

CARLETON UNIVERSITY STRATEGIC MANDATE SUBMISSION

March 31, 2014



Carleton
UNIVERSITY

Canada's Capital University

INTRODUCTION

Carleton University undertook a comprehensive consultation and review process in 2012 to prepare a Strategic Integrated Plan for the period 2013-2018. This plan, **Collaboration, Leadership and Resilience: Sustainable Communities – Global Prosperity**, (<http://carleton.ca/sustainable-communities-global-prosperity/>), was approved by both the Carleton University Senate and Board of Governors in June 2013. It builds on Carleton's 2012 Strategic Mandate Agreement (SMA) and is the foundation for this revised SMA submission.

CARLETON UNIVERSITY'S MANDATE

Carleton continues to be faithful to its historical roots, albeit in a changing world. Our university was founded by, and for, the community to provide programs, services and opportunities for students and to undertake research that enables graduates to become highly qualified participants in an evolving economy and contribute to creating a strong nation and a better world. The Strategic Integrated Plan incorporates a unifying focus that places the university squarely on the path of realizing its original mandate: sustainable communities – global prosperity. This embodies a multi-faceted conception of sustainability and links Carleton's national, provincial and international engagement with its roots and commitments to eastern Ontario.

OUR MISSION AND VISION

The 2013-2018 Strategic Integrated Plan sets out a mission statement that supports the university's mandate and a vision for Carleton as it celebrates its 75th anniversary in 2017.

Mission Statement

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

Our Vision for Carleton @75

Carleton University will be known nationally and internationally as a leader in collaborative teaching and learning, research and governance. Our students, faculty and staff will be critically engaged, productive citizens and highly qualified contributors to the 21st century. At Carleton, we encourage creative risk-taking, enabling minds to connect, discover and generate transformative knowledge. Through education, research, service and innovation, and through the building of sustainable communities, we can foster new ideas and future leaders to create a more sustainably prosperous future for Canada and the world.

CARLETON UNIVERSITY AND THE DIFFERENTIATION POLICY FRAMEWORK

The Strategic Integrated Plan sets out four Strategic Themes that build on our program and research strengths and on our student-centred focus. These themes clearly relate to the four overarching goals for differentiation in Ontario set out in the Deputy Minister's Nov. 29, 2013 Memorandum to Executive Heads and in the Differentiation Policy Framework:

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

- This theme speaks to the differentiation goal of building on well-established strengths while avoiding unnecessary duplication. Our Program Areas of Strength and Strategic Growth Focus, summarized in our discussion of Program Offerings in this document and elaborated on in Appendix 6, demonstrate this, along with our extensive collaboration with the University of Ottawa.

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

- This theme speaks to the differentiation goal of increasing the competitiveness of Ontario's post-secondary education system.

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

- This theme speaks to the differentiation goal of supporting student success and access to a high-quality Ontario post-secondary education.

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

- This theme speaks to the differentiation goal of maintaining an efficient and financially sustainable post-secondary education system.

The specifics of Carleton University's Strategic Integrated Plan – the goals, strategic actions and key performance measures for each of the four strategic themes – illustrate how the university is going to develop. Our future builds on our values, strengths and accomplishments. Our Strategic Integrated Plan provides the foundation for Carleton University's future contribution to each of the components of differentiation set out in **Ontario's Differentiation Policy Framework for Post-secondary Education** (November 2013).

THE COMPONENTS OF DIFFERENTIATION AND CARLETON UNIVERSITY

1. Jobs, Innovation and Economic Development

Current Profile

Carleton University's research, academic programming and community engagement have a strong focus on jobs, innovation and economic development as a pillar of community sustainability in eastern Ontario and elsewhere. To that end, we are building upon the strong historical relationship between Carleton and the regional economy by highlighting our particular strengths in supporting key economic sectors such as the public service, journalism, communications, financial services, information technology, health sciences, social work, architecture and design, and advanced technology, engineering, and international affairs. These relationships include both the application of research to real world-problems and the provision of career-ready graduates to enter into the highly skilled and advanced workforce of the National Capital Region and beyond. Students in the full range of Carleton undergraduate programs have the opportunity to take a minor or concentration in entrepreneurship. This represents an important commitment to providing educational opportunities for a changing employment market. Students in the Faculty of Engineering and Design undertake fourth-year projects with industry partners. These help students develop employment opportunities and ideas for their own enterprises. The Technology Innovation Management (TIM) Program at Carleton is a unique master's program, providing the knowledge, skills and contacts for students with startup ideas to bring them into being. Carleton University is actively monitoring the character and impact of its jobs, innovation and economic development mandate. (Doyletech 2013)

Some Facts about Jobs, Innovation and Economic Development at Carleton University

- Carleton's regional economic impact is estimated at just under \$3 billion per year.
- Since 2010, Carleton has spawned 185 new companies. This puts us among the top institutions in Canada on this metric.
- While the Faculty of Engineering and Design and the Sprott School of Business are major sources of Carleton-generated new firm creation, there are also firms being created by students, faculty and graduates in Industrial Design, Journalism, Arts, Media and IT, Public Administration, Science, Architecture and others.
- Most of the new firms created at Carleton have current employment in the range of one to 10 full-time equivalent employees, and all have the goal of adding five permanent jobs within the first three years of operation.

