

Institutional Mission, Proposed Mandate Statement, Vision, and Differentiation Profile

A submission to begin the process of developing strategic mandate agreements (SMAs):

To:

The Honourable Brad Duguid
Minister of Training, Colleges and Universities
The Ministry of Training, Colleges and Universities

From:

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Final 2013-14 SMA Proposal

Part 1: Ryerson University - Mission Statement

Ryerson's Mission Statement has guided the University's development for close to 20 years¹:

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. (Ryerson University Mission Statement, 1994)

The following mandate and vision statement bring life to the historic mission of the University.

Part 2: Ryerson University - Proposed Mandate Statement

Ryerson University is a leading institution of innovation and entrepreneurship that responds to societal need through high-quality professional and career-related bachelor, master's and doctoral programs, and relevant scholarly, research and creative activities.

Ryerson is student focused, providing an emphasis on experiential learning, creativity, entrepreneurship, adult learning, and transfer pathways from colleges and other universities. Ryerson is an inclusive, diverse learning community. In its role as a City Builder, Ryerson enhances access and civic engagement and has a positive, transformative effect on its neighbourhood and the broader community.

Institutional Transformation: Ryerson's distinctive path of institutional transformation is consistent with its mission to meet societal need. Since becoming a university in 1993, it has evolved from an undergraduate polytechnic to a comprehensive university with an array of undergraduate, master's and doctoral programs and related scholarly, research and creative activities (accompanying Background Document Figure 1). Ryerson's strength is its focus on professional and career-related disciplines that prepare students for occupations in high-demand fields. Continued transformation is integral to Ryerson's mandate. Since 2010, Ryerson has taken Canadian and international leadership in providing "zone learning", the opportunity for students to develop ideas for both the for-profit and not-for-profit sectors, build companies and create jobs. In 2013, Ryerson received designation as Canada's first Ashoka Changemaker Campus, one of only 24 institutions worldwide, for its commitment to social innovation and entrepreneurship.

Unique Program Mix and Distinctive Delivery: Ryerson trusts students to learn. Highly effective methods of teaching and experiential learning encourage deep learning in lab, studio, clinical and workplace settings. Zone learning, research projects, and collaborations with community and industry partners challenge students to become innovators, entrepreneurs and creative problem-solvers who meet the demands of the labour market.

Access: Ryerson is committed to student access, supporting students from every background, facilitating transfers from colleges and other universities, creating pathways for marginalized and underrepresented groups, educating adult learners and providing flexible online learning.

¹ The mission statement is derived from the Objects of the University as outlined in the Ryerson University Act: 1) The advancement of learning, and the intellectual, social, moral, cultural, spiritual, and physical development of the University's students and employees, and the betterment of society. 2) The advancement of applied knowledge and research in response to existing and emerging societal need and in support of the cultural, economic, social, and technological development of Ontario. 3) 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.

Part 3: Ryerson University – Vision

Ryerson University will be a comprehensive innovation university, recognized as a national leader in high-quality professional and career-related bachelor, master's and doctoral programs and relevant research. It will be a global leader in interdisciplinary, entrepreneurial zone learning. Ryerson's students, graduates and faculty will contribute significantly to Ontario's and Canada's economic, social and cultural well-being.

Ryerson will expand its strong foundation of distinctive career-related academic programs and related scholarly, research and creative activities, producing graduates who enable change. Ryerson will enhance its leadership in experiential learning, adult learning, and transfer pathways. As a City Builder, Ryerson will build partnerships that foster social and cultural innovation, and economic development.

Ryerson's goals are to provide every student with the best learning experience leading to great careers and to make important contributions to our Province and Country. Ryerson has not waited for Government to mandate transformation. The University has been on a transformative path to meet the emerging needs of students and help shape Ontario's and Canada's social, cultural and economic future. As the next step in its evolution, Ryerson will enhance and expand its distinctive programs and continue to foster innovation and entrepreneurship, especially through zone learning. By expanding experiential learning opportunities and embedding innovation across its entire curriculum, Ryerson will continue to meet emerging labour market needs.

New technologies and expanded online education will improve the learning experience and enhance access. Ryerson will promote inclusion through clear pathways for transfer students, access and outreach initiatives and support for marginalized individuals, and specialized initiatives such as bridging programs for internationally educated professionals.

Through its innovation and entrepreneurship approach, Ryerson will foster economic development and growth. Ryerson will partner with the private sector and government to attract to downtown Toronto the best, brightest, most ambitious innovators from around the world.

Part 4: Ryerson University - Components of Differentiation

Component 1: Jobs, Innovation, and Economic Development

Ryerson's strength is career-relevant, labour market-ready undergraduate and graduate programs that meet societal need. Ryerson is driving innovation and job creation through its model of entrepreneurial zone learning, and promoting economic development in neighbourhoods in the downtown core through its city building initiatives.

Ryerson's role in entrepreneurial zone learning and city building is inextricably linked to its traditional strengths in career-relevant, labour market-ready programs, graduate education, and research. A strong culture of entrepreneurship and innovation requires continued investment in Ryerson's academic foundation as well as investment in new initiatives to expand zone learning locally, nationally, and internationally.

Career-Relevant and Labour Market-Ready Programs and Graduates: Ryerson programs are designed to meet societal need and labour market demand through their emphasis on professional accreditation, experiential learning and connections to industry and community. Every undergraduate program at Ryerson has an Advisory Council comprised of industry/discipline experts to ensure that programs reflect the most current practices in the field and that students graduate with career-relevant skills. Two-thirds of Ryerson undergraduate students are in professionally accredited programs (Background Document Table 2).

Labour market outcomes for Ryerson graduates are very strong: 82% of graduates are employed in a career related to their field six months after graduation, and 88% after two years (Class of 2010). This is 10% higher than the Ontario university system average. Over 92% of Ryerson graduates are employed two years after graduation (Class of 2010).

Career relevance is also a hallmark of graduate programs at Ryerson. Ryerson proposes growth in graduate enrolment in high-demand areas that build on existing strengths, respond to labour market need, have strong links to industry and the community, and promote economic development. More details follow in the sections below.

Ryerson's Law Practice Program highlights the University's strength in developing career-related programs that respond to societal need and support innovation in the Province. In partnership with the Law Society of Upper Canada, Ryerson will launch a new program to address a shortage of articling positions for law students in Ontario. Building on Ryerson's strengths in experiential learning and online education, the program will provide students with real-world experience through a combination of technology-enhanced and live-actor simulations, online modules and four-month work placements in a diverse range of legal practices.

Entrepreneurial Zones: Ryerson is transforming entrepreneurial education in Canada. Ryerson's Digital Media Zone (DMZ) plays a leading role in expanding entrepreneurial education with its incubator environment where students develop business plans, create commercial or non-profit products and services, develop start-up ventures, collaborate with industry and community partners, and work with state-of-the-art technologies such as advanced digital manufacturing. The DMZ was recognized in 2013 as one of the top 25 university business incubators in the world.² The DMZ attracts top innovation and entrepreneurial talent from around the world to Toronto, helping to build the Greater Toronto Area's (GTA) digital media industry. Since its launch, the DMZ has incubated and/or accelerated 104 start-ups, and there are currently over 350 innovators in the zone. (Background Document Table 3 lists DMZ companies.)

The entrepreneurial zone model builds on Ryerson's track record of integrating innovation, entrepreneurship and experiential learning into its educational culture. Zone learning at Ryerson breaks down traditional barriers by encouraging and enabling close collaboration across disciplines and with industry and community partners. Ryerson is currently integrating entrepreneurial zone learning into its curriculum, developing a series of optional specializations that will allow students to participate in a number of interdisciplinary zones. Ryerson's Master of Digital Media program, launched in 2013, is housed within the DMZ. Strong graduate education is a requirement for successful innovation and entrepreneurship, and graduate students are critical to this effort. Ryerson's graduate programs and research provide a strong foundation for innovation and entrepreneurial zone learning. The entrepreneurial zones add the new dimension of fostering creative economy companies and student-created jobs.

Another 100 innovators are active in four additional zones launched since the introduction of the DMZ: the Innovation Centre for Urban Energy (iCUE), an incubator and accelerator for green energy enterprises and sustainability solutions; the Fashion Zone, an incubator and accelerator for fashion-based businesses; a Design Fabrication Zone, where students pursue design and fabrication initiatives, rapid prototyping, and develop firms in a multi-disciplinary and collaborative environment; and the Transmedia Zone, a collaborative cross-disciplinary environment focused on practical prototyping and early-stage content innovation in a variety of media. Two additional zones are currently in development: a Biomedical Engineering Zone, part of a collaboration between Ryerson and St. Michael's Hospital that will include an incubator for the development and commercialization of innovative biomedical products for patients; and a Science Zone that will drive innovation in a variety of science-related disciplines. In addition, Ryerson has joined OMERS and the Ontario Centres of Excellence (OCE) as the founding academic partner to establish OneEleven, a new incubator focused on making Ontario a leader in the development and application of data analytic tools.

These incubators will have clear linkages to Ryerson's proposed new master's programs, including between the iCUE and the program in Energy and Innovation, the Design and Fabrication Zone and the program in Graphic Communications Design and Fabrication, and the Transmedia Zone and the program in Social Innovation and Media. Zone learning will become an increasingly important component of research and graduate studies at Ryerson.

In addition to revenue flowing from student enrolment in the Optional Specialization in Zone Learning, the University requires additional stable base funding to support zone learning at Ryerson. The current shortfall to be funded is estimated to be almost \$4 million. This requirement will grow as Ryerson expands zone learning.

Ryerson's zone-based approach to innovation and entrepreneurship is recognized as an effective generator of highly skilled jobs, and increasingly as a driver of regional economic development and economic stimulus. Ryerson has been approached by a number of municipalities outside the GTA about expanding zone learning into their communities to

² UBI Index, *Global Top 25 University Business Incubators*, Stockholm Sweden, 2013.

respond to local labour market needs. Ryerson is willing to work with community and industry partners to introduce regional entrepreneurial and innovation zones to support economic development both inside and outside the GTA. However, Ryerson requires funding from the Government to cover infrastructure, operations, and other associated costs to respond to these requests. Each regional entrepreneurial and innovation zone supporting 100 innovators will require \$1.5 million in start-up costs and annual ongoing base funding of \$2.0 million.

Ryerson has actively sought international partners that share our focus on innovation and entrepreneurship to offer new opportunities to students and faculty. The recent partnership with the Bombay Stock Exchange Institute Ltd. (BSEI) is seen in India as the Canada-India bridge for start-ups. The Ryerson Digital Media Zone International Fellowship program brings innovators from leading partner institutions to develop their business ideas at the DMZ. Participants are selected on a competitive basis in collaboration with partner institutions. Ryerson has welcomed students from Tel Aviv University, the Indian Institute of Technology-Delhi and Indian Institute of Technology-Madras, and the Communications University of China. The international fellows further enrich the cross-pollination of ideas that makes the DMZ so vibrant.

City Building: Ryerson plays a unique role as a city builder in the City of Toronto, enabling constructive community transformation by improving the urban ecosystem, fostering economic development, enhancing the city's social and cultural fabric, contributing to meaningful civic engagement, and building enduring relationships with community organizations, industry, and government. Ryerson's Master Plan has been a catalyst for downtown renewal, integrating educational environments within a mixed-use urban setting. Ryerson has completed the Ryerson Image Centre, reinvented Gould Street as a pedestrian plaza, and opened the Mattamy Athletics Centre in the former Maple Leaf Gardens. Construction of a new Student Learning Centre on Yonge Street is underway, and a Health Sciences Building and new student residences are in the planning stages. Ryerson's capital expansion has involved partnerships with government and private sector partners like Loblaw Companies, Cineplex Theatres, Cadillac Fairview, and MPI Group. The Centre for Urban Research and Land Development (CURLD) also reflects Ryerson's city-builder role as the first research centre of its kind to study the economic impact of urban policies in the Greater Golden Horseshoe area. These projects attract students, researchers and faculty to the University. They also attract businesses and investment to downtown Toronto.

Proposed Metrics for Entrepreneurial Zones: **1)** Number of startups with either \$50,000 in annual revenue or \$50,000 in funds raised from investors; **2)** annual number of jobs created; **3)** total financing raised from the private sector for startups.

Component 2: Teaching and Learning

Distinctive teaching and learning is a Ryerson hallmark. Ryerson is a recognized leader in experiential learning, adult and online learning, and innovative curriculum design.

Faculty Engagement in Teaching Quality Improvement: Ryerson's commitment to enhanced teaching and learning is continuous and comprehensive, with a large number of faculty engaging their students in exciting and innovative ways. The Learning and Teaching Enhancement Fund supports faculty-led projects aimed at the development and implementation of innovative approaches to teaching. Projects have a direct impact on the student learning experience and range from new approaches in the classroom to digital apps that students use in their academic work. Overall, the University spends \$1.4 million annually on initiatives to ensure high quality learning and teaching.

External surveys confirm Ryerson's teaching strengths. In the *Canadian University Report 2013*, Ryerson was one of only two large universities across Canada to receive an A range grade for the quality of student-faculty interaction, and one of only four to receive a grade in the A range for the quality of learning and teaching. The National Survey of Student Engagement (NSSE), conducted most recently in 2011, indicated that Ryerson students report receiving feedback from faculty more frequently than the Ontario average. Similarly, a greater proportion of Ryerson students than those province-wide indicated on NSSE that they worked harder than they initially thought they could to meet their professors' standards. A culture of high expectations coupled with helpful feedback and support is a defining aspect of a Ryerson education.

The University offers workshops for faculty on a broad range of teaching issues, including skills for assessment and innovations in course delivery (such as hybrid and online learning). Close to two-thirds of Ryerson's tenure-track faculty members attend the annual teaching and learning conference, indicating the substantial level of engagement and interest in the quality of the learning experience.

