment necessary for effective participation in a complex, collaborative, cross-disciplinary workplace.

- To foster a comprehensive vision of architecture as a social, technical, political and cultural practice in the context of sustainability and evolving environmental and societal needs, and to utilize our combined expertise for the benefit of the larger community.

- To cultivate an environment conducive to lifelong learning and the pursuit of scholarly, research and creative activity by faculty and students.

The Mission of the Master of Architecture Program:

Within the broad mission of the Department of Architectural Science, the specific mission of the Master of Architecture program is to prepare the next generation of architectural leaders to think critically, act collaboratively and respond with sustainable solutions to local opportunities and global challenges. To do so, the program focuses on the study of architectural practice as distinct from, but encompassing architectural design and architectural culture. The program has identified three broad intersecting areas of research.
interest: Sustainable Design, Emerging Technologies, and Global Communities.

4. Programme Strategic Plan (Objectives)

Department of Architectural Science Strategic Academic Plan 2008-2013

Objective 1: CACB Accreditation for the program in Architecture Canadian Architecture Certification Board (CACB) Accreditation for the program in Architecture (4 year undergraduate + 2 year graduate) to be achieved by January 1, 2012.

Objective 2: Department of Architectural Science: Graduate Programs in Construction Project Management. Establish graduate programs in Construction Project Management, to admit first cohort of students in the Fall Semester 2010.

Objective 3: Department of Architectural Science: Resources to meet the needs of high quality programs in the Department.

Objective 4: Doctoral Program: Institute a Ph.D. program with one or more areas of focus, by September 2013.

Objective 5: Increase the quality and quantity of SRC activities in the department.

Objective 6: Improve Pedagogy/Teaching Excellence: Expand the knowledge and practice of more effective and innovative pedagogy for our graduate and undergraduate programs. Achieve and implement new practices by 2013.

Objective 7: Architecture/Building/Construction Practicum.

Objective 8: Department and Program Identity.
Appendix B: The Visiting Team

CHAIR

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University of Calgary
Faculty of Environmental Design
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MEMBERS

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School (Ryerson): Thomas Emodi   Practitioner
Principal, Sustainable Design and Research
Young + Wright IBI Group Architects
230 Richmond Street West, 5th Floor
Toronto, Ontario M5V 1V6
Appendix C: The Visit Schedule

CACB Site Visit Agenda
Department of Architectural Science
Ryerson University
March 13 - 17

Saturday March 13, 2010
Afternoon Team Arrival and check-in at the hotel
Four Seasons, Yorkville (in Toronto)
Evening Team introductions and orientation
6:30 Team Dinner
The Host (Indian Cuisine)

Sunday March 14, 2010
7:30 Team Breakfast with Department Chair
Four Seasons Hotel, The Studio Café, second floor
9:00 Overview of Exhibits and the team room by the program Chair, directors and studio coordinators
Team Room, ARC 200B
10:00 – 12:00 Review Exhibits
Team Room
12:00 Team Lunch with program administrators
Delta Chelsea, Gerrard Street
1:00 Tour of the facilities
Architecture Building / EPH
2:00 Entrance meeting with faculty
Architecture Building, Pit (second floor)
3:00 Review of exhibits and records
Team Room
7:00 Team Dinner/Debriefing session

Monday March 15, 2010
7:30 Team Breakfast with the Department Chair
Four Seasons Hotel, The Studio Café, second floor
9:00 Entrance meeting with Provost Shepard and President Levy
Jorgenson Hall, 13th floor
9:45 Entrance meeting with Dean Lachemi, Faculty of Engineering, Architecture and Science
Deans Office, Vari Engineering Building 3rd floor, Dean’s Conference Room
10:30 – 12:00 Review of Exhibits
Team Room
12:00 Lunch with student representatives
Architecture Building, Pit
1:00 School-wide meeting with students
Library 72
2:00-6:00 Review of Exhibits and records
Team Room
6:00 Reception with Alumni, Local Practitioners, and Program Advisory Board
Design Exchange, 234 Bay Street
8:00 Team Dinner

Tuesday March 16, 2010
7:30 Team Breakfast with Department Chair and Program Directors
Four Seasons, The Studio Café, second floor
9:00 Observation of lectures and seminars / Review of exhibits and records
Architecture Building
11:00 Tour of Library and meeting with Librarians/ Meeting with staff, shop manager and IT support
Chief Librarian’s Office, Library 2nd Floor and Architecture Building, Pit
12:00 Team Lunch with faculty members
Architecture Building, Pit
1:00 – 6:00 Visit studios/ review exhibits and records
Architecture Building, Team Room and studios
6:30 Team Dinner