In addition to programs that provide students with the knowledge and skills to make contributions to Ontario's economy and innovation agenda, Carleton has a significant and distinctive track record of engaged research and knowledge mobilization in this domain. For over 15 years, the Carleton Centre for Community Innovation (3ci) has played an important role as a university research centre linking faculty, students and communities on issues of economic development, benchmarking to prepare for natural resource development, and impact investing. It has been the host of Canada's largest community economic development technical assistance program (CEDTAP). It is currently anchoring two multi-year, multimillion-dollar SSHRC grants on impact investing and on community-university engagement. CF:ICE (Community First: Impacts of Community Engagement) is a \$4-million, seven-year project that is evaluating the impacts of community-university engagement through action research on: poverty reduction, environmental sustainability, food security and violence against women. The Responsible Investing Research program is a multi-year \$1.95-million initiative that works on "impact investing" protocols and models, primarily at the community level. SSHRC has provided \$1 million in support, which has been leveraged for another \$.95 million, primarily from key institutions in the financial services sector. Although its primary focus is on fostering a policy environment that supports impact investing for community well-being, this research has also resulted in development of social asset management (SAM) software, impact investment indices and proxy measures to measure the financial impact of environmentally sustainable investment.

Work at Carleton in this domain has international reach, not only through the engagement of faculty and research teams, but also through the TIM Review, an e-journal on technology innovation management founded at Carleton, and through the university's participation in international networks, such as the European Network of Living Labs that connect universities and communities for innovation and the Talloires Network, an international association of institutions committed to strengthening the civic roles and social responsibilities of higher education. Carleton University is one of the founding anchor institutions, along with the Brazilian organization COEP, in the creation of a new international network, the Better Futures Network, that focuses on research and engagement concerning the link among improved livelihoods, citizenship, communities and universities.

Future Directions

Carleton will be working on a number of fronts to build on this foundation. The 2012 Strategic Mandate Agreement submission identified a Leadership Initiative on Regional Economic Prosperity and Sustainable Development as one of its three project priorities. Background research in preparation for the launch of this initiative is almost complete. We anticipate engaging with other post-secondary institutions in eastern Ontario and community leaders from all sectors in forming a task force of senior leaders from the region to chart a course for economic prosperity and sustainability in a rapidly changing context. Carleton has recently undertaken two new

¹ Doyletech Corporation. Report on Carleton University Project on Founders Database and Case Studies in Research Outcomes. Prepared for Carleton University. (Ottawa: 2013).

² Office of Institutional Research and Planning, Carleton University, November 2013

initiatives, 1125@Carleton and Carleton Entrepreneurs that will complement its academic programs and research nodes that focus on jobs, innovation and economic development.

1125@Carleton, which was identified as a strategic initiative in the 2013-2018 Strategic Integrated Plan, has now been established as an innovation and collaboration facility to bring researchers together with the community and public and private partners to implement solutions to real-world challenges, including jobs, innovation and economic development. From its inception, it has been welcomed into the European Network of Living Labs, a network of over 340 such facilities around the world that is a community of practice of benefit to Ontario. 1125@Carleton has attracted investments from IBM and Cisco. Although it is early days, 1125@Carleton is already undertaking initiatives that demonstrate the scope of its mandate.

1125@Carleton

- Is building a vibrant network around accessibility. The campus-led initiative Research and Education on Accessibility and Disability (READ) is drawing the interest of eastern Ontario companies and the Public Service Commission of Canada in work on strategies for increasing accessibility in the workplace. The Government of Canada, for example, anticipates 2,000 job opportunities for students with disabilities. As home to two burgeoning enterprises working in the accessibility sector (Gaitronics and Cranked Concepts), 1125@Carleton is playing a key role in building a global ecosystem in the accessibility field.
- Is working with security establishments and companies in the ICT/security sector. It is currently hosting Freebird Connect, GRID Corporation and Gesturelogic, as well as developing support for a unique student internship model that will see Carleton students engaged in a cybersecurity development project.
- Is building a global entrepreneurship hub. This includes building partnerships with SEBRAE, a national enterprise and community development organization in Brazil, and exploring collaboration on entrepreneurship training (using Carleton's Lead to Win as a foundation - www.carleton.ca/leadtowin) and leadership development (building on the university's Carleton Leader initiative - www.carleton.ca/leader/carleton-leader-community).

The Sprott School of Business recently launched a venture accelerator, Carleton Entrepreneurs. It is dedicated to supporting student entrepreneurs from across the university as they launch and grow their new ventures. It is the keystone organization within Carleton to promote entrepreneurship from every faculty and from every level. It will provide students with the attitudes, skills, resources and opportunities to pursue the development of innovative ideas and bring them to market.

These are immediate and concrete initiatives demonstrating Carleton University's commitment to jobs, innovation and economic development in eastern Ontario and beyond. All will have an ongoing impact on the university's programs, research and engagement. As a next step, Carleton and Algonquin



Carleton's Nick May, 2013 National Student Entrepreneur of the Year (and Dragon Slayer)!

College are exploring the possibility of constructing a new business building on the Carleton campus that could include a teaching facility for Algonquin's hospitality management program. This will be a new model of collaboration with business partners, a college and a university, and would have a significant positive economic impact on the region. Furthermore, Carleton's plans to build a concert hall on campus are being supported by dozens of arts groups who are considering offering joint summer programs in the nation's capital for youth across Canada. This facility would provide a 1,200 seat, state-of-the-art teaching and performance space (currently Carleton's largest theatre holds 440 seats) and would also make a valuable contribution to the social and cultural economy of Ottawa.