Ryerson has six Teaching Chairs, one per Faculty, who provide leadership and advice to faculty members on classroom teaching practices. In addition, the Open Door Program allows new faculty members to attend classes taught by award-winning teachers to learn best practices. This program is offered as part of a comprehensive orientation provided for all new faculty members, who undertake a series of workshops on topics such as teaching practices and related resources, and the diversity of Ryerson's student body and the range of support systems available to students. An annual orientation for teaching assistants is complemented by workshops offered throughout the year on topics such as planning effective tutorials, facilitating discussions, and accommodating students with disabilities.

Experiential Learning: Experiential learning, central to Ryerson's mission, emerges from a carefully designed mix of activities and environments including co-op, internship, service learning, clinical placements, practica, lab work, field study, and simulations. Over 95% of undergraduate programs at Ryerson include experiential learning (Background Document Table 4) and over 130,000 student registrations are in courses with an experiential learning component. Ryerson will continue to embed experiential learning as a defining component of its undergraduate and graduate programs.

Online Learning and Distance Education: Ryerson is a leader in online university education in Ontario, offering 282 degree-credit courses, 186 non-credit courses, three degree programs, and 20 certificates fully online, as well as five blended degree programs and 21 blended certificates. Ryerson's substantial investment in online course infrastructure enables the cost-effective development of 50 to 60 new online courses annually (Background Document Figure 2 shows the percentage of Ryerson undergraduate courses available online).

Adult Learning: The G. Raymond Chang School of Continuing Education at Ryerson is a leader in innovative, quality, lifelong learning that empowers adults to reach their life and career goals. It is Canada's largest, most successful adult and continuing education school. It offers more than 1,500 individual courses, seminars, and workshops, 93 career-related certificate programs, and 13 part-time degree programs, delivered by instructors with extensive work experience in occupations that are directly relevant to the courses they teach, and who are committed to adopting new modes of delivery and new teaching methods.

Curricular Renewal: Ryerson's polytechnic roots have influenced not only its mix of programs but also the structure of its curriculum, which has been highly prescribed to meet accreditation, professional and labour market needs. However, the career paths of graduates are increasingly changing. Students need flexibility to tailor their programs to meet their career goals and the rapidly changing economy they face after graduation. Ryerson is implementing a new undergraduate curricular framework, approved by University Senate in June 2011, to improve student choice and enable specializations that adapt to changing economic and labour market conditions.

Component 3: Student Population

Ryerson reflects and embraces the diversity of Toronto and offers a learning environment that is enriched by a diverse profile of learners. 86% of undergraduates and 78% of graduate students at Ryerson come from the GTA and its multicultural population. Ryerson is the most applied-to university in Ontario with the highest ratio of applications to registrants. Given Ryerson's location and the attractiveness of its programs, it is anticipated that robust demand will continue.

Ryerson has a strong commitment to providing access and support for underrepresented groups, in particular first generation students, Aboriginal people, persons with disabilities and internationally educated professionals with initiatives targeted to the specific needs of these students. Ryerson has almost 9,000 first generation students, more than 500 Aboriginal students and about 1,500 students with disabilities. Based on NSSE survey data, it is estimated that 52% of undergraduate students identify as a member of a visible minority group. The ethno-cultural representation reported in that survey roughly mirrors that of the Greater Toronto Area population as measured in the Census, with sizable Eastern Asian and Southern Asian populations.

In 2012, Ryerson created the position of Assistant Vice-President/Vice-Provost, Equity, Diversity and Inclusion (EDI), to identify and address systemic barriers among the academic and administrative functions of Ryerson and to create a visible presence for equity, diversity, and inclusion. Units within the EDI umbrella collaborate across the University to provide learning and engagement opportunities, mentoring and support services that enhance the success of Ryerson's diverse student body.

Initiatives to improve access include bridging internationally educated professionals to the labour market, supporting students through educational counseling, community outreach, academic upgrading and workplace training and connections. The Chang School serves adult learners through its continuing education, pathways programs and online offerings. Ryerson Aboriginal Student Services supports urban Aboriginal students from outreach and the admissions process through graduation. Ryerson's Spanning the Gaps program continues to expand educational opportunities and participation by young people and adults who might not otherwise interact with or experience post-secondary education. Ryerson's Access Centre offers a range of supports for students with various types of disabilities in order for each person to fully participate in his or her academic experience.

Component 4: Research and Graduate Education

Ryerson offers a unique mixture of professional and research-based graduate programs. Unlike other Ontario universities, these programs are highly concentrated in career-focused areas of study. Ryerson graduate education is geared to the development of transferrable skills that contribute directly to the knowledge economy. Currently, 74% of master's enrolment is in professional programs. Ryerson doctoral programs are geared towards careers both inside and outside academe with many opportunities for doctoral students to collaborate with industry or community partners through their research.

Ryerson's research focus is outward looking. Ryerson's strategy has focused on building research strength, partnerships and opportunities for graduate students around themes of digital technology, health, energy and sustainability, management, civil society, innovation, design and culture.

Ryerson's success as an innovator is built on a strong foundation of graduate programs as well as a record of scholarly, research and creative activities. No university can build a culture of entrepreneurship and innovation without this core. Strong graduate education is not only necessary for furthering the mandates of research intensive universities, but for developing the human capital essential to advancing innovation and entrepreneurship in relation to societal needs that, in turn, drives economic development.

Growing Professional and Career-Relevant Graduate Programs: Growth in career-focused graduate education is essential to Ryerson's continued transformation as a comprehensive university. Since its introduction of graduate studies in 2000, Ryerson has added 37 master's and 13 doctoral programs, and currently has 2,360 graduate students of which there are 1,774 Fall Domestic FTE students (Background Document Table 5). Ryerson's future growth will be planned and measured, reflecting its academic strengths, core mission and societal need (Background Document Figure 3 and Table 6 illustrate the expected evolution of graduate programs through 2018-19).

Over the past decade, Ryerson has established a track record of delivering both high quality and effective graduate education. Particular attention is given to ensuring students move through their program of study in a timely manner. The average time to completion is 2.0 years for two-year master's programs, 1.2 years for one-year master's programs, and 4.4 years for doctoral programs. Demand for graduate education at Ryerson is high. Ryerson has easily met graduate enrolment targets allocated by Government over the past several years. While collectively research-intensive universities in the province have fallen below target at both the master's and doctoral levels over the last five years, high demand and significant capacity for graduate growth at Ryerson has resulted in the University exceeding its master's and doctoral funding ceilings.

Over the next five years, Ryerson plans to grow career-focused master's degree programs, undertake modest growth in PhD programs, introduce a number of Professional Master's Diplomas to meet specific, immediate labour market needs and allow midcareer professionals to update their skills, and introduce Doctoral Diplomas which will augment disciplinary expertise in ways that enhance the skill sets required in non-academic careers. Ryerson's graduate

expansion will build on existing strengths, have strong links to industry and the community, and include programs in areas critical to the economy³ (Background Document Table 7).

The University has strived to find a balance between accommodating demand for doctoral education and containing its growth. Most of the request for funded PhD spaces (80%) is catch-up for current unfunded spaces and flow-through of existing PhD programs' intake levels, with the remainder coming from a few new programs. At both the master's and doctoral level, Ryerson's new graduate programs will respond to social, economic and labour market needs.

Planned graduate growth at Ryerson is part of a global trend among major universities that were formerly polytechnics. With 6% of its total enrolment in graduate studies, Ryerson lags behind its international peers in the United Kingdom (20%) and Australia (24%) that transformed from polytechnics to universities in the late 1980s or early 1990s (Background Document Table 8). The much higher proportion of graduate enrolment at these peer institutions reflects their respective country's recognition of the social and economic need for professional and career-related graduate education as an economic growth strategy.

Research, Innovation and Graduate Education: Ryerson has a solid foundation of scholarly, research and creative activity, ranking 5th in sponsored research funding among Ontario non-medical/doctoral universities, and 11th nationally among non-medical/doctoral universities in 2012-13 (Background Document Table 9). Total research funding at Ryerson has more than tripled in the past decade.

Ryerson has more than 125 innovative research centres, institutes, and labs across a wide range of disciplines, and is home to 13 Canada Research Chairs and an NSERC Industrial Research Chair. Ryerson researchers are known for being able to solve practical problems, using collaborative research methods and partnering with industry, government, and not-for-profit organizations.

Ryerson's researchers and graduate students drive innovation by developing new technologies and services and improved processes, and creating new companies and social enterprises. In collaboration with industry and community partners they work to improve the quality of life for Ontarians and Canadians, create jobs and drive economic growth. In 2012-13, Ryerson undertook more than 180 applied research projects with industry partners including Google, GE Healthcare, Microsoft, Enbridge, Bombardier Aerospace, Hydro One Networks, Candu Energy, BASF Canada, Kraft Foods and others (Background Document Table 10). Examples of Ryerson's innovative research partnerships in program areas of strength and strategic focus are provided in Background Table 11. The Institute of Innovation and Technology Management, Ryerson Institute for Aerospace Design and Innovation, The Entrepreneurship Institute, The Social Innovation Initiative and Centre for Urban Energy are among the many focal points of innovation-oriented research and practice.

Graduate education at Ryerson is linked closely with industry-relevant research, and collaboration with industry and community partners is an important part of Ryerson's research agenda and graduate programs. Ryerson is a leader in applied programs and partnership grants such as the NSERC Engage grants, which provide opportunities for graduate students to work on finding solutions to real world problems, and Mitacs grants, which support graduate student research projects with industry partners. In 2012-13, Ryerson ranked 6th nationally with 37 NSERC Engage grants awarded. In the same year, 68 graduate student projects at Ryerson received Mitacs funding. Ryerson graduate programs include extensive collaboration with industry and community partners across all fields of strength (Background Document Table 12). Research funding, totaling \$32 million in 2012-13, provides resources and opportunities for graduate students and informs teaching.

³ **Master's programs:** Animation; Biomedical Engineering; Child and Youth Care; Construction, Facilities and Infrastructure; Critical Social Research; Data Science and Analytics; Energy and Innovation; Engineering Innovation and Entrepreneurship; Global Cities; Graphic Communications Design and Fabrication; Interior Environments; Occupational Health and Safety; Social Media and Innovation; Writing for Dramatic Media; Professional Master's Diplomas. **Doctoral programs:** Applied Mathematics; Cyber Security; Data Science and Analytics; Urban Development; Professional Doctoral Diplomas. **Master's programs at an earlier stage of development:** Urban Food Security, Health Informatics, Accounting and Finance, Applied Economics and Policy Analysis, Global Politics, Criminology and Social Justice. **Doctoral programs at an earlier stage of development:** Applied Management, Biomedical Engineering, Cities and Modernity, Digital Media, Early Childhood Studies, Nursing, Social Work, Spatial Analysis, Urban Energy.

Innovation is also an increasingly important part of Ryerson's curriculum including graduate programs such as the Master's in Digital Media and the MBA in Management, Technology and Innovation. In 2013, Ryerson was named Canada's first Ashoka Changemaker campus in recognition of its success in mainstreaming innovation across the University through its research and curriculum. Innovation requires a strong research culture and an ability to leverage creative assets to generate economic growth.

Proposed Metrics:

Graduate Studies: 1) Time to completion in master's and doctoral programs; 2) Percentage of students in professional master's programs.

Research Partnerships: 1) NSERC Engage grants and other partnership grants (number of grants; research funding).

Component 5: Program Offerings

Ryerson offers a unique array of professional and career-related undergraduate, master's and doctoral programs. Key areas of undergraduate and graduate program strength at Ryerson include:

- Digital economy, innovation and entrepreneurship
- Design, technology and manufacturing
- Management, administration and the economy
- Creative industries
- Built environment and spatial analysis
- Communities, diversity and city building
- Culture and communication
- Health, wellness and related sciences

Looking to the future, the University's strategic focus and proposed areas of program strength include:

- Innovation and entrepreneurship
- Design and technology
- Management and competitiveness
- Creative economy and culture
- Health and technology

As indicated in Appendix 3, there are several new or growing programs within these areas of strength. The rationale behind these programs is tied directly to societal need and the role of these programs in the economic and social development of Ontario.

Undergraduate Programs: Ryerson's academic programs are in very high demand. Ryerson has the highest applications-to-registrant ratio in the province and the entering averages of its registrants are increasing (Background Document Table 13). Over the past two years, Ryerson has introduced nine new undergraduate programs in areas that respond directly to societal need and student demand. This has been a deliberate strategy stemming from the University's decision to accommodate a share of increased student demand in the GTA. These programs form an important part of Ryerson's evolution as a comprehensive university and the University's strategy to improve student choice.

Most of Ryerson's undergraduate enrolment growth will result from the phase-in/flow-through of new programs (Background Document Table 14). Planned new programs include: Sport Media (recently approved by Government); Language and Intercultural Relations (to provide students with linguistic and cultural competence in a globalized market, as well as intercultural leadership skills); Innovation and Law (to complement the new Law Practice Program funded by the Law Society of Upper Canada); and a second-entry Nursing program (to replace declining enrolment in Post-Diploma Nursing and ensure continued efficiency in the deployment of existing Nursing faculty and resources) (Background Document Table 15).

Graduate Programs: Ryerson's suite of graduate programs responds to the demand for Highly Qualified Personnel (HQP) and societal need. Over the next five years, Ryerson proposes to continue to grow its master's enrolment in high-demand areas that build on existing strengths, respond to labour market need, have strong links to industry and the community, and promote economic development. To do this, it proposes to introduce a number of new career-focused master's programs in the areas of strategic focus identified above.^(see note 3)

In recognition of a current shortfall in funded PhD enrolments, the University proposes modest growth in doctoral enrolment to allow flow-through for existing programs and the introduction of a limited number of new programs.^(see note 3) As part of the University's strategy to respond quickly to emerging economic development and labour market needs, Ryerson is developing a suite of Professional Master's Diplomas (PMDs) to allow midcareer professionals to update their skills. Unlike a traditional professional master's program, PMDs will be designed to open and close quickly in response to changing labour market demand. Ryerson is developing a platform of Type 2 Doctoral Diplomas open to students in existing PhD programs to further prepare graduates for non-academic careers, equipping them with leadership, management, communication, entrepreneurship and other relevant skills.