Wednesday March 17, 2010
8:00 Team Breakfast with the Department Chair
Four Seasons, The Studio Café, second floor
9:30 Exit meeting with Provost Shepard
Jorgenson Hall, 12th Floor
10:15 Exit meeting with Dean Lachemi
Vari Engineering Building, Dean’s Office, Dean’s Conference Room
11:30 Exit meeting with faculty and students
Vari Engineering Building, Atrium, 3rd Floor
12:30 Team departs
V. Report Signatures

____________________________
Graham Livesey^Assoc. AAA
representing the educators
Team Chair

____________________________
Anne Cormier^OAQ
representing the educators and
the practitioners

____________________________
Clark E. Llewellyn^AIA
representing the educators

____________________________
Patricia Bourque^MAIBC
representing the practitioners

____________________________
Edwin (Ted) Cavanagh^PhD
representing the educators

____________________________
Jonathan Mandeville
representing the interns

____________________________
Michael Jemtrud
CACB-CCCA' observer

____________________________
Thomas Emodi^NSAA
School's observer
Confidential recommendation to the CACB-CCCA

The Accreditation Team recommends that the Architecture Programme in the Department of Architectural Science at Ryerson University should receive:

____________________________
Graham Livesey Assoc. AAA
representing the educators
Team Chair

____________________________
Anne Cormier OAQ
representing the educators and the practitioners

____________________________
Clark E. Llewellyn AIA
representing the educators

____________________________
Patricia Bourque MAIBC
representing the practitioners

____________________________
Edwin (Ted) Cavanagh PhD
representing the educators

____________________________
Jonathan Mandeville
representing the interns
4.6 Annual Reports

The appendix of the APR must include copies of all ARs (including the Annual Statistics Report) that have been submitted to the CACB since the previous site visit. Only the most recent school academic calendar should be submitted.

Attached are the statistics forms submitted in June 2011 and June 2012. As per instructions from the CACB, we were not required to submit a full narrative report in 2011, as our accreditation was in Spring 2010, nor in 2012, as this APR supplants such a narrative.
### A-15 Human Resources Statistics Report

**ANNUAL REPORT, YEAR 2010/2011**

(As per CCUSA model, nov. 1997)

**School:** Ryerson University

**Compiled by:** Kendra Schank Smith, Chair, Dept Architectural Science

<table>
<thead>
<tr>
<th>ACSA Region:</th>
<th>BC</th>
<th>NE</th>
<th>SE</th>
<th>SW</th>
<th>WC</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Student Data

<table>
<thead>
<tr>
<th></th>
<th>B.A. or B.Sc.</th>
<th>B.Arch Prof</th>
<th>M.Arch Prof</th>
<th>M.Arch Post Prof</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Prof</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Men</td>
<td>300</td>
<td></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>- Women</td>
<td>244</td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>FTE Students (total)</td>
<td>544</td>
<td></td>
<td>49.3</td>
<td></td>
</tr>
<tr>
<td>Arch Design Studio Students</td>
<td>506</td>
<td></td>
<td>24.7</td>
<td></td>
</tr>
<tr>
<td>Outside Students Serv. by Dept. (total FTE)</td>
<td>0</td>
<td></td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Foreign Students</td>
<td>29</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total Degrees Awarded</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Men</td>
<td>53</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>- Women</td>
<td>46</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Number of Applicants</td>
<td>1289</td>
<td></td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Number enrolled in the given year</td>
<td>118</td>
<td></td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Number of applicants admitted with advances standing</td>
<td>0</td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

#### Resource Data Department Total

- Externally generated funds: $578,400
- Income generated by research: $1.932 Million
Faculty Data

Full (or Half)-Time Regular Faculty
- Head Count 27
- Total FTE 24.2

Faculty Credentials

<table>
<thead>
<tr>
<th>No. Full-time (or Half-Time) Faculty Credentials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D. 12</td>
</tr>
<tr>
<td>D.Arch. 1 (D.Sc.)</td>
</tr>
<tr>
<td>M.A. or M.S. 0</td>
</tr>
</tbody>
</table>

Full-Time Equivalent (FTE) Faculty
(including Adjuncts, Sessional and Lecturers)
- Head Count 39.3

Full-Time Equivalent Faculty

<table>
<thead>
<tr>
<th>No. Full-time (or Half-Time) Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. M.Arch. 7</td>
</tr>
<tr>
<td>B.Arch. 5</td>
</tr>
<tr>
<td>Post Prof. Masters 2</td>
</tr>
<tr>
<td>Other 0</td>
</tr>
</tbody>
</table>