2. Teaching and Learning

Current Profile

Critical and Creative Inquiry (CCI) is at the core of Carleton's approach to teaching and learning. We continue to develop our teaching and learning strategies and practices based on the four components of CCI set out in the university's 2010 Academic Plan: research, international exposure and experience, experiential learning, and innovation in the student learning experience.

Our Education Development Centre has a 20-year record of supporting our faculty, contract instructors and teaching assistants in delivering academic offerings that focus on the student as learner, rather than didactic teaching. Carleton led the way in the development of learning technologies, including the delivery of courses through television (CUTV), DVD, and now Carleton University Online Learning (CUOL). Our excellence in providing teaching support was recently recognized by the Ministry, which has awarded Carleton Productivity and Innovation Funds (PIF) to develop a Blended and Online Teaching Certificate as an open-educational resource for the Ontario PSE network. According to a recent HEQCO report, Carleton invests the most funds per new faculty member of any Ontario university in new faculty orientation. Our professional development offerings are all available to contract instructors who also receive an orientation that is designed specifically for their needs. This orientation is offered multiple times each year to optimize access for new contract instructors. In summary, we are acknowledged as a leader in teaching and learning support, and we are actively engaged in creating future leaders in university teaching.

We have integrated research into the undergraduate, as well as the graduate student experience, though initiatives such as our i-CUREUS program that provides support for undergraduate research. i-CUREUS provides funding for undergraduate students to work with faculty supervisors and graduate students on research projects.

We offer our students international exposure and experience in a number of ways. Carleton University has exchange agreements with over 180 partner institutions in more than 30 countries. Over 480 students participate in exchanges each year. We have programs such as the Bachelor of International Business and Bachelor of Arts, Global Politics programs that have international experience as core elements of their curriculum. We have unique relationships with sister institutions in India, China and Colombia where we offer jointly sponsored programs, share resources and offer joint degrees that enhance the international talent pool. Our Alternative Spring Break Program provides students with an opportunity to contribute to community development, usually in an international context. For example, in February 2014, we had 59 students participating in Alternative Spring Break, 15 of whom went to Nicaragua to serve with ANIDES, a local community organization. They worked on the construction and renovation of education facilities in the village of El Chile and undertook a cultural program to learn about El Chile's indigenous community.

Students have multiple opportunities for experiential learning, including co-ops and placements at both the undergraduate and graduate levels, the previously-mentioned engineering and design projects, and work with museums and other national cultural institutions in the National Capital Region. Since 2010, the number of undergraduate and graduate programs with co-op options has increased by 20 per cent. We have achieved a 10 per cent increase in the number of students in co-op over the same period. Carleton has a Community-engaged Pedagogy Group – faculty and staff who are dedicated to providing support for community-engaged pedagogy and highlighting best practices.



Premier Kathleen Wynne visits the new Discovery Centre

- 42 of 48 undergraduate programs at Carleton have a work option.
- Work options, including co-op, exist in all Carleton faculties.
- As of fall 2013, 27.8 per cent of Carleton undergraduate students were registered in a co-op option.
- As of 2011-'12, Carleton ranked first in Ontario in the percentage of graduate programs with an experiential learning component. Twenty-four of Carleton's 88 graduate programs (27 per cent) had an experiential learning component.

Future Directions

Carleton University is undertaking major new initiatives to support critical and creative inquiry in the classroom, in the laboratory and beyond. Future initiatives will be developed in the context of Carleton's 2014 Teaching and Learning Framework, presented to the Carleton University Senate in February 2014. A cross-country review conducted at the recent meeting of Canadian Associate Vice Presidents/Vice Provosts (Teaching and Learning) revealed that Carleton is the only university in Ontario to have a strategic framework to guide teaching and learning initiatives and that we are one of only two universities in Canada with senior teaching and learning positions to have such a strategy.

A 6,000-square-foot Discovery Centre for Undergraduate Research and Engagement has been incorporated into the just-completed renovation of the MacOdrum Library. The 2013-2018 Strategic Integrated Plan sets the Discovery Centre's mandate to "implement programs to increase student engagement in research, experiential learning, international experiences and immersive learning." The Discovery Centre provides high-tech, flexible learning spaces to provide students the opportunity to engage in high-impact practices to enrich their undergraduate educational experience.

The Strategic Integrated Plan also identifies additional strategic actions going forward, including: offering undergraduate and graduate students professional skills programs and the opportunity to develop ePortfolios to demonstrate their acquisition of soft and transferable skills through their academic program and co-curricular activities. Under the plan, Carleton intends to expand its programs and course offerings with an international and global focus, incorporating global learning as



Students pitch in during Alternative Spring Break

a specific learning outcome in program curricula as appropriate. We plan to introduce a major new undergraduate program, the Bachelor of Global and International Studies (BGINS), in 2015. This program will provide an international focus for a significant new cohort of undergraduate students.

3. Student Population

Current Profile

Carleton University's student population has become increasingly diverse in recent years. While eastern Ontario remains an important source of enrolment, we are attracting an increasing number of students from the Greater Toronto Area (GTA). Carleton's GTA intake has grown 100 per cent since 2005. GTA students now comprise 21.4 per cent of our incoming cohort. It should also be noted that 37.9 per cent of Carleton's 2013-'14 incoming cohort is comprised of students from Ontario but not from our "local" market. We are responding to this increasingly broad geographic reach by, among other initiatives, building a new residence. This project will commence in the summer of 2014.