Proposed Metrics to reflect program demand: 1) Level of demand as measured by applications-to-registrant ratio; 2) Proportion of students with an entering grade of 80% or higher.

Component 6: Institutional Collaboration to Support Student Mobility

Ryerson is one of the most transferred-to universities in the Province (Background Document Table 16). In 2012-13, a quarter of Ryerson's undergraduate population, or 7,700 students, had previous college or university experience. The Ryerson, Centennial, George Brown Collaborative Nursing Degree Program is a leader in collaborative nursing education. New collaborations with George Brown and Centennial will explore partnerships in engineering education and pathways for students, and upgrade the skills of mid-career and internationally trained engineering technology professionals.

Part 5: Strategic Enrolment

With an applications-to-registrant ratio of 9.7 to 1⁴, Ryerson currently has to turn away more prospective students per seat available than any other university in Ontario (Background Document Figure 4). Ryerson's programs have seen an 88% increase in first-choice applications and 75% increase in all-choice applications since 2004, compared to a system average of only 25% for first-choice applications and 14% in all-choice applications (Background Document Figure 5).

This increase in demand has led to a significant increase in registering students' entering averages. Ryerson's ranking among Ontario universities in the proportion of students with an entering grade of 80% or higher went from 14th in 2006 to 6th today (Background Document Table 13). The increase in entering averages for the Fall 2013 cohort is the largest year-over-year increase since the double cohort.

Given Ryerson's unique range of program offerings and its attractive location, there is every indication that the strong demand for Ryerson programs will continue despite the forecasted decline in university system demand outside the GTA. Ryerson is committed to ensuring opportunities for students and is willing to expand in order to accommodate GTA demand and labour market needs. Ryerson's graduate growth plans in the near term are to secure full Government funding for existing graduate programs, introduce a number of career-focused master's programs, add a limited number of doctoral programs and launch a suite of professional graduate diplomas to meet specific, immediate labour market needs. Ryerson will also expand entrepreneurial zones, including potential expansion outside the GTA to support regional economic development.

Undergraduate: Ryerson plans to grow undergraduate domestic enrolment by 6,766 full-time students by 2018-19. Almost all of this growth is a function of: 1) increased retention and student course loads (resulting from higher quality students) and 2) the flow-through into upper years of recently launched programs. There is also a very modest increase due to new programs.

Growth plans and descriptions of planned undergraduate programs are shown in Background Document Tables 14 and 15. A portion of this planned growth (3,970 spaces) would require additional capital funding. The first part of

⁴ The applications-to-registrant ratio average for Ontario universities excluding Ryerson is 6.4 to 1.

this growth would be accommodated in a new Science building and the backfill freed up by departments moving out of their current space.

Graduate: As noted above, over the next five years, Ryerson proposes to: 1) grow career-focused master's degree program enrolment by 761 full-time students in a number of new degree programs; 2) undertake modest growth in PhD programs (104 full-time students); 3) introduce a number of Professional Master's Diplomas to meet immediate labour market needs (140 full-time students); and 4) introduce Doctoral Diplomas to further prepare students for non-academic careers (40 full-time students) (Background Document Table 6).

At the master's level, priority is placed on expanding the University's array of career-focused and professional master's programs that fill labour market needs. At the doctoral level, the first priority is to receive full funding for existing levels of enrolment and the flow-through of existing programs, and then introduce a limited number of new programs (Background Document Table 6). At the doctoral level, 80% of proposed growth is catch-up for current unfunded spaces that result from high demand for Ryerson's programs and flow-through of intake in existing PhD programs.

Entrepreneurial Zones: Within the next two years, Ryerson plans to add entrepreneurial zones in fields where it is already an established educational leader: Aerospace, Health/Biomedical, and Social Entrepreneurship, and to expand zone learning to 900 spaces per year, with a target of 10% of graduating students having been involved in the development of a company, product or service.

Part 6: Financial Sustainability

Ryerson has a demonstrated commitment to financial sustainability. Ryerson's annual budget and pension plan are on a solid footing. Integrated planning emphasizes continual improvement and ensures that curricular innovation, enrolment growth and capital planning are consistent with Ryerson's strategic objectives and with the requirements of financial sustainability.

Part 7: Other Considerations

Academic Plan: Ryerson is currently in the process of developing an academic plan for the next five years, which will be completed after approval of the Strategic Mandate Agreement. The Academic Plan will reflect the University's priorities and associated enabling strategies that are consistent with both the Strategic Mandate Agreement and Ryerson's Mission.

Appendix 1

Table 1: Baseline University Full-Time Headcounts (Eligible and Ineligible)									
Baseline projection for the university as a whole. These should include additional capacity which has already been funded through capital projects currently underway. These projections should not include the impact of proposed projects, or assume provincial approval of future projects or associated policy decisions (e.g., program approvals, development of new campuses, etc.).									
	Eligible Students								
	Actuals			Preliminary	Projected				
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Undergraduate	17,834	18,580	19,895	20,980	21,575	22,501	22,858	23,331	23,776
Master's	1,439	1,415	1,367	1,344	1,370	1,386	1,388	1,388	1,388
Ph.D.	263	302	316	319	330	358	365	368	372
Total Eligible Full-Time Headcounts	19,536	20,297	21,578	22,643	23,275	24,245	24,611	25,087	25,536
	Ineligible Students								
	Actuals			Preliminary	Projected				
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Undergraduate	514	528	547	618	682	711	711	711	711
Master's	144	181	199	189	195	200	200	200	200
Ph.D.	47	61	115	136	146	154	162	165	165
Total Ineligible Full-Time Headcounts	705	770	861	943	1,023	1,065	1,073	1,076	1,076
Total Full-time University Headcount (Eligible + Ineligible)	20,241	21,067	22,439	23,586	24,298	25,310	25,684	26,163	26,612

Table 2: Projected University Full-Time Headcounts (Eligible and Ineligible)									
Enrolment projection for the university as a whole. In addition to the baseline projections in Table 1, these projections should include the impact of proposed projects and provincial approval of future projects or associated policy decisions (e.g., program approvals, development of new campuses, etc.).									
	Eligible Students								
	Actuals			Preliminary	Projected				
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Undergraduate (capital funding)					1,233	2,352	3,542	3,821	3,970
Master's					20	216	507	767	857
Ph.D.						25	50	74	91
Total Eligible Full-Time Headcounts	0	0	0	0	1,253	2,593	4,099	4,662	4,918
	Ineligible Students								
	Actuals			Preliminary	Projected				
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Undergraduate									
Master's									
Ph.D.									
Total Ineligible Full-Time Headcounts	0	0	0	0	0	0	0	0	0
Total Full-time University Headcount (Eligible + Ineligible)	0	0	0	0	1,253	2,593	4,099	4,662	4,918

Appendix 3: Identifying Institutional Program Strengths and Strategic Areas of Focus

Current Areas of Program Strength

Please identify up to 10 areas of program strength for your institution. Please describe the rationale used to select these programs. This information will assist in establishing current programming strengths and areas of expertise.

Institutional Program Strengths (maximum 10)		
<i>Program Area</i>	<i>Total Full-time Headcount (Eligible) (2012-13)</i>	<i>Rationale</i>
Digital Economy, Innovation and Entrepreneurship	1,460	Ryerson's strength in Innovation and Entrepreneurship is well recognized, with three Canada Research Chairs, centres and labs, strategic partnerships, and Ryerson's internationally-recognized leadership in zone-learning. The Digital Media Zone is in the Top 25 University Business Incubators in the world (UBI Index) with 104 companies incubated and accelerated, and over 900 jobs fostered. 100% of undergraduate enrolment is in accredited programs and 74% of master's enrolment is in professional programs.
Design, Technology and Manufacturing	2,630	Ryerson has 7.3 applications per registrant and 100% of undergraduates from secondary school were admitted with an average of 80% or higher. 100% of undergraduate enrolment is in accredited programs and 66% of master's enrolment is in professional programs. 100% of engineering undergraduates complete a major capstone design project giving them hands-on design experience that ties in with labour market needs. Ryerson's research and teaching includes areas that couple design-thinking with technology to improve the sustainability of manufacturing jobs in Ontario, including in evolving fields such as 3D printing.
Management, Administration and the Economy	6,212	There are 9.3 applications to Ryerson per registrant and 72% of undergraduates from secondary school were admitted with an average of 80% or higher. 88% of undergraduate enrolment is in accredited programs. 79% of master's enrolment is in professional programs. Ryerson's strengths in governance, leadership and social responsibility prepare graduates to contribute to the changing nature of management and have an immediate impact.
Creative Industries	2,304	Ryerson has 8.9 applications per registrant and 88% of undergraduates from secondary school were admitted with an average of 80% or higher. 100% of master's enrolment is in professional programs.
Built Environment and Spatial Analysis	931	There are 9.0 applications to Ryerson per registrant and 78% of undergraduates from secondary school were admitted with an average of 80% or higher. 70% of master's enrolment is in professional programs and 74% of undergraduate enrolment is in accredited programs.
Communities, Diversity and City Building	2,832	Ryerson has 13.1 applications per registrant and 82% of undergraduates from secondary school were admitted with an average of 80% or higher. In addition, 100% of master's enrolment is in professional programs and nearly half of undergraduate enrolment is in accredited programs.
Culture and Communications	1,795	Ryerson has 9.7 applications per registrant and 70% of undergraduates from secondary school were admitted with an average of 80% or higher, and nearly half of master's enrolment is in professional programs.
Health, Wellness and Related Sciences	3,334	There are 13.2 applications to Ryerson per registrant and 70% of undergraduates from secondary school were admitted with an average of 80% or higher. 71% of master's enrolment is in professional programs and 62% of undergraduate enrolment is in accredited programs. Ryerson has four Canada Research Chairs in Health and related Sciences, with another proposed, and takes a multidisciplinary approach to health and wellbeing from basic science to prevention, detection and treatment.

Appendix 3: Identifying Institutional Program Strengths and Strategic Areas of Focus

Proposed Areas of Program Strength

Within the context of limited enrolment growth, please identify 3-5 program areas that will be a strategic focus in the next three years. Please be specific when describing your rationale for focusing on these areas.

Programs for Growth or to be Established (maximum 5)				
<i>Program Area</i>	<i>Total Full-time Headcount (Eligible) # (2016-17)</i>	<i>Target Total Full-time Headcount (Eligible) as a proportion of institutional Total Full-time Headcount (Eligible) % (2016-17)</i>	<i>Planned New or Expanded Programs (including credential level)</i>	<i>Rationale</i>
Innovation and Entrepreneurship	1,096	3.6%	Energy and Innovation (Master's) Engineering Innovation & Entrepreneurship (Master's) Social Media and Innovation (Master's) <i>Expanded Programs:</i> <i>Digital Media (Master's)</i> <i>Zone Learning (Undergraduate)</i>	Innovation and Entrepreneurship is a program area for which there is high societal need and high student demand and such programs play a key role in the economic and social development of Ontario. Since Ryerson's Digital Media Zone (DMZ) opened in 2010, 104 companies have been incubated and accelerated, and over 900 jobs fostered. The DMZ is in the Top 25 University Business Incubators in the world (UBI Index). Zone learning goes beyond what occurs in academic programs and equips students with the skill sets needed to start new companies and become employers. With key research being conducted at its Centre for Urban Energy, Centre for Cloud and Context Aware Computing (RC4), and Infoscape Research Lab, Ryerson researchers and graduate students are innovators in this program area.
Design and Technology	5,022	9.0%	Construction, Facilities and Infrastructure (Master's) Graphic Communications Design and Fabrication (Master's) Interior Environments (Master's) <i>Expanded Programs:</i> <i>Computer Science (Undergraduate)</i> <i>Civil Engineering (Undergraduate)</i> <i>Chemical Engineering (Undergraduate)</i> <i>Mechanical Engineering (Undergraduate)</i>	Design and Technology is a program area for which there is high societal need and high student demand and such programs play a key role in the economic and social development of Ontario. Ryerson's research strengths in this area include the Experiential Design and Gaming Environments (EDGE) Lab for applied projects with institutional, community and industry partners. Research strengths support the renewal of manufacturing underway in Ontario by contributing a design-thinking approach coupled with technological and process innovations that help create and retain jobs in Ontario.

...Continued on next page

Programs for Growth or to be Established (maximum 5) Continued				
Program Area	Total Full-time Headcount (Eligible) # (2016-17)	Target Total Full-time Headcount (Eligible) as a proportion of institutional Total Full-time Headcount (Eligible) % (2016-17)	Planned New or Expanded Programs (including credential level)	Rationale
Management and Competitiveness	8,609	20.2%	Data Science and Analytics (Master's) Applied Mathematics (PhD) Cyber Security (PhD) Data Science and Analytics (PhD) <i>Expanded Programs:</i> <i>Business Management (Undergraduate)</i> <i>Business Technology Management (Undergraduate)</i> <i>Real Estate Management (Undergraduate)</i> <i>Financial Mathematics (Undergraduate)</i>	Management and Competitiveness is a program area for which there is high societal need and high student demand and such programs play a key role in the economic and social development of Ontario. Researchers are developing big data analytic tools and working with industry partners to apply them across sectors. Ryerson is a founding partner with OMERs and the Ontario Centres of Excellence on a new incubator supporting new programs in data analytics. Ryerson is building on its Privacy and Cybercrime Institute's research strengths in privacy and cyber crime issues including biometrics, monitoring, identity theft, security breaches, and online social networks, which are central to maintaining a prosperous and competitive economy.
The Creative Economy and Culture	5,189	4.5%	Animation (Master's) Writing for Dramatic Media (Master's) Critical Social Research (Master's) Global Cities (Master's) Language and Intercultural Relations (BA) <i>Expanded Programs:</i> <i>Creative Industries (Undergraduate)</i> <i>Sport Media (Undergraduate)</i> <i>New Media (Undergraduate)</i> <i>Professional Communication (Undergraduate)</i> <i>History (Undergraduate)</i>	The Creative Economy and Culture is a program area for which there is high societal need and high student demand and such programs play a key role in the economic and social development of Ontario. Ryerson's programs in creative economy and cultural fields are geared to creating professional labour-market ready graduates who, through experiential learning, have a skill set that extends beyond their academic field of study. The creative industries in Ontario generate \$12.2 billion in GDP for Ontario's economy annually and are number one in Canada by GDP (Ontario's Entertainment and Creative Cluster: A Framework for Growth Report).
Health and Technology	8,915	7.9%	Biomedical Engineering (Master's) Child and Youth Care (Master's) Occupational Health and Safety (Master's) Urban Development (PhD) <i>Expanded Programs:</i> <i>Biomedical Science (Undergraduate)</i> <i>Environment and Urban Sustainability (Undergraduate)</i> <i>Nursing (Undergraduate)</i>	Health and Technology is a program area for which there is high societal need and high student demand and such programs play a key role in the economic and social development of Ontario. Ryerson has four Canada Research Chairs in Health and related Sciences, with another proposed, and takes a multidisciplinary approach to health and wellbeing from basic science to prevention, detection and treatment. Government expenditures in this area reinforce the centrality of its importance to Ontario's competitiveness.