Licensed Registered Architects
(head count)
- Regular Faculty 12
- Others 9

Indicators

Student Ratio
(FTE Students / FTE Faculty) 22.5:1

Studio Ratio
(Arch. Design Students / Studio Faculty) 14:1

Selection Margin
(% of Enrolled Students / Applicants) Undergraduate 9.15%/Graduate 23.31%

Retention
(% of total Degrees Awarded/
No. of Enrolled Students at Initial Year) 76.88%

Teaching Load (per year)
- Class(es) 2
- Studio(s) 2
- Tutorial(s) _______
### Professional Degree Accredited

<table>
<thead>
<tr>
<th>Degree Type</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>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Architecture degree</td>
<td>15</td>
<td>6</td>
<td>Varies</td>
<td>36</td>
<td>540 (note 1)</td>
</tr>
<tr>
<td>Master of Architecture degree with a related pre-professional bachelor’s degree</td>
<td>46</td>
<td>8</td>
<td>Varies</td>
<td>64</td>
<td>188</td>
</tr>
</tbody>
</table>

- **Master of Architecture degree**
  - without a pre-professional requirement, and consisting of an undergraduate degree plus a minimum of three years of professional studies

- **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

### Faculty Data

#### Faculty Credentials (highest degree only)

<table>
<thead>
<tr>
<th>Degree</th>
<th>FT</th>
<th>PT</th>
<th>FT</th>
<th>PT</th>
<th>FT</th>
<th>PT</th>
<th>FT</th>
<th>PT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D or D.Arch</td>
<td>14</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>13</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Post-Prof Ms</td>
<td>9</td>
<td></td>
<td>4</td>
<td></td>
<td>2</td>
<td>10</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Prof. M.Arch</td>
<td>5</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>3</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>B.Arch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Licensed architects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studio teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Regular Faculty

- **Men**: 9 male full-time faculty, 2 part-time faculty, 5 male total FT equivalent (29 full time faculty)
- **Women**: 5 female full-time faculty, 1 part-time faculty, 8 total FT equivalent (41 female faculty)

### Other Faculty

- **Visiting**: 2 full-time, 2 part-time, total 4 courses per a typical FT teaching load
- **Adjunct • Sessional • Lecturer**: 2 full-time, 12 part-time, total 13 full-time equivalent (12 faculty)
- **Ph.D Candidate**
  - **Men**: 1 full-time, 6 part-time, total 7 full-time equivalent (7 faculty)
  - **Women**: 1 full-time, 6 part-time, total 7 full-time equivalent (7 faculty)

### Total Faculty

- **Total FT Equivalent (FTE) Regular Faculty**: 29 fulltime faculty
- **Total FT Equivalent (FTE) Other Faculty**: 10.5 FTE Adjunct Faculty
- **Total FTE Regular + Other Faculty**: 39.5 FTE Faculty

### Studio Ratio

- **Total/yr**: 820 / 66 = 12.4 students (66 studios taught fall & winter, 33 studios each semester)

### Number of applicants, entering students, and degrees awarded

- **Number of applicants for a given term and total for a year**: 417
- **Number of entering students for a given term and total for a year**: 23
- **Total Degrees Awarded-Expected**: 22
- **Graduation Rate (%)**: 22.7

### Additional Notes

1. Full-Time Equivalent Students (FTE): Number of full-time students reported above + number of full-time equivalent for part-time
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.
<table>
<thead>
<tr>
<th>Student Data</th>
<th>Pre-professional degree</th>
<th>Master of Architecture degree or Bachelor of Architecture degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall</td>
<td>Winter</td>
</tr>
<tr>
<td><strong>Full-Time Students</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men (optional)</td>
<td>248</td>
<td>238</td>
</tr>
<tr>
<td>Women (optional)</td>
<td>208</td>
<td>203</td>
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<tr>
<td><strong>Part-Time Students</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men (optional)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Women (optional)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Full-Time Equivalent (FTE) Students ¹</strong></td>
<td>456</td>
<td>441</td>
</tr>
<tr>
<td><strong>FTE Foreign Students ² (optional)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Students in Design Studio</strong></td>
<td>417</td>
<td>402</td>
</tr>
<tr>
<td><strong>Studio Ratio</strong> (Students in Design Studios / Nb studios taught for a year)</td>
<td>820 / 66 = 12.4 students (66 studios taught fall &amp; winter, 33 studios each semester)</td>
<td>2 faculty for 23 students 12-1 ratio</td>
</tr>
<tr>
<td><strong>Total/yr</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of applicants for a given term and total for a year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of entering students for a given term and total for a year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>With advanced standing (optional)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Degrees Awarded-Expected for a given term and total for a year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Graduation Rate (%) ³</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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</tbody>
</table>

Note 1. Including Thesis hours and Collaborative Exercise

Note 2. Includes students in the system who are out of sequence

---

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.