Carleton's Paul Menton Centre for Students with Disabilities had 1,742 full-time students registered in 2012-'13. This represents 8.8 per cent of our student body. We estimate that the Paul Menton Centre has helped 20,000 students since it was established in 1990. In 2012-'13, 10.3 per cent of our students were first-generation students and 2.5 per cent declared themselves as Aboriginal.

Carleton has been a Canadian groundbreaker in making a university education accessible to those with disabilities. The Paul Menton Centre for Students with Disabilities is an acknowledged leader in advocacy, innovation and service delivery. It has developed the world's first residence Attendant Services Program for students with disabilities. In 2013-'14, there are 15 Carleton students living on campus (and 12 Algonquin students living in the Algonquin residence) in the Attendant Services Program. Carleton oversees students on both campuses. This number changes each year based on government and external funding available. Capacity is flexible and we have never turned away a student. Students with physical disabilities have all-weather access to 95 per cent of our campus buildings, facilitated by Carleton's unique tunnel system. Carleton also provides significant support to those requiring academic support in transitioning to university (through the Centre for Initiatives in Education). The Aboriginal Enriched Support Program just celebrated its 10th anniversary. Our transitional support programs are rooted in continuous intervention and evaluation that inform us as we build on our recognized expertise. Likewise, Carleton is a leader in responding to student mental health challenges through its national award-winning Student Mental Health Framework. More generally, Carleton provides a learning environment that does "put students first." In the 2011 NSSE survey, the proportion of Carleton respondents rating their academic experience as excellent or good was well above the provincial mean. NSSE results also show Carleton's strength in providing a positive campus environment.

Future Directions

The 2013-2018 Integrated Strategic Plan reaffirms Carleton's student-centred focus. The third strategic theme in the plan speaks to this very strongly. It will be implemented through



Carleton's new Aboriginal Centre, *Ojigkwanong*

its associated goals, strategic actions and key performance measures. Carleton will ensure the employability and future success of our students through the provision of holistic support services that meet the needs of a changing student population. We will consolidate and build on Carleton's status as Canada's most accessible university. The Strategic Integrated Plan also makes an explicit commitment to support Aboriginal communities and position Carleton as a university of choice for Aboriginal students. This goal will be realized through implementation of the university's Aboriginal Co-ordinated Strategy, adopted by Senate in 2011. Our Aboriginal Centre, *Ojigkwanong*, has been expanded in size and is now located in the heart of campus. Designed by Douglas Cardinal and opened in fall 2013, it offers a truly welcoming space for our Aboriginal students and the community. *Ojigkwanong* will play a central role in helping to realize other elements of the Aboriginal Co-ordinated Strategy. Carleton University has also been designated by MTCU as the Ontario university that will offer a master's program in Indigenous Policy and Administration, providing Carleton with an opportunity to further deepen its commitment to Aboriginal students by building on the recognized strength of its programs in public policy and administration.

4. Research and Graduate Education

Current Profile

Carleton University understands that its ability to lead in a constantly changing world depends on its excellence in research and graduate education.

Our research excellence extends across Carleton's disciplinary base. We are leaders in international consortia, such as the Atlas Project at CERN, as well as national and international networks ranging from research on knowledge mobilization and engaging with communities to cybersecurity. We are strongly oriented to research that has both short- and long-term impacts. Reflecting our location in the capital, our research has influenced policy outcomes. This has occurred through collaborations with national and international agencies and institutions. Carleton has particular strengths in the translation of science and technology to policy and regulation. This research capacity has created the foundation for some of our most innovative graduate programs.

Research at Carleton University is strongly focused on adding value through external partnerships. This approach expands our research repertoire and reach, creates enhanced opportunities for students (particularly graduate students) and contributes to the jobs, innovation and economic development agenda.

External Research Partnerships at Carleton University

- Carleton's funded research projects involve 279 industry partners, 326 government partners and 398 not-for-profit partners.
- External partnering resulted in \$18.3 million in cash and in-kind funding coming to Carleton in FY 2013, a five per cent increase over the previous year.
- Carleton's success with the NSERC Industry Engage grants puts us among the top five per cent of institutions nationally (when adjusted for FTE researchers).
- Carleton ranked third in Canada in terms of revenues received from the SSHRC Partnership Development Grant program.

As a comprehensive university, Carleton has developed a unique and well-defined model linking research and graduate education that meets the needs and interests of students, Ontario and society more generally. The foundation of our model is to focus on the reciprocal relationship between faculty research strengths and the development of graduate programs. Carleton prides itself as a pioneer in interdisciplinary research and graduate education in Canada. Our interdisciplinarity builds on our strong discipline-based foundation. Carleton has a high level of vertical integration in its discipline-focused academic units. A significant number of these offer programs from the bachelor's to the PhD levels. Increasingly, our new graduate programs are developed by faculty from diverse disciplines who collaborate to create programs that provide an integrated platform for learning and skill development to address a broad range of complex contemporary societal challenges. This is reflected in the fact that 209 of our 872 faculty members (24 per cent) hold cross appointments. As a university with a recognized strength in the area of public policy, administration and governance, we increasingly incorporate this strength as a foundation of our new graduate programs. Our recently developed master's programs in Infrastructure Protection and Infrastructure Security (Engineering and International Affairs), Political Management (Political Science, Public Policy and Administration, Sociology and Law), Sustainable Energy (Engineering and Public Policy and Administration), and Health Science Technology and Policy (Science, Business, Social Sciences, Arts and Humanities, Public Policy and Administration, Engineering and Industrial Design) exemplify this.