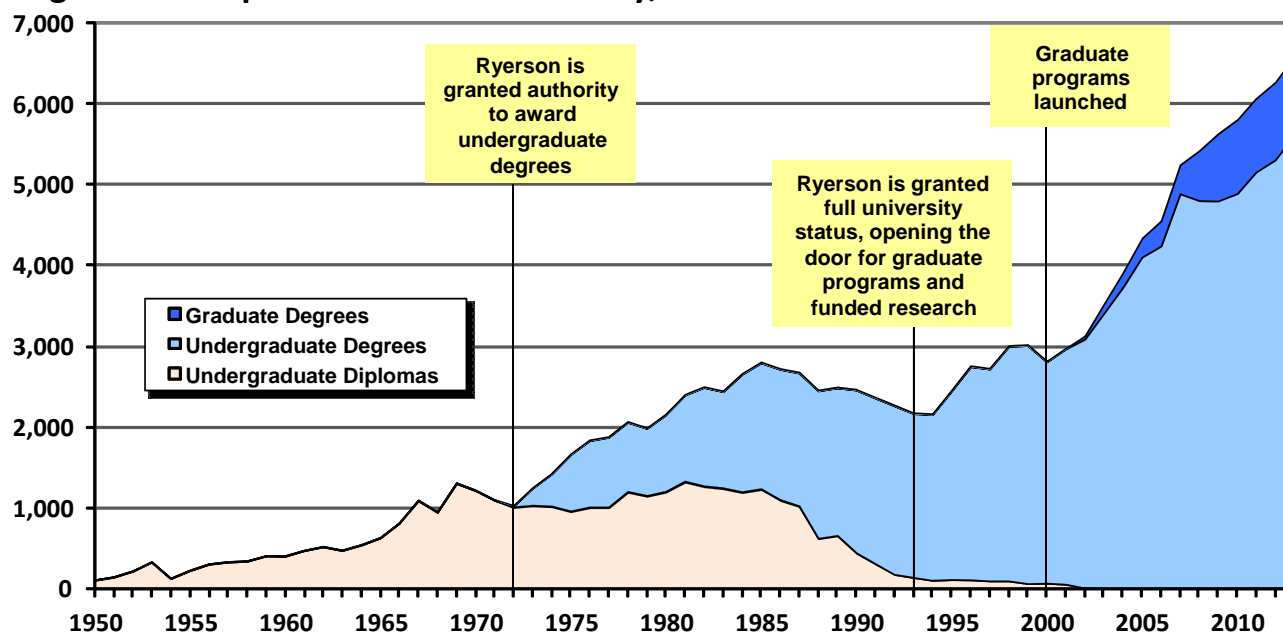
* Beyond those shown above, new master's programs in development grouped by *proposed area of program strength* include: *Management and Competitiveness* (Accounting and Finance, Applied Economics and Policy Analysis), *The Creative Economy and Culture* (Global Politics), *Health and Technology* (Criminology and Social Justice, Health Informatics, Urban Food Security) and new doctoral programs in development grouped by *proposed area of program strength* include: *Innovation and Entrepreneurship* (Digital Media, Urban Energy), *Management and Competitiveness* (Applied Management), *The Creative Economy and Culture* (Cities and Modernity), *Health and Technology* (Biomedical Engineering, Early Childhood Studies, Nursing, Social Work, Spatial Analysis). In addition, Professional Master's Diplomas and Professional Doctoral Diplomas are in development.

**Ryerson University 2013-14 Strategic Mandate
Agreement Background Document**

Background Table 1: Fact Sheet

<p>Student Demand</p> <ul style="list-style-type: none"> • Ryerson University received nearly 76,000 total applications (2013), an increase of 7% over the prior year. Its applications to registration ratio is about 9.7:1, highest in the province. • Ryerson's ratio of 1st choice applications to student spaces is over 2:1 (2013), and continues to be higher than any other Ontario university. • Ryerson's ranking among Ontario universities in the proportion of students with an entering average of 80% or higher rose to 6th in 2013 from 14th in 2006. • The mean entering average for Ryerson students was 83.1% in 2013.
<p>Operating Revenue</p> <ul style="list-style-type: none"> • Ryerson has the lowest operating revenue per eligible BIU student of all Ontario universities, at \$8,228 per eligible BIU student (undergraduate and graduate).
<p>Graduate Studies</p> <ul style="list-style-type: none"> • 74% of master's enrolment at Ryerson is in professional programs. • Graduate enrolment accounts for 6% of total enrolment at Ryerson, a level that remains well below its international peer universities which tend to be over 20%.
<p>Experiential Learning</p> <ul style="list-style-type: none"> • Over 95% of undergraduate programs have an experiential learning component. • Over 130,000 student registrations were in experiential learning courses/activities.
<p>Career-Relevant and Labour Market-Ready Programs and Graduates</p> <ul style="list-style-type: none"> • Over 92% of Ryerson graduates are employed two years after graduation (2010). • Labour market outcomes for Ryerson graduates are very strong with 82% of graduates employed in a career related to their field six months after graduation and 88% two years after graduation (2010), which is 10% higher than the Ontario university system average. • Two-thirds of undergraduate enrolment is in accredited programs.
<p>Research</p> <ul style="list-style-type: none"> • Ryerson's sponsored research income ranks 5th in Ontario and 11th in Canada among non-"medical/doctoral" universities.
<p>Entrepreneurial Zones</p> <ul style="list-style-type: none"> • Since the Ryerson Digital Media Zone opened in 2010, 104 companies have been incubated and accelerated, and over 900 jobs fostered. • Innovators in Zones: <ul style="list-style-type: none"> ➢ Digital Media Zone (over 350) ➢ Innovation Centre for Urban Energy (iCUE) (10) ➢ Fashion Zone (20) ➢ Design Fabrication Zone (50) ➢ Transmedia Zone (20)
<p>Online Learning</p> <ul style="list-style-type: none"> • Ryerson is a leader in Ontario in online university education with 282 degree-credit courses and 186 non-credit courses fully online, 3 degree programs fully online, 20 fully online certificates, 5 blended degree programs, and 21 blended certificates.
<p>Transfer Pathways</p> <ul style="list-style-type: none"> • Ryerson is one of the most transferred-to universities in Ontario, with over 7,700 students or about one quarter of its undergraduates having had previous college or university experience.
<p>City Building</p> <ul style="list-style-type: none"> • Ryerson has completed the Ryerson Image Centre, reinvented Gould Street as a pedestrian plaza, and opened the Mattamy Athletics Centre in the former Maple Leaf Gardens. Construction of a new Student Learning Centre on Yonge Street is underway, and a Health Sciences Building and new student residences are in the planning stages. Ryerson's capital expansion has involved innovative partnerships with government and private sector partners like Loblaw's, Cineplex Theatres, Cadillac Fairview, and MPI Group.

Background Figure 1: A Timeline of Ryerson’s History of Institutional Transformation, Degrees and Diplomas Awarded Annually, 1950 to 2013



Background Table 2: Professional and Career-related Programs - Enrolment in Accredited Undergraduate Programs, 2013-14

Program	Fall Headcount	Est. FTEs (annualized)
Accounting and Finance	299	301
Business Management	6,523	5,903
Business Technology Management	1,841	1,603
Health Services Management	111	45
Hospitality and Tourism Management	739	653
Retail Management	511	471
Interior Design	389	393
Child and Youth Care	634	442
Nutrition and Food	408	379
Midwifery	123	107
Nursing	1,954	1,373
Public Health	402	357
Social Work	906	809
Urban and Regional Planning	429	408
Architectural Science	433	403
Engineering: Aerospace, Biomedical, Chemical, Civil, Computer, Electrical, Industrial and Mechanical	3,818	3,439
Chemistry	196	183
Computer Science	649	591
Enrolment in accredited undergraduate programs	20,365	17,856
Ryerson total undergraduate program enrolment	30,835	27,413
Enrolment in accredited programs as a percentage of total undergraduate enrolment	66%	65%

Background Table 3: Digital Media Zone (DMZ) Companies*

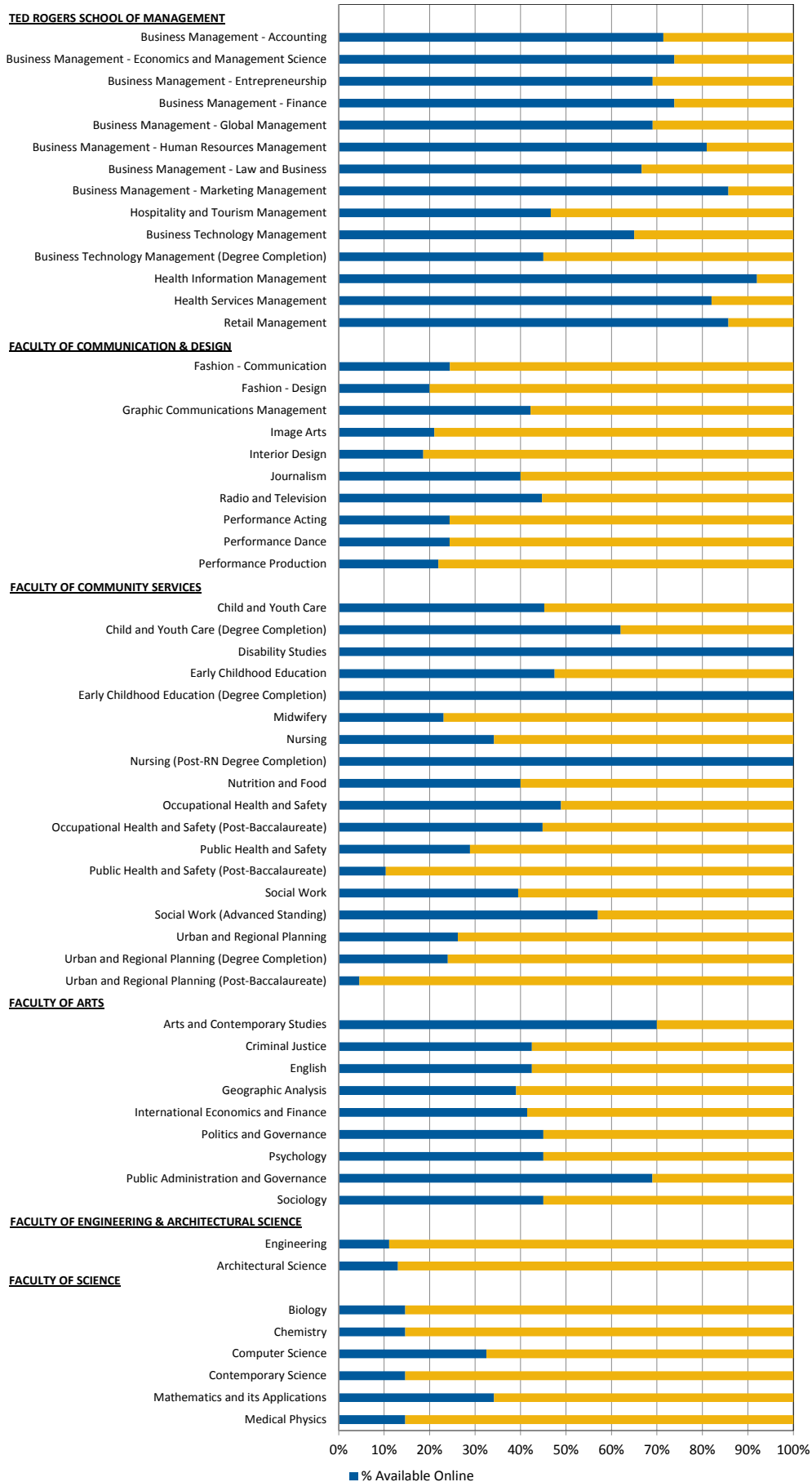
Companies		
121 Live	Huge Monster Inc.	SmithsonMartin
500px	Innohub	Snapy
Aha Moment	Jobdeals	SoJo
Akindi	Kela Medical Inc.	Spenz
ARB Labs Inc.	Kira Talent Inc.	StackRocket
Authentic	Komodo OpenLab	Startup Friendly
Bionik Laboratories	Kytephone	STUDEO
Boxit	LeanIn	SupaMaasai Foundation
Bridgit	Luevo	Synbiota
Bright Bunny	Mejuri	Tactile Audio Displays Inc. (TAD)
Burstn	mobd Inc.	Tapfun Inc.
Calester	Moonrider	Taggage
Commerce Times	More Than Friend Me	Team 42
Cover	National Scholarship Program	Team Save
Crowdfield	Needle	Three Red Cubes
DanTeb Enterprises	One Plant	The Shop Society
Dirt	OnTab	Thumble
DreamQuii Inc.	Peytec Inc.	TinyHearts
EatSleepRIDE	Phosphorus Media	tout.it
EidoSearch	Physicalytics	Transnomis
Electric Courage	Ping Pong Story	unBrokr
Every1Games	Professor Pass	UnHaggle
FanFare	Rayku	UnRealty
Figure 1	realSociable	Viafoura
Finizi	Scanly	Virtual Next
Flybits	Screen Goddess	VitalHub
Foodo	Seamless Mobile Health	Vizualize Me
FoodStory	SensiBill	WaiverStack
GrandezVous	SensorSuite	WhatImWear.in
Greengage Mobile	Set Scouter	WhoPlusYou
Grid Resources	Shape Collage	Winston
Health Myself Innovations Inc.	Skate To Great	WPUiversity
HitSend Inc.	SkyPrep Inc.	WooF
HoochHound	SlimCut Media	Zagga Entertainment Ltd.
Hospital Connection	SmartSlips	