In 2012, 24.8 per cent of Carleton's fall Full-Time Fiscal Equivalent Enrolments were graduate students, the sixth highest in Ontario. As of fall 2013, graduate students accounted for 17.7 per cent of our new full-time student population and represented 13.3 per cent of Carleton's total full-time enrolment.

Future Directions

Research leadership and excellence is a strategic theme in the university's 2013-2018 Strategic Integrated Plan. As part of the integrated planning process, a Strategic Research Plan, (<http://research.carleton.ca/about/strategic-research-plan-2013-2018/>), has been developed to elaborate the role of research and graduate education in realizing the Strategic Integrated Plan.

Carleton will focus its research, training and outreach priorities toward building sustainable communities. Our emphasis on communities means that our research activities will be collaborative and outward facing. The excellence of our research, conducted by building connections and system-wide leadership, places Carleton on the path of having a transformational effect on the dialogue, paradigms and systems-based approaches to building sustainable communities locally, nationally and globally.

Our research strengths will continue to have a strong interplay with our academic programming at the graduate level. For example, we are currently expanding our already significant strength in data science concurrently with development of a collaborative master's program in this important field.

From a substantive perspective, we have identified four domains or points of connection that will build sustainable communities. In each case, we are reinforcing the connection between research and graduate training. These four domains are:

- **People:** The human condition and evolving societies – supported by a new PhD in Ethics and the planned M.H.Sc. and PhD in Health Sciences;
- **Place:** Changing environments – supported by a new Master in Northern Studies;
- **Technology:** Foundational sciences and technological innovation – supported by the planned collaborative Masters in Data Science; and
- **Policy:** Policy governance and economic activity – supported by our provincially mandated graduate initiative in Indigenous Policy and Administration.

Our interdisciplinary programs aimed at addressing real-world problems have helped Carleton meet the graduate allocations provided by MTCU and demonstrate our record of combining innovation with effective enrolment management and fiscal responsibility. Carleton's planned expansion of graduate programming is linked directly to our areas of strength in research and innovation, and to the advanced and highly skilled careers and jobs of today's and tomorrow's economy.

An examination of our current suite of master's programs indicates how we lay the foundation for graduates to contribute to the changing economy. Professional master's programs, such as those in business and architecture, constitute 17 per cent of our master's program suite. Forty-three per cent of our master's programs are "hybrid" in character. They provide both a research foundation and a professional orientation. Examples would include our master's programs in public policy and journalism. Forty per cent of our master's offerings are research focused, such as those in the natural and physical sciences. The result is that 60 per cent of our master's programs (from the first two categories) provide explicit job-ready training and over 80 per cent of our programs impart a high level of learning on research traditions and trends. Our graduate programs are focused both on the foundations and frontiers of knowledge. We have also made an institutional commitment to ensure that our graduate experience promotes the development of "soft skills," reflective of the Graduate Degree Level Expectations (GDLES).

Research connecting people, place, technology and policy

Ongoing research by Prof. David Miller, NSERC Research Chair in Carleton's Department of Chemistry, and his students, focuses on the use of natural fungi to prevent disease in forests. Their experimental research has yielded very positive results in eastern Canadian forests in, for example, protecting trees from spruce budworm. As an example of science-based innovation, this research has perhaps the highest relevance to technology. Nonetheless, it links to the other three dimensions as well. There is a linkage to people through the preservation of jobs and communities. The place dimension is present by virtue of the fact that forests are affected by changing local environments. It also links to policy, as it connects with the focus on sustainability by governments, the private sector and the public.

In terms of graduate education, Carleton University's affiliate Dominican University College will continue its specialized commitment to graduate education (MA and PhD programs in English and French) in the disciplines of Philosophy and Theology. The focus of these programs is to engage with fundamental issues and controversies in an evolving Canadian and international context and to graduate versatile, innovative and responsible citizens. Dominican has recently pioneered programs such as Politique d'aménagement linguistique and signed exchange agreements with European and American educational institutions. Dominican's graduate enrolment plans are included in this submission.

Graduate Allocation Requests for 2014-'15 through to 2016-'17

Carleton University is requesting additional graduate space allocations (up to and including 2016-'17) in two envelopes, as described in the March 10, 2014 Deputy Minister's Memorandum to Executive Heads – the General Allocation Envelope and the Priorities Envelope.

The General Allocation Envelope

Carleton requests 103 new master's and 16 new doctoral spaces as a General Allocation. The new master's spaces would support program initiatives at the master's level in: Biomedical Engineering (M.Eng) 20 FT students at full deployment; Health (M.Sc.) – 30 FT's; Information Technology (M.IT) – 43 FT's and Northern Studies (MA) – 10 FT's. The new doctoral spaces would support our planned PhDs in Ethics and Public Affairs, Health Sciences, and Information Technology.

- Doctoral Program in Ethics and Public Affairs – This program is in an advanced stage of development. It was discussed with the Ministry as part of Carleton's affiliation agreement with Dominican University College. It will be a distinct Carleton program, building on the interdisciplinary strengths of our Faculty of Arts and Social Sciences (Philosophy), our Faculty of Public Affairs (Public Policy and Administration) and the Sprott School of Business.

- Doctoral Program in Health Sciences – projected start fall 2016; eligible FTs at full deployment 32. This program will build on the innovative suite of undergraduate (B.H.Sc.) and master's (M.HSTP) programs at Carleton recently approved by the Ministry. It will further our strategic commitment to Health Sciences through a PhD that focuses on understanding and adaptation to the multi-layered and complex challenges of health and wellness. Students will have experience that instills an understanding of the need to work across disciplines and sectors to develop effective solutions for contemporary and changing health care challenges. They will be immersed in the combined research/practitioner relationships that are essential for real innovation. This program and its graduates will foster innovative approaches to health care practices, policies, and programs that are not limited to the clinically-based medical models typically seen at universities which develop their health programs around traditional medical schools.

- Doctoral Program in Information Technology – projected start fall 2015; eligible FTs at full deployment 24. There is currently no specialized doctoral degree in Human Computer Interaction or Digital Media in Canada. Candidates wishing to pursue a doctoral degree with a specialty in either field currently must complete it in a department such as computer science, electrical or computer engineering, psychology, or management science. Carleton is well positioned to offer a doctoral program in Information Technology with a strong interdisciplinary research focus. Most particularly, it will build on recognized faculty research strengths and on our successful, innovative programs in information technology (the Bachelor of Information Technology, in collaboration with Algonquin College) and on our Master in Human Computer Interaction. It will also build on our proposed Master in Information Technology. Ontario has one of North America's largest concentrations of ICT firms. This program will make a strong contribution to Ontario's leadership position in this sector.

All of the programs in this request are under development. Other master's and doctoral programs are in early stages of consideration. Timing of requests for Quality Council and Ministry approval of these more embryonic initiatives would be dependent on internal changes in our existing graduate enrolments, as well as future Ministry priorities and allocations.

This request does not include the additional spaces (15 master's and five PhDs per year, up to and including 2016-'17) allocated to Carleton under the affiliation agreement for Dominican University College or the allocation already approved by MTCU for the new master's program in Indigenous Policy and Administration.

Dominican University College requests an additional six master's and an additional eight doctoral spaces, for expansion of existing programs.

The Priorities Envelope

Carleton requests 18 additional doctoral spaces under the priorities envelope. These new spaces would support a doctoral program in Biomedical Engineering.

- Doctoral program in Biomedical Engineering – projected start fall 2016; eligible FTs at full deployment 18. Within Carleton University, Biomedical Engineering builds on research strengths in biomedical and electrical engineering, and biomedical and mechanical engineering. Carleton has three Canada Research Chairs among faculty working in this area. Building on our research strengths and partnerships with local hospitals (including the University of Ottawa Heart Institute, the Ottawa Hospital Rehabilitation Centre, the Children's Hospital of Eastern Ontario and the Élisabeth Bruyère Hospital) and industry (including IBM, Telus, Blackberry and Phillips) this program will graduate individuals with highly sophisticated research skills and accomplishments. Graduates will also have an understanding of the process of technology transfer in research and innovation within the field. This will be accomplished by engaging the external partners, such as those identified above and by linking this program to Carleton's innovation and entrepreneurship activities, including the Lead to Win program. The Ottawa-Carleton Institute for Biomedical Engineering, established in 2006 as a joint initiative between Carleton University and the University of Ottawa, will be engaged with this program.

Carleton University's graduate allocation requests under both the General Allocation Envelope and the Priorities Envelope are summarized in a table appended to this submission. Rollout of approved doctoral programs will exhaust all of our general allocation. The three program requests under the priority envelope – niche programs will enable Carleton to support Ministry and institutional priorities.

5. Program Offerings

Current Profile

Carleton University is a comprehensive university offering a range of undergraduate and graduate programs in the arts and humanities, business, design, engineering, science and social sciences. Dominican University College has vertically integrated undergraduate and graduate programs specializing in philosophy and theology. Carleton has three programs that result in a professional designation – architecture, engineering and social work. Numerous others are professionally oriented including, but not limited to, our undergraduate and graduate programs in business, computer science, criminology and criminal justice, health science technology and policy, industrial design, information technology, international affairs, journalism, public history, public policy and administration, and technology innovation management. At the master's level, we have developed a hybrid program model that is explicitly constructed to provide a theoretical foundation for the acquisition of applied knowledge and skills. This feature, combined with an experiential component in many program curricula, explains why our master's-level programs generally have more than a one-year duration. Carleton master's programs in public policy and administration, social work, international affairs and journalism each exemplify this approach.

Many of our programs have unique attributes that reflect Carleton's location in the national capital. Our students have program-based opportunities to engage with federal laboratories, national cultural institutions, national political institutions and the diplomatic community that are simply unavailable to most others in Ontario. Carleton places a high priority on making the most of its "capital advantage" for its students through co-ops, field placements and collaborative projects, as well as special events. Carleton's presence in the national capital also provides our students with the opportunity to access extraordinary mentoring opportunities from outside the university. Carleton has 467 adjunct and adjunct research faculty who participate in formal supervision at the graduate level. Complimenting the work of our adjunct faculty with formal supervisory status are an additional 103 adjuncts who engage with Carleton students in many ways as informal mentors.