*List of companies since DMZ launch to December 1, 2013

Background Table 4: Percentage of Undergraduate Programs with External Experiential Learning Component

Faculty / Program	Co-op	Internship	Work Placement	Field Experience/ Placement	Clinical Placement	Total
Faculty of Communication & Design	0%	10%	10%	60%	0%	80%
Fashion			✓			✓
Graphic Communications Management				✓		✓
Interior Design				✓		✓
Journalism				✓		✓
Image Arts				✓		✓
Professional Communication		✓				✓
Radio & Television Arts				✓		✓
Theatre Acting						
Theatre Dance						
Theatre Performance Production				✓		✓
Faculty of Arts	0%	18%	0%	82%	0%	100%
Arts & Contemporary Studies				✓		✓
Criminal Justice				✓		✓
English				✓		✓
Environment & Urban Sustainability		✓				✓
Geographic Analysis				✓		✓
History				✓		✓
International Economics		✓				✓
Philosophy				✓		✓
Politics & Governance				✓		✓
Psychology				✓		✓
Sociology				✓		✓
Faculty of Community Services	13%	13%	0%	38%	38%	100%
Child & Youth Care		✓				✓
Early Childhood Studies				✓		✓
Food & Nutrition				✓		✓
Midwifery					✓	✓
Nursing					✓	✓
Occupational & Public Health	✓					✓
Social Work					✓	✓
Urban & Regional Planning				✓		✓
Faculty of Engineering & Architectural Science	22%	78%	0%	0%	0%	100%
Aerospace Engineering		✓				✓
Architectural Science	✓					✓
Biomedical Engineering		✓				✓
Chemical Engineering	✓					✓
Civil Engineering		✓				✓
Computer Engineering		✓				✓
Electrical Engineering		✓				✓
Industrial Engineering		✓				✓
Mechanical Engineering		✓				✓
Faculty of Science	100%	0%	0%	0%	0%	100%
Biology	✓					✓
Biomedical Science	✓					✓
Chemistry	✓					✓
Computer Science	✓					✓
Financial Mathematics	✓					✓
Mathematics	✓					✓
Medical Physics	✓					✓
Ted Rogers School of Management	20%	40%	0%	40%	0%	100%
Accounting & Finance				✓		✓
Business Management FT				✓		✓
Business Technology Management	✓					✓
Hospitality & Tourism Management		✓				✓
Retail Management		✓				✓
Ryerson	22%	26%	2%	40%	6%	96%

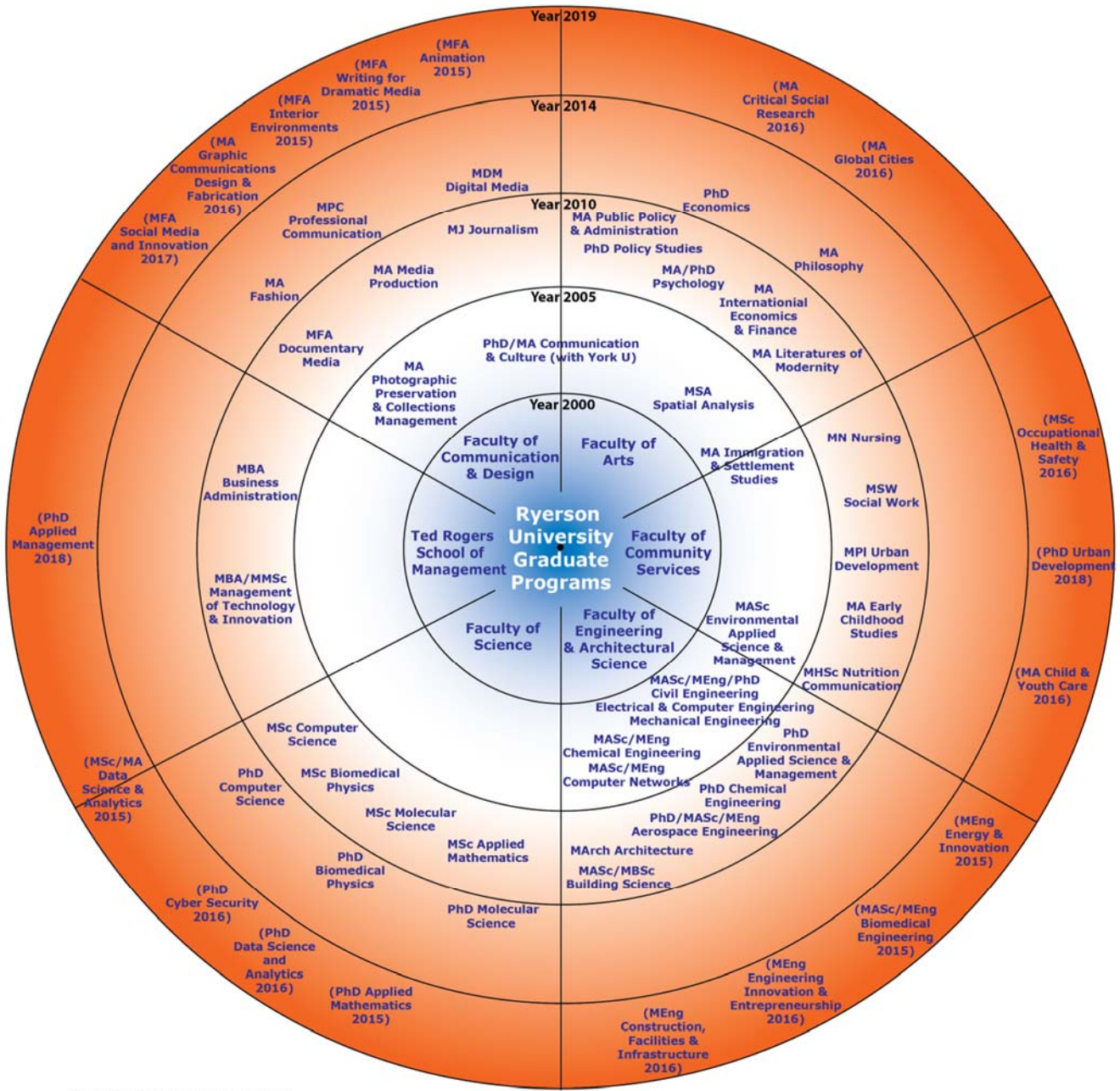
Background Figure 2: Percentage of Programs Available Via Online Courses



Background Table 5: Graduate Fall FTE Enrolment (Domestic Students)

Program	Actual						
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Master's Programs							
Communication & Culture	69	62	51	39	31	28	31
Environmental Applied Science & Mgt	51	54	49	50	54	55	47
Spatial Analysis	30	26	26	29	22	22	23
Chemical Engineering	28	25	27	18	21	19	17
Civil Engineering	83	92	90	81	78	73	67
Electrical and Computer Engineering	111	110	101	103	87	86	99
Mechanical and Industrial Engineering	92	91	94	94	78	65	61
Computer Networks	54	70	70	83	71	71	68
Photographic Preservation	21	29	34	36	32	33	34
Immigration and Settlement	45	38	36	39	42	37	36
International Economics & Finance	26	28	30	29	27	24	26
Public Policy and Administration	47	45	52	47	48	44	45
Nursing	80	89	83	95	97	82	106
Business MBA	68	84	87	157	175	167	143
Management of Technology & Innovation	9	3	4	8	7	7	1
Early Childhood Studies	44	53	31	27	23	25	24
Physics	17	19	21	23	26	27	20
Molecular Science	26	27	25	32	28	29	35
Aerospace Engineering	31	46	49	50	33	30	36
Journalism	26	52	54	49	55	52	51
Documentary Media	31	55	53	50	51	47	38
Media Production	25	22	22	23	19	25	17
Computer Science	21	41	55	59	62	48	48
Social Work	31	33	30	32	35	40	42
Architecture	26	44	62	49	54	61	58
Psychology	23	40	32	31	32	31	30
Nutrition	15	15	20	20	19	16	18
Building Science		16	33	36	35	39	39
Literatures of Modernity		13	20	21	19	21	22
Urban Development		23	50	57	62	64	61
Applied Mathematics			10	20	19	20	18
Professional Communication				23	24	21	24
Philosophy				13	24	26	26
Fashion & Design				19	36	29	26
Digital Media							19
Total Master's	1,129	1,345	1,400	1,540	1,524	1,464	1,453
PhD programs							
Communication & Culture	34	40	44	44	41	23	27
Civil Engineering	19	25	26	23	26	20	22
Electrical and Computer Engineering	24	34	46	50	43	43	32
Mechanical and Industrial Engineering	23	28	38	41	45	47	40
Chemical Engineering	3	7	9	11	13	13	11
Aerospace Engineering	2	15	20	24	21	17	10
Environmental Applied Science & Mgt			5	11	14	19	21
Policy Studies			9	18	28	32	34
Psychology			23	37	52	65	70
Economics				5	6	10	13
Computer Science					6	11	16
Physics					4	8	12
Molecular Science					4	9	12
Total PhD programs	105	149	220	264	303	318	321
Total Master's + PhD programs	1,234	1,494	1,620	1,804	1,827	1,781	1,774

Background Figure 3: Ryerson Graduate Program Plan by Faculty – Programs In Place in 2013-14 and Planned to 2018-19



Note: As identified in Background Table 6, Professional Master’s Diplomas (beginning 2014/15) and Professional Doctoral Diplomas (beginning 2015/16) are also planned, as are additional graduate degree programs that are currently in development.

Background Table 6: Graduate Planned Fall FTE Enrolment (eligible for funding)

Program	2013/14 act	2014/15	2015/16	2016/17	2017/18	2018/19
Existing Master's programs	1,453	1,480	1,495	1,497	1,497	1,498
New Master's programs						
Data Science and Analytics			20	50	60	60
Animation			25	25	25	25
Biomedical Engineering			25	25	25	25
Writing for Dramatic Media			16	32	32	32
Energy and Innovation			25	50	50	50
Interior Environments			25	50	50	50
Child & Youth Care				25	25	25
Construction, Facilities and Infrastructure				25	50	50
Critical Social Research				25	25	25
Global Cities				25	25	25
Graphic Communications Design and Fabrication				25	25	25
Engineering Innovation and Entrepreneurship				25	25	25
Occupational Health & Safety				25	50	50
Social Media & Innovation					25	25
Master's programs in development *					155	225
Professional Master's Diplomas		20	80	100	120	140
Total New Master's programs		20	216	507	767	857
Total Master's programs	1,453	1,500	1,711	2,004	2,264	2,355
Currently funded level	1,433	1,476				
Above curenly funded level	20	24	235	528	788	878
Existing PhD programs	321	323	359	366	369	373
New PhD programs						
Applied Mathematics			5	10	14	18
Cyber Security				5	10	14
Data Science and Analytics				5	10	14
Urban Development						5
Professional Doctoral Diplomas			20	30	40	40
Total New PhD programs **			25	50	74	91
Total PhD programs	321	323	384	416	443	464
Currently funded level	183					
Above curenly funded level	138	140	201	233	260	281
Total Masters + PhD	1,774	1,823	2,096	2,420	2,707	2,819
Growth over 2013-14		49	322	646	933	1,045

* Master's programs in development include: Accounting and Finance, Applied Economics and Policy Analysis, Criminology and Social Justice, Global Politics, Health Informatics, Urban Food Security.

** Other Doctoral programs in development include: Applied Management, Biomedical Engineering, Cities and Modernity, Digital Media, Early Childhood Studies, Nursing, Social Work, Spatial Analysis, Urban Energy.

Background Table 7: Proposed Graduate Programs

Master's programs:

Animation (MFA): Students will become adept at editing, scriptwriting and computer graphics. Experiential learning, where students create a variety of products including those using interactive design, is a key component of the program.

Biomedical Engineering (MAsc/MEng): This program will create synergy between biomedical researchers and engineers, further advancing Ryerson's role in the application of life sciences and engineering knowledge in a variety of medical fields.

Child and Youth Care (MA): Graduates of this program will demonstrate in-depth competencies related to the assessment, prevention and intervention processes pursuant to complex child, youth or family situations in accordance with evidence-based practices.

Construction, Facilities and Infrastructure (MEng): Students in the proposed program will benefit from an interdisciplinary curriculum that includes architecture, engineering and business. Graduates will demonstrate a valuable combination of technical proficiency along with business, management and leadership skills.

Critical Social Research (MA): Graduates will be skilled in the use of sophisticated research methods, allowing them to collect and analyze data, evaluate credibility of sources, and integrate diverse pieces of information to provide practical and strategic solutions to challenges in both private and public organizations.

Data Science and Analytics (MSc/MA): Graduates will be able to fully leverage vast amounts of data for operational as well as strategic decisions in a number of sectors such as banking, insurance, health care, government, and retail.

Energy and Innovation (MEng): The proposed program will act to support Ontario's interest in alternative energy generation, and is a natural complement to Ryerson's Centre for Urban Energy, which will provide graduate students with the opportunity to develop and commercialize innovative solutions to energy and sustainability.

Engineering Innovation and Entrepreneurship (MEng): Students will leverage their strong technical skills in engineering while learning how to take a business idea through all the stages of technology development, transfer, and commercialization.

Global Cities (MA): With a practical understanding of the ways in which cities function, particularly in a competitive economic climate, graduates will have the cultural competence to provide leadership in Ontario's diverse, globalized urban communities and contribute significantly to their social and economic sustainability.