Carleton University's programs cluster strategically into a number of well-defined areas of strength, comprising: Environment and Sustainability; Public Policy, Administration and Governance; Information Technology; Human Behaviour and Development; Advanced Technology and Design; Business, Entrepreneurship and Innovation; Media, Communications and Culture; Global and International Studies; Life and Health Sciences; and Law and Social Justice. These program areas of strength (see Appendix 6 for rationales) emphasize Carleton's interdisciplinary and collaborative approach to academic programming, and the way in which our traditional and new programs align with critical issues and areas of importance for our economy and society in the 21st century.

Future Directions

There are five specific foundations for future academic programming at Carleton:

- New programs will respond to societal need. In this context, our new programs will focus on graduating engaged and productive citizens who are capable of making immediate contributions to the economy and society and who have the skills to be adaptable to a rapidly changing world. Over their careers, many of today's graduates will find themselves in jobs that do not even exist at present. For example, few would have seen the need and student demand for programs in Human Computer Interaction 20 years ago and yet, Carleton did and established what are today acknowledged research and program strengths in this area.
- New programs will build on and augment our research strengths. The interplay between research and graduate education, and our commitment to enhancing the undergraduate experience through research and experiential opportunities are core. Our planned collaborative master's program in data science, developed in association with IBM, exemplifies this approach.
- Our new programs will connect with the community, locally and beyond. Student demand and societal need speak to the importance of providing experiential learning opportunities as part of academic programs

wherever possible. Our community collaborations and connections will extend across the public, private and non-profit sectors. We are committed to collaborations that are reciprocal – bringing benefits to both Carleton and our partners. Our new undergraduate and graduate health programs exemplify this commitment.

- Our programs will reflect the need for international understanding and cultural competence. In a globalized world, specific opportunities for students to develop cultural competency – the ability to understand and respect other cultures and the capability of appropriate cultural adaptation – are key. The Global Academy initiative proposed in the 2012 SMA submission remains a strategic priority for Carleton and will be implemented as part of the 2013-2018 Strategic Integrated Plan.
- Finally, new programs at Carleton will focus on access. We will seek to do this in two ways: First, by making the most of opportunities to modularize and stack curriculum and credentials in new ways and, second, by using distance learning pedagogy and technology to broaden access to Carleton programs in areas where we have unique strengths. For example, Carleton's unique Master in Philanthropy and Non-profit Leadership program has national and international reach as a result of the integration of on-campus and distance learning in its curriculum.

Based upon these foundations, Carleton has identified five areas for strategic focus and growth over the next five years: Health Sciences; Global and International Studies; Information Management and Digital Media; Advanced Technology and Innovation; and Business, Entrepreneurship and Governance. Our graduate allocation request is mapped on to these strategic areas. Our proposed programs in health and biomedical engineering are linked to Health Sciences. Biomedical engineering also connects to Advanced Technology and Information, and entrepreneurship. Our graduate program proposals in information technology are linked to Advanced Technology and Innovation. The PhD in Ethics and Public Affairs is associated with our strategic development in the field of business, entrepreneurship and governance. The planned Master in Northern Studies is linked to our strategic focus on Global and International Studies.

The Ministry has recently approved two new health programs at Carleton. The Master in Health Science, Technology and Policy program was approved in 2012 and is now fully operational. The Bachelor of Health Sciences program was approved in fall 2013 and will welcome its first cohort of students in fall 2014. Both programs are housed in the university's new Department of Health Sciences. These strategic initiatives build on Carleton's successful undergraduate and graduate programs in health-related areas: food science and nutrition, medical physics, biomedical engineering, neuroscience and mental health, cognitive science, psychology, sociology, geography and environmental science, as well as its strengths in health policy.

All of these disciplines contribute courses and a research foundation for our new programs in health sciences.

As a university without a medical school, Carleton has had the flexibility to develop unique interdisciplinary health sciences programs. The Bachelor of Health Sciences is specifically intended to respond to the multi-faceted character of health care. It provides a pathway for students who are seeking entry into medical school, while retaining flexibility for those who may choose other health career options. It does this through a curriculum that enables students to move from one health field to another without having to step back to start over. This program provides students with the skills that will be needed in the fast-changing and multi-sector field of health. It serves students and meets the needs of Canada's evolving health care system. The rationale for the Health Sciences program at Carleton, provided to the Ministry prior to approval, as well as the Program Approval Summary, are appended to this submission. Our Master in Health Science, Technology and Policy will graduate students with the much-needed capacity to collaborate across a broad range of disciplines. It will provide graduates with a comprehensive understanding of major health issues and will enable them to work in an integrated manner across sectors. They will have the skills needed to combine research and policy and to forge the crucial links among policy, effective implementation and evaluation.

Moving forward, Carleton plans to develop four new graduate programs with a Health Sciences focus - M.Eng and PhD programs in Biomedical Engineering and M.Sc. and PhD programs in Health Sciences. These programs will be developed using a philosophy similar to that which underlies our Bachelor of Health Sciences and Master in Health, Science, Technology and Policy offerings. They will focus on understanding multi-layered and complex health issues and on the need to work across disciplines and sectors in developing innovative tools and technologies that provide appropriate and effective solutions. All of these graduate programs will have a research core with the intensity of focus that implies. But, beyond the laboratory, students will be immersed in the combined researcher/practitioner relationships that are essential for real innovation. Skills-based courses and opportunities to learn about the interdisciplinary context of their work will provide the bridge between research and practice. Their contribution will be developing innovative approaches to health care practices, policies, and programs that is not limited to the clinically-based medical models typically seen at universities that build their health programs from the resources and needs of their medical schools.