Graphic Communications Design and Fabrication (MA): Students will benefit from resident expertise in engineering, environmental science, safety and security, flexographic printing, logistics, graphic design, material science, and marketing to be prepared for management roles in a multi-billion dollar industry.

Interior Environments (MFA): There will be a need for designers who can respond to expectations for interiors that meet certain conditions, such as being environmentally friendly or more accessible. Designs that respond to the requirements of Ontario's AODA are an example.

Occupational Health and Safety (MSc): Graduates of this program will be prepared to serve as industry leaders in maintaining safety and preventing injury due to biological, physical, chemical or other hazards across a wide variety of occupations.

Social Media and Innovation (MFA): Immersed in an experiential learning environment, students will design and produce social media products.

Writing for Dramatic Media (MFA): This program will develop well-rounded writers who can meet market demand for material across a variety of visual, digital and performative media. No other Canadian university offers an MFA in

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Background Table 7: Proposed Graduate Programs Continued

dramatic writing across the disciplines of Film, Theatre and Television.

Other master's programs at an earlier stage of development include: Urban Food Security, Health Informatics Management, Accounting and Finance, Applied Economics and Policy Analysis, Global Politics, Criminology and Social Justice

Doctoral programs:

Applied Mathematics (PhD): Graduates will help to meet increasing demand for advanced mathematical skills in the financial sector, as well as fields such as natural sciences, engineering, and economics, among others.

Cyber Security (PhD): Graduates will have a combination of technical skills and business acumen that is in high demand. The Information and Communications Technology Council highlights a serious shortage of candidates with the skills required for security roles.

Data Science and Analytics (PhD): Graduates will be able to fully leverage vast amounts of data for operational as well as strategic decisions in a number of sectors such as banking, insurance, health care, government, and retail.

Urban Development (PhD): Building on the success of the master's program in Urban Development this program will contribute practitioners and researchers who respond to new planning challenges resulting from rapid urbanization, mass migration, economic disparity, environmental degradation and globalization.

Other doctoral programs at an earlier stage of development include: Biomedical Engineering, Digital Media, Early Childhood Studies, Nursing, Social Work, Urban Energy, Spatial Analysis, Applied Management, Cities and Modernity

Background Table 8: International Peer Universities

	Received University Status (Year)	Total Enrolment (Headcount)	Graduate Enrolment (Headcount)	Graduate Share of Total Enrolment
Australian Peer Universities				24%
Curtin University of Technology	1987	46,994	10,068	21%
Queensland University of Technology	1989	44,305	9,884	22%
RMIT University	1992	54,956	11,352	21%
University of South Australia	1991	33,327	7,329	22%
University of Technology Sydney	1988	36,348	12,379	34%
United Kingdom Peer Universities				20%
The University of Brighton	1992	22,075	4,415	20%
London Metropolitan University	1992	23,485	5,575	24%
The Manchester Metropolitan University	1992	34,595	6,425	19%
The University of Portsmouth	1992	23,830	4,025	17%
The University of Salford	1992	21,755	4,555	21%
University of the West of England, Bristol	1992	30,390	5,985	20%
Ryerson University 2012-13	1993	38,954	2,349	6%

Sources: Australian Government Higher Education Statistics (2012 data)
United Kingdom Higher Education Statistics Agency (2011-12 data)

Background Table 9: Sponsored Research Income for Non "Medical/Doctoral" Canadian Universities

Rank	University	Sponsored Research Income 2012-13 (\$000)
Ontario Non "Medical/Doctoral" Universities		
1	University Ontario A	\$161,172
2	University Ontario B	\$137,006
3	University Ontario C	\$67,280
4	University Ontario D	\$50,372
5	Ryerson University	\$28,695
6	University Ontario E	\$28,074
7	University Ontario F	\$23,895
8	University Ontario G	\$19,856
9	University Ontario H	\$14,509
10	University Ontario I	\$13,842
11	University Ontario J	\$12,641
12	University Ontario K	\$11,819
13	University Ontario L	\$9,665
Canadian Non "Medical/Doctoral" Universities		
1	University A	\$161,172
2	University B	\$137,006
3	University C	\$103,007
4	University D	\$95,614
5	University E	\$73,901
6	University F	\$67,280
7	University G	\$62,226
8	University H	\$52,287
9	University I	\$50,372
10	University J	\$44,816
11	Ryerson University	\$28,695
12	University K	\$28,074
13	University L	\$25,687
14	University M	\$24,768
15	University N	\$23,895
16	University O	\$23,264
17	University P	\$21,049
18	University Q	\$20,048
19	University R	\$19,856
20	University S	\$19,135
21	University T	\$17,235
22	University U	\$15,893
23	University V	\$14,509
24	University W	\$13,842
25	University X	\$12,641
26	University Y	\$11,854
27	University Z	\$11,819
28	University AA	\$11,625
29	University AB	\$9,665
30	University AC	\$8,989
31	University AD	\$8,019
32	University AE	\$7,803
33	University AF	\$7,537
34	University AG	\$7,528

Source: RESEARCH Infosource Canada's Top 50 Research Universities 2013
(2012-13 data)

Background Table 10: Examples of Partners in Applied Research Projects

Alcohol Countermeasure Systems	Delvinia Holdings Inc	Lafarge Canada	SideBuy Technologies Inc.
ANAI Global Technologies	Divani Films Inc.	Lumasonix Inc.	SmartSimple Software Inc.
BASF Canada Inc.	Electro-Pack Inc.	MD Precision Inc.	Soft-R-Us Inc
Bioshield Technologies	Enbridge Gas Distribution	Microsoft Corporation	SPP Canada Aircraft Inc.
Biscuits Leclerc Ltd.	Ericsson Canada	Mondelez International	Teledyne Dalsa
Blackberry	Found Aircraft Canada Inc.	Newark Paperboard Products Inc.	The Hershey Company
Bombardier Aerospace	GE Healthcare	Océ Display Graphics Systems	Toronto Hydro-Electric System Limited
CAE Flightscap	Google Inc.	P & P Optica	Union Gas Limited
Calgary Exhibition and Stampede	Gress Aerospace	Pratt and Whitney Canada	Van-Rob Inc
Candu Energy Inc.	Honeywell ASCa Inc.	QNX Software Systems	WaveDNA
Cosmetica Laboratories	Hydro One Networks	QPS Photonics Inc.	WestPort Innovations Inc.
Cyclepods Canada Corporation	Induce Biologics Inc	RBS Consulting Engineering Group	Winston Inc.
	InterDigital Canada Ltée		
	Komodo OpenLabs Inc.		
	Kraft Foods Inc.		

Background Table 11: Research in Program Areas of Strategic Focus

Innovation and Entrepreneurship

Ryerson is a leader in Ontario in applied research programs such as the NSERC Engage grants providing opportunities for graduate students to work on finding solutions to real world problems. The Institute of Innovation and Technology Management, Ryerson Institute for Aerospace Design and Innovation, The Entrepreneurship Institute, The Social Innovation Initiative and Centre for Urban Energy are among the many focal points of innovation-oriented research and practice at Ryerson. In recognition of its success in mainstreaming innovation across the University through its research and curriculum Ryerson was named Canada's first Ashoka Changemaker campus. Ryerson's research initiatives and partnerships reflect its strength in innovation and entrepreneurship.

- With **partners** such as the Ontario Chamber of Commerce and Information Technology Association of Canada, Ryerson focuses not only on developing and commercializing new technologies but on their applications in areas such as health care, financial services, security, manufacturing, entertainment and transportation.
- The **Centre for Urban Energy (CUE)** has attracted more than \$30 million from Toronto Hydro, Hydro One and the Ontario Power Authority and the private sector to support Ryerson researchers and graduate students in developing multidisciplinary solutions including smart grid, electric cars and consumer oriented applications.
- The **Centre for Cloud and Context Aware Computing (RC4)**, supported by the Federal Development Agency of Southern Ontario, focuses on emerging areas such as cloud and mobile computing, social media and analytics, 3D modeling and additive manufacturing. Leading Ryerson researchers also work on simulation, tangible interfaces and 3D environments essential for next generation gaming.
- The **Infoscape Research Lab** is one node in a network of researchers developing tools, content and related consumer analytics related to social media.

New graduate programs in Digital Media, Energy and Innovation, Engineering Innovation & Entrepreneurship, Social Media & Innovation, and Urban Energy will build on this strong foundation and create further linkages between research, graduate programs, and entrepreneurial innovation zones.

Design and Technology

Ryerson is home to a host of faculty researchers in areas such as architecture, design and technology including elements of energy, sustainability, and the environment. Ryerson's research initiatives and partnerships reflect these strengths.

- The **Archetype Sustainable House**, developed in collaboration with the Kortright Centre, was instrumented with over 300 sensors and a state-of-the-art data acquisition system to allow the buildings and their component systems to be monitored continuously for research and educational purposes.
- Ryerson participates with other industry and university partners in the **Southern Ontario Water Consortium**, with the goal of building an integrated platform for water-related research and the development, testing, and demonstration of water and wastewater technologies and services.
- The **Experiential Design and Gaming Environments (EDGE) Lab** leverages the insights of researchers from social science, humanities, engineering, and digital technology for applied projects with institutional, community and industry partners to provide for rapid prototyping, virtual world development, and adaptive design for indoor/outdoor deployment environments.

New graduate programs in Construction, Facilities & Infrastructure, Interior Environments, and Graphic Communications Design & Fabrication will build on these strengths.

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Background Table 11: Research in Program Areas of Strategic Focus, continued**Management and Competitiveness**

Research and collaboration in management and competitiveness is increasingly important to Ryerson's entrepreneurial culture and is reflected in Ryerson's research initiatives and partnerships.

- Recognizing the growing importance of **big data**, researchers in Mathematics, Geographic Information Systems, Marketing, Information Technology Management, Industrial Engineering, Computer Engineering and elsewhere are developing data analytic tools and working with industry partners to apply them across sectors. The University has proposed two new Canada Research Chairs in big data to strengthen capacity in this area and is a founding partner with OMERs and the Ontario Centres of Excellence on a new incubator focused on making Ontario a leader in this domain and supporting new programs in analytics.
- The **Privacy and Cybercrime Institute** undertakes research about privacy and cyber crime issues such as workplace surveillance, biometrics, monitoring, identity theft, security breaches, and online social networks.

New graduate programs in Cyber Security and Data Science and Analytics will bolster Ryerson's research strength and incubators, and programs in Accounting & Finance, Applied Management, Applied Mathematics and Applied Social Sciences will continue to advance Ryerson's agenda of entrepreneurship.

The Creative Economy and Culture

Creative expression and the cultural industries constitute one of Ryerson's strongest research areas. Ryerson attracts talented researchers and cultural producers who work closely with organizations within the city and around the world. Ryerson's research initiatives and partnerships reflect its strength in creative economy and culture.

- The **Transmedia Centre** focuses on new approaches to storytelling with a range of media. Through a project funded by the OMDC, Ryerson is working with media companies Breakthrough Entertainment, Achilles Media, Marble Media, Xenophile Media and Corus Entertainment to improve the success of new product development in the Entertainment and Creative Cluster companies by establishing a "community of practice" in improved product development and the formation of ideas or concepts using ideation techniques.
- The **Modern Literature and Culture Research Centre** is dedicated to the study and preservation of early twentieth-century modern texts and artifacts.
- The **Centre for Digital Humanities** investigates the ways in which digital mediation fosters new ways of critical thinking through making and is focused on applied experimental research and critical creativity.

New graduate programs in Animation and Writing for Dramatic Media will bolster Ryerson's research strengths.

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Background Table 11: Research in Program Areas of Strategic Focus, continued

Health and Technology

Ryerson has four Canada Research Chairs in Health and related Sciences, with another proposed, and takes a multidisciplinary approach to health and wellbeing from basic science to prevention, detection and treatment. Examples of Ryerson's strengths in research and collaboration, and its engagement with the community, are extensive.

- Ryerson researchers received nearly \$2M in funding support of unique in the world facilities for **ultrafast ultrasound and optical methods** used to probe cell and tissue structure and function in collaboration with companies such as MD Precision Inc., Lumasonix Inc., Sentinelle Medical Inc. and Tornado Medical Systems Inc.; \$3M to address the stigma of mental illness in the South Asian community; and Grand Challenges funding to work with researchers in Bangladesh to develop a lab-on-a-chip detection system for arsenic contamination in wells.
- Building on longstanding work with St. Michael's Hospital, the new **Institute for Biomedical Science and Technology (iBEST)** will enable clinically focused research in a "bench-to-bedside" environment to provide a platform for a planned professional graduate program in Biomedical Engineering with an emphasis on innovation in medical technologies.
- The **Centre for Labour Management Research (CLMR)** works with such partners as Bombardier, CN, Ford, Air Canada, Loblaws, and Magna as well as major labour unions to find new solutions to workplace issues.
- **New Centres** on Urban Planning, "City Building", Infrastructure Innovation and smart cities explore policy and management as well as the built form and emerging technology.
- Ryerson has partnered with the Consultative Group on Early Childhood Care and Development and funders such as CIDA, the World Bank, the United Nations Children's Fund, and the UBS Optimus Foundation to undertake projects promoting **child and youth development**.
- Ryerson recently received \$1.7M from RBC to support research on **immigrant employment, health, engagement and entrepreneurship**, leveraging strengths in the Centre for Immigration and Settlement Studies and the Diversity Institute.

New graduate programs in Biomedical Engineering, Child & Youth Care, Early Childhood Studies, Health Informatics, Nursing, Occupational Health & Safety, Social Work, Spatial Analysis, Urban Development, and Urban Food Security will strengthen Ryerson's agenda of research, City-Building and community engagement.

Background Table 12: Graduate Programs and Examples of Industry and Community Partners

Existing Programs
Aerospace Engineering, MAsc, MEng, PhD (required major research project, thesis): Bombardier; Concordia University (Montreal); Ecole Polytechnique (Montreal); MDA - Space Missions; NRC of Canada - Institute of Aerospace Studies (Ottawa); Pratt and Whitney Canada (Mississauga); Rolls-Royce (Montreal); Sinclair Interplanetary
Applied Mathematics, MSc (required thesis): Mako Invent; NeoVentures Biotechnology Inc.; Research partner (MITACS Accelerate); Sigma Analysis & Management Ltd.; Winston Inc
Architecture, MArch (required thesis project): Ontario Association of Architects
Biomedical Physics, MSc, PhD (required research project or thesis and collaborative research): Artenga Inc.; Circuit Plus Inc.; F. Hoffmann-La Roche, Ltd.; Hamilton Health Centre; Hospital for Sick Children; Lumasonix; McMaster University; Princess Margaret Hospital; Seno Medical Instruments Inc.; St. Michael's Hospital; Sunnybrook Hospital; Toronto Poly Clinic Inc.; Ultrasonix Inc.
Building Science, MBS, MAsc (required thesis or major research project): CMHC; Trow Engineering; Alphatec; Athena Institute; Bentall LLP; BPC; BRE Canada; City of Toronto; Enbridge; Roxul; TRCA
Chemical Engineering, MEng, MAsc, PhD (required major research project, thesis): Cloud Dynamics Inc.; Vision Coaters Canada Ltd.; Xerox Research Centre
Civil Engineering, MAsc, MEng, PhD (required major research project, thesis): City of Toronto; Hatch, Inc; Hydro-Québec Research Institute; Lafarge Canada; Ontario Power Generation (OPG); SNC Lavalin Nuclear Inc.; Toronto and Region Conservation Authority
Communication and Culture, MA, PhD (required major research project, thesis, field placements): Stoney Brook University (New York); Cineflix Productions; Food Share; Haven Entertainment; RISKILLS program, Ryerson; World Endeavors (Mexico)
Computer Networks, MAsc, MEng (theses, projects, seminars, placements): AT&T Global Services Canada; Bell Canada; Cisco Canada
Computer Science, MSc, PhD (outreach, required projects and placements): National Institute of Standards and Technology (NIST); Halton Regional Police; Louise Arbour SS; Mayfield SS; WG Davis SPS; Bayview Glen Private School; Ontario Provincial Police - PERT/UCRT; Toronto Fire Services: Search Technology Development
Digital Media, MDM (required projects): GCI Group; Ribikloud; Ryerson Futures; BeneFACT; Side Effects Software; Rideout & Maybee LLP; Ryerson Digital Media Zone
Documentary Media, MFA (required research project): Bloor Hot Docs Cinema - DOC NOW Documentary Media Festival; TIFF: Bell Lightbox - DOC NOW Documentary Media Festival; Toronto Image Works - DOC NOW Documentary Media Festival
Economics, MA, PhD (thesis, seminars, memberships): TABE (Toronto Association for Business and Economics); Various academics from universities in Canada and the US
Electrical and Computer Engineering, MAsc, MEng, PhD (required major research project, thesis): Advanced Micro Devices; BC Hydro; Behan Construction Ltd.; Eastman Kodak Company; EidoSearch, Inc.; Eion; Epson Canada Limited.; Honeywell Aerospace; Hydro One Networks Inc.; MaRS Innovation; AUTO21 Inc.; Schneider Electric; Toronto Hydro Electric Systems Limited
Environmental Applied Science & Management, MAsc, PhD (required research project or thesis): Ateneo de Manila (Philippines); Fleetec Inc.; Laboratory Services Branch, Ministry of the Environment
Fashion, MA (required major research paper): Elle Magazine; Holt Renfrew; Blanc de Chine (New York); BATA Shoe Museum; Fashion & Textile Museum (London)
Immigration and Settlement Studies, MA (required major research paper): Citizenship and Immigration Canada; Immigration Culture and Art Association (Hamilton); Mosaic Institute; Newcomer Center of Peel; Ontario Council of Agencies Serving Immigrants; Refugee and Immigrant Advisory Council Inc. (St. John's, Newfoundland); The Ontario Metropolis Center (CERIS) at York University; St Christopher House

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Background Table 12: Graduate Programs and Examples of Industry and Community Partners, continued

Existing Programs (continued)
Journalism, MJ (required major research paper, placements, required workshop): CBC; Global News; CTV; Globe & Mail; Toronto Star
Literatures of Modernity, MA (optional practicum): Book Thug; Broken Pencil; Harbourfront Centre; Literary Review of Canada; Modern Literature and Culture Research Centre; Ontario Literacy Coalition; PEN Canada; The Rights Factory; The Walrus; Worldwide Short Film Festival; WRITE Magazine
Master of Business Administration, MBA (thesis, placement, project, seminar, internship): Bell Canada; Best Funds - Developing New Business Strategies; Bombardier; CIBC; Invest Toronto - Investment Services & Global Markets; Level 5 Strategy Group; Maple Leaf Angels; Proctor & Gamble; Rogers Communications; Royal Bank of Canada; Scotiabank - Canadian Banking; St. Joseph's Hospital; St. Michael's Hospital; TD Bank - Management Rotational; Toronto Real Estate Board; University Health Network
Management of Technology and Innovation, MMSc (industry placement, thesis or intensive language training): BMO - Tec & Operations; Bombardier; Centre for Urban Energy (Ryerson University); Corus Entertainment; Idea Couture; Kobo; P&G - emerging technologies; PwC - Technology Consulting; RBC - Technology & Operations; Tulkita Consulting
Mechanical and Industrial Engineering, MEng, MAsc, PhD (required major research project, thesis): ArcelorMittal Dofasco; Cameco; Canadian Space Agency; CANMET Materials Technology Laboratory; CleanEnergy Developments; Cyclepods Canada; General Motors Global Research and Development Center; Hydro One; Magna Cosma International; Mako International; National Research Council Canada; Ontario Hospital Association; OPG; Pratt and Whitney Canada; QinetiQ Belgium; TD Bank; Toronto Atmospheric Fund; Toronto Regional Conservation Authority; Total Oil Company; Union Gas Ltd.
Media Production, MA (major professional project, research paper): 3DFLIC; Georgia Institute of Technology; UCLA; Berklee College of Music (Boston)
Molecular Science, MSc, PhD (research thesis, research project): Artemis Proteomics; Canadian National Proteomics Network; Ceraphyne; Greenon Inc; Gsk; Hershey Corp; Ontario Cancer Biomarker Network; Ontario MRI; Pharmax Ltd; Synxpharma; YYZ Pharmatech
Nursing, MN (thesis, practicum): St. Michael's Hospital; Tier 1 CRC - multiple hospitals such as UHN and community care, organizations such as VON; CIHR research with Community Health Centres; Organizations involved in research with marginalized groups (immigrant women; people with HIV/AIDS); Toronto Public Health; Hospital for Sick Children; Toronto CCAC; CAMH; Princess Margaret Hospital; West Park; Baycrest
Nutrition Communication, MHSc (placement, practicum, research project/paper): Family Health Teams/ Community Health Centres (Black Creek, Bridgepoint, Care First, Central Toronto, Davenport-Perth Neighbourhood Centre, Dufferin-Area, East GTA, Halton Healthcare, Maple, Markham, Port Hope, Summerville, Taddle Creek); Hospitals (CAMH, Kingston General, North York General, Scarborough, St. Michael's, St Joseph's, University Health Network, Toronto East General, William Osler, Windsor Regional); Long-Term Care (Season's Care, Runnymede Healthcare Centre, Chartwell, Humber Heights, IOOF Seniors Homes Inc); Industry/Non-Profit (Canada Beef, Canadian Diabetes Association, Canadian Sugar Institute, FoodShare, General Mills, Loblaw, Jamieson Laboratories, Green Thumbs Growing Kids, Heart and Stroke Foundation, Nestle); Government (EatRight Ontario, Public Health Ontario, Simcoe Muskoka District Health Unit, Toronto Public Health)
Photographic Preservation and Collections Management, MA (internship, professional practice project): Art Gallery of Ontario; Ontario Archives; George Eastman House
Policy Studies, PhD (thesis): Ontario Public Sector (e.g. Ontario Seniors Secretariat, Ministry of Citizenship and Immigration, Ministry of Finance, Ministry of Health and Long term Care); Ryerson Centre for Immigration and Settlement; The Housing Services Corporation
Professional Communication, MPC (major research paper): Bell Canada; Deloitte; Radian 6; MaRS; Extendicare Canada; Ryerson (DMZ; FCAD; UA; TRSM); Siren Communications; WestJet; Canada Post; St Michael's Hospital; ACT Toronto; Unionville Art Gallery; Walrus Magazine; Roots; Investor Education Fund

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Background Table 12: Graduate Programs and Examples of Industry and Community Partners, continued

Existing Programs (continued)
Psychology, MA, PhD (practicum, placement, research, partnership): St. Michael's Hospital (Clinical Psychology Training Clinic); AIDS Committee of Toronto; Association in Defence of the Wrongfully Convicted; Autism Research Centre, Canadian Foundation for AIDS Research; Chinese Academy of Sciences, Beijing; Corrections Services Canada; Integra Foundation; National Ballet School, Canada; National Crime Prevention Centre (NCPC); National Institute of Mental Health, U.S.A.; Rotman Research Institute; City of Toronto; Tactile Audio Display Systems Inc./Ryerson DMZ; Toronto Rehabilitation Institute; Trillium Lakeheads District School Board; Turning Point Youth Services; Unitron; University Health Network; Toronto Western Hospital; Veterans Affairs Canada; WaveDNA/MITACS
Public Policy and Administration, MA (optional major research paper, optional thesis): 33 Signals Regiment; Aboriginal Legal Services of Toronto; Alzheimer's Society of Ontario; Canada Africa Partnership on AIDS; Canadian Coalition for Seniors' Mental Health; City of Toronto; Development and Education Programme for Daughters and Communities (Thailand); Government of Canada; Digital Media Zone; Greater Toronto Civic Action Alliance; Institute for Citizen-Centred Services; Institute of Public Administration of Canada; Michener Institute; Province of Ontario; Ontario Association of Chiefs of Police; Ontario Chamber of Commerce; Red Cross; Safe Kids Canada; St. Michael's Hospital; St. Vincent de Paul; Toronto and York Labour Council; Toronto Community Housing; Toronto East General Hospital; Township of King; Women's College Hospital; Women's Directorate, Ontario
Social Work, MSW (major research project): Centre for Addiction and Mental Health; Ministry of Community Safety and Correctional Services; Pathway to education; Catholic Children Aid of Toronto (CCAS); Children's Aid Society of Toronto; St Joseph Health Care (Hamilton); Toronto District School Board; Ministry of Foreign Trade and Development; Unicef Canada; Regional Central American and Caribbean Unicef; Save the Children International; University of Toronto; University of West Indies; National Universities of different Central American Countries and Mexico
Spatial Analysis, MSA (required project management course with external clients, required placement, major research paper): Business improvement areas; City of Toronto; Conservation agencies; Environmental consulting groups; Facility management departments; Geodata and GIS vendors; Hospitals; Major Banks; Major Retailers; Municipal government; Police services; Property management corporations; Provincial government; Service Employees' International Union; The Stop Community Food Centre; Toronto Community Housing
Urban Development, MPI (required internship): Canadian Urban Institute; City of Brampton; City of Toronto; Councillor Mike Layton's Office, Toronto; IBI Group (Planning); Live Work Learn Play (LWLP); MetropolisIQ; Ministry of Municipal Affairs and Housing (Provincial Planning Policy Branch); Ontario Heritage Trust (Acquisitions and Conservation Services); Regional Municipality of Peel (Integrated Planning Division); Toronto Financial District BIA
New Programs (potential partnerships/collaborations)
Animation, MFA: Sheridan College
Applied Mathematics, PhD (thesis): University of Waterloo; University of Toronto; York University; St. Michael's Hospital; MaRS Discovery District; Google Canada; BlackBerry; Microsoft Canada; Global Risk Institute in Financial Services
Biomedical Engineering, MEng, MAsc (required major research project, thesis): 7D Surgical Inc.; Altera Toronto Technology Centre; Blackberry; Dynamic Structures Ltd.; Electro-Pak Inc.; GE Healthcare; Kela Medical Inc.; Sentinelle Medical Inc.; St. Michael's Hospital; The Pressure Pipe Inspection Company (PPIC) Ltd.; Sick Kids Hospital; Tornado Medical Systems Inc.; Whotheman Media Inc.
Child and Youth Care, MA: Children's Mental health Ontario, Ontario Trillium Foundation, Social Planning Council of Peel, National Alliance for Children and Youth
Construction, Facilities and Infrastructure, MSc, MEng (required major research project, thesis): Associated Engineering Alberta Ltd.; Cement Association of Canada; Hilti (Canada) Corporation; Landmark Structures; McCormick Rankin; Ministere de la Securite Publique (Quebec); Ontario Concrete Pipe Association; Petroleum Research Atlantic Canada; Schoeck Canada Inc.; Sika Canada Inc.; Thermapan Structural Insulated Panels; Town of Richmond Hill

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Background Table 12: Graduate Programs and Examples of Industry and Community Partners, continued

New Programs (potential partnerships/collaborations) (continued)
<p>Critical Social Research, MA (optional major research project or thesis) ETC Group; Every Child Counts (Bahamas); Sierra Youth Coalition; Tonembee Association (Kenya); Government of Canada; Canadian Centre for Policy Alternatives; Canadian Co-operative Association; Canadian Labour Congress; Canadian Sociological Association; Canadian Union of Postal Workers (CUPW); Canadian Union of Public Employees (CUPE); Child Care Canada, Childcare Research and Resource Unit; Child Hunger and Education Program; Community Food Centres Canada; Conference Board Of Canada; COSTI Immigrant Services; Dietitians of Canada; Food Banks Canada; Food Secure Canada; FutureWatch Environment and Development Education Partners; Inter Pares; Meal Exchange; National Association of Japanese Canadians; National Farmers Union; Oxfam Canada; Pride in Our Union (Unifor); Status of Women Canada; Turkish Society of Canada; USC Canada; British Columbia Health Authorities; Province of Ontario; FarmStart; Ontario Council of Agencies Serving Immigrants (OCASI); Organic Council of Ontario; Queer Ontario; Sustain Ontario; Cooper Institute, PEI; Ontario Public Service Employees' Union (OPSEU); PEI Food Security Network; City of Toronto; AIDS Action Now; Ankara Kitapligi; Association of Neighbourhood Centres; FoodShare Toronto; Greater Toronto Workers Assembly; Parkdale Community Legal Clinic; Pathways to Education; Princess Margaret Hospital; St. Christopher House; St. Leonard's Society of Toronto; The Stop Community Food Centre; Toronto Food Policy Council; Toronto Social Planning Council; Workers' Action Centre; Sudbury Workers' Education and Advocacy Centre</p>
<p>Data Science and Analytics, MSc, PhD (required major research project, thesis): AMD Canada; AWE Company Limited; Cerebral Diagnostics; DBA Nightbat Entertainment; IBM Canada Limited; MPP Marketing Inc.; NexJ Systems Inc.; OMERS Ventures; Ontario Centres of Excellence; PathCore Inc.; SideBuy Technologies Inc.; SimenIT Inc.; Warranty Life Inc.</p>
<p>Engineering Innovation and Entrepreneurship, MEng: Autodesk; Optech Inc.; Bionik Laboratories; Felix Technology; Spatial View Inc.; PathCore; Penguin Engineering Systems; Xerox Research Centre; Mine Radio Systems; InteraXon; Pure Technologies; ElectroVaya Corp.</p>
<p>Energy and Innovation, MSc, MEng: Accuenergy; City of Toronto; Connect Canada; ElectroVaya; Enbridge; Honeywell; Hydro One; IESO; Innisfil Hydro; ISTP; Lumentra; Manitoba Hydro; Mitacs; Mitsubishi; Natural Resources Canada; NSERC; OEA; Ontario Centres of Excellence; Ontario Ministry of Energy; Ontario Power Authority; OSEA; Pollution Probe; Power Stream; Schneider Electric; Siemens; Toronto and Region Conservation; Toronto Hydro; Union Gas</p>
<p>Global Cities, MA (optional major research project and thesis): Heritage Toronto; the Ontario Archives; Toronto Public Libraries; Government of Ontario, LAC (Ottawa); Government of Canada; RMIT University (Australia); YMCA; New York University; Centre for Cities (UK)</p>
<p>Graphic Communications Design and Fabrication: TBD (required major research project, thesis): Anderson & Vreeland (Toronto, Ohio); ASL Print FX; Association of Independent Corrugated Converters (AICC) (Toronto, Alexandria VA); Canadian Flexographic Training Committee (CFTC); Cascades (Quebec); CCL Label; Central Group; Esko Graphics (Toronto, Miamisburg OH, Ghent Belgium); Flexographic Technical Association (FTA) (New York); Heidelberger Druckmaschinen (Toronto, Heidelberg Germany); Hochschule der Medien (HdM) (Stuttgart, Germany); Metro Label; Norampac; PAC Packaging Association; Phoenix Challenge Foundation (North Carolina); Schawk; Southern Graphic Systems.</p>
<p>Interior Environments, MFA (major design project, thesis): Parsons, The New School for Design (NYC); Rhode Island School of Design; University of Manitoba; Domus Academy (Italy); Design School UQAM; Association of Registered Interior Designers of Ontario (ARIDO); Interior Designers of Canada (IDC); International Interior Design Association (IIDA) (Chicago); Design Exchange; Teknion Furniture Systems; Steelcase Inc. (Michigan); 3M Canada; Material Connexion (NYC)</p>
<p>Occupational Health and Safety, MSc (thesis): Canadian Institute of Public Health Inspectors; Canadian Public Health Association; Public Health Ontario; Toronto Public Health; Association of Supervising Public Health Inspectors; Board of Canadian Registered Safety Professionals; Canadian Society of Safety Engineering; Toronto Cancer Prevention Coalition; Ontario Sun safety Working Group; Cancer Care Ontario; Occupational Cancer Research Centre; Canadian Partnership Against Cancer</p>
<p>Urban Development PhD (thesis): See Urban Development, MPI for a list of potential partners</p>
<p>Writing for Dramatic Media, MFA (internship, practicum): Partnerships in theatre (theatre company), film and television (production houses/broadcasters)</p>

Background Table 13: Percentage of Ontario Universities' Year 1 Students from Secondary School with an Entering Average of 80% or more

<u>2006</u>			<u>2012/2013*</u>		
Rank	University	Percentage of Students with Entering Avg of 80%+	Rank	University	Percentage of Students with Entering Avg of 80%+
1	University A	96.5%	1	University A	98.4%
2	University B	86.3%	2	University C	96.6%
3	University C	83.2%	3	University B	95.2%
4	University D	76.8%	4	University D	88.3%
5	University E	72.5%	5	University E	82.8%
6	University F	62.9%	6	Ryerson	75.1%
7	University G	60.9%	7	University K	73.1%
8	University H	57.7%	8	University G	69.0%
9	University I	52.7%	9	University F	66.4%
10	University J	52.5%	10	University L	62.4%
11	University K	52.0%	11	University J	59.8%
12	University L	50.9%	12	University I	59.2%
13	University M	48.8%	13	University H	58.4%
14	Ryerson	47.6%	14	University N	56.9%
15	University N	47.2%	15	University O	55.2%
16	University O	45.9%	16	University M	54.2%
17	University P	42.0%	17	University P	52.1%
18	University Q	39.4%	18	University Q	50.2%
19	University R	30.7%	19	University S	45.5%
			20	University R	39.9%

* Most recent data for Ryerson are Fall 2013 and the rest of the Ontario university system are Fall 2012.

Background Table 14: Undergraduate FFTE Enrolment (Domestic Students)

Program	Actual 2011/12	Actual 2012/13	Projected					
			2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Existing programs *	25,627	26,895	28,759	30,820	32,932	34,520	35,257	35,878
New programs								
RTA Sport Media				76	148	218	285	285
Nursing 2nd Entry **					131	208	208	208
Language and Intercultural Relations					47	90	132	173
Subtotal new programs				76	325	516	625	666
TOTAL	25,627	26,895	28,759	30,896	33,257	35,037	35,882	36,544
Growth over 2013-14				2,137	4,498	6,277	7,123	7,785

* Excludes college students in the nursing collaborative program; Includes growth in zone education

** Offsets declines in post-diploma Nursing enrolments

Background Table 15: Undergraduate Programs Planned for Implementation

Sport Media (B.A.): the only comprehensive sport media program in Canada responding directly to the rapidly growing demand for 24/7 sports transmedia content production spanning television, radio, mobile, web and social media platforms, and to educate the production professionals needed to manage a wide range of sports programming to meet the demands of diverse segments of consumers. Its integration with the Toronto sport media market and industry creates extensive experiential learning opportunities as does its production work within the Mattamy Athletic Centre, formerly Maple Leaf Gardens.

Language and Intercultural Relations (B.A.): will provide students with linguistic and cultural competence in a globalized market, as well as intercultural leadership skills required to excel and guide others in a culturally diverse international work environment

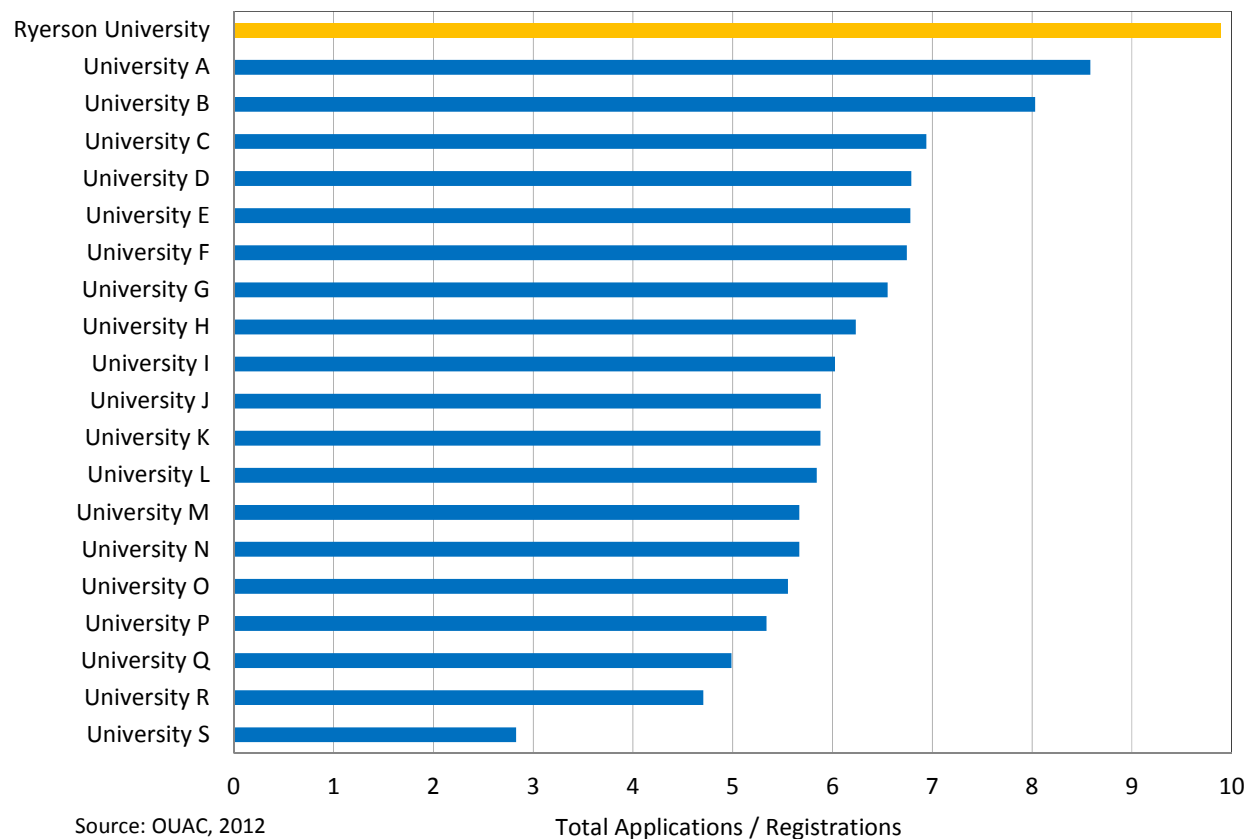
Second-Entry Nursing (B.Sc.N.): a two-year program to accommodate students with prior university education. Allows students to receive credit for elective courses while providing them with core nursing courses and practicum opportunities. Dovetails with newly launched undergraduate program in Biomedical Science.

Background Table 16: Percentage of Ryerson Undergraduate Students Who Have Previously Attended Another Postsecondary Institution, Fall 2013

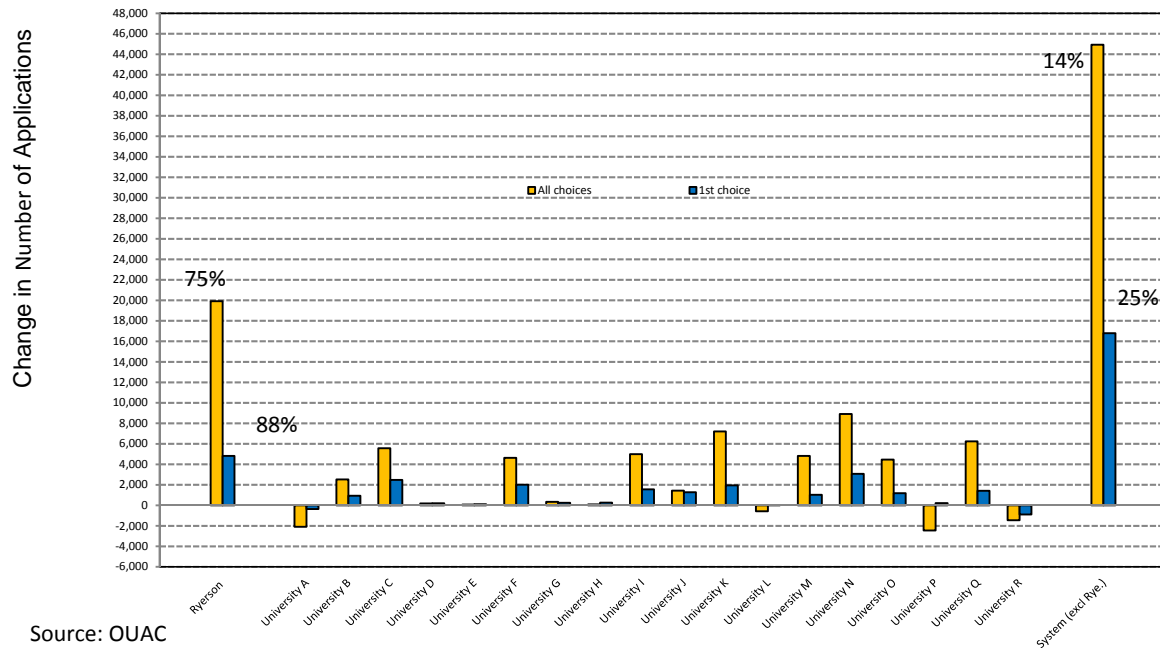
Faculty	Fall 2013 Headcount	From CAAT		From University		Total	
		#	%	#	%	#	%
Faculty of Arts	3,860	282	7%	399	10%	681	18%
Faculty of Communication & Design	4,377	161	4%	556	13%	717	16%
Faculty of Community Services	6,179	1,497	24%	1,050	17%	2,547	41%
Faculty of Engineering & Architectural Science	4,251	201	5%	423	10%	624	15%
Faculty of Science	2,096	90	4%	209	10%	299	14%
Ted Rogers School of Management	10,072	1,768	18%	1,076	11%	2,844	28%
Ryerson	30,835	3,999	13%	3,713	12%	7,712	25%

Source: Ryerson Student Information System, Fall 2013

Background Figure 4: Applications to Registrant Ratio for Ontario Universities (Fall 2012)



Background Figure 5: Change in Ontario Universities' Undergraduate Secondary School Applications, First Choice and All Choices (2013 vs. 2004)



Source: OUAC