Should an opportunity arise for capital funding, Carleton would place priority on capital support for its Health Sciences initiatives. Capital support for business, entrepreneurship and governance initiatives are also a priority. Additionally, a new capital funding request would include resubmission of Carleton's 2010 proposal for a concert facility. This will enhance our already extensive community engagement by our students and faculty.

6. Institutional Collaboration to Support Student Mobility

Current Profile

Carleton University has a track record in collaborative institutional partnerships that support student access to a range of post-secondary opportunities across institutions. We have a history of doing this at the undergraduate level and, uniquely, at the graduate level through our extensive collaboration with the University of Ottawa.

At the undergraduate level, we have well-established transfer pathways between colleges and some of our most popular programs, including Child Studies, Criminology and Criminal Justice and Social Work. In 2011-'12, Carleton ranked fifth among universities in Ontario in its transfers, and seventh among colleges and universities. In total, we have 177 unique pathways and 31 multilateral pathways identified. Of the 177 unique pathways, 122 have been either created or reviewed in 2013.

Carleton has a strong relationship with Algonquin College. This extends beyond transfer agreements. Together, Carleton and Algonquin deliver the highly successful Bachelor of Information Technology (BIT) program. The BIT provides students with a fully integrated experience, offering the theoretical foundations through university courses and the opportunity to do advanced applied work in a college setting. This model is innovative and efficient: students achieve in four years what would otherwise take them six or seven. It results in cost savings for students and Ontario. Graduates receive a Carleton University degree (BIT) and are highly sought after by leading technology firms.

At the graduate level, Carleton University and the University of Ottawa have a unique relationship, offering 29 graduate programs through 14 joint institutes, centres and collaborative/joint programs. The Ottawa-Carleton joint institutes were second in Ontario in terms of the master's and doctoral degrees conferred in 2011 in science and technology programs at the graduate level. They were also second in Ontario in terms of the number and dollar total of NSERC research grants received. As of fall 2013, 1,141 Carleton students are registered in joint graduate programs with the University of Ottawa. The two universities have a joint Institutional Quality Assurance Process for these programs to ensure integrated curricula and co-ordinated resource planning. In the majority of these collaborations, the combined graduate enrolment of Carleton University and the University of Ottawa students is within the top three of Ontario universities offering comparable programs.

Future Directions

Carleton's 2012 SMA submission identified further collaboration with Algonquin College to extend the BIT model of integrated concurrent curriculum to other STEM disciplines and beyond. We have begun by developing a new stream of the BIT program in Information Resource Management. The potential for a new business building and applied learning facility, as mentioned above, providing space for collaborative programming between Algonquin and Carleton would be a true game-changer with respect to the traditional relationships between colleges and universities.

We are expanding our college relationships in areas where we have complementary strengths. In 2012, Carleton and Fleming College signed a transfer agreement for students in Fleming's university transition program. We are currently in discussions with St. Lawrence College concerning joint initiatives in energy technology. Carleton University and George Brown College are formally working together to develop collaborative programming that will create new degree pathways in business, engineering and information technology.

Carleton is also working with the University of Ottawa to ensure more regular consultation on academic programs and initiatives, including closer collaboration in program areas where enrolments are naturally small, where they are declining or where more effective use of existing resources would result.

In summary, our future collaborative endeavours to support student mobility and choice will focus on developing transparent and appropriate pathways to serve students, and on building collaborative institutional relationships that provide students with integrated programs engaging the best that Carleton University and collaborating institutions have to offer.

CONCLUSION: THE CARLETON DIFFERENCE

Carleton University was founded by the local community. Because of its location in Canada's national capital, Carleton has always worked in the international context, as well as supporting the economic, social and cultural development of eastern Ontario. Now more than ever before, Carleton is focused on its global, as well as its local reach. Carleton's development as an institution has been intentional. Each of our areas of program and research strength and future growth is central to our strategic focus, sustainable communities – global prosperity. Our areas of strength and future focus also reflect our passion for student-centred education and research that address "wicked problems" – those that are complex in nature and require collaboration, resourcefulness and innovation to conquer.

Supporting Documents

Appendix 1: Letter from Dominican University College

Appendix 2: Program Approval Summary for Bachelor of Health Sciences

Appendix 3: Bachelor of Health Sciences: Why Carleton University?

Appendix 4: New Programs: Proposed Graduate BIU Eligible Students (Full-Time Students)

Appendix 5: University Strategic Enrolment Projections

Table 1: Baseline University Full-Time Headcounts (Eligible and Ineligible)

Table 2: Projected University Full-Time Headcounts (Eligible and Ineligible)

Appendix 6: Identifying Institutional Program Strengths and Strategic Areas of Focus

Appendix 7: Carleton University Proposed Institutional Metrics



COLLÈGE UNIVERSITAIRE DOMINICAIN
DOMINICAN UNIVERSITY COLLEGE

Roseann Runte
President
Carleton University

Re: Carleton University
Strategic Mandate Submission
December 20, 2013

Dominican University College (DUC) affiliated with Carleton University on May 1, 2012. Since that date DUC has been apprised of and participated in the various drafts and submissions made by Carleton to the Ministry of Training, Colleges and Universities (MTCU) with respect to Ontario's Differentiation Policy Framework for Postsecondary Education and the Strategic Mandate Agreement Process.

DUC fully supports the four Strategic Themes outlined by Carleton in its current submission and believes that its own Strategic Plan and initiatives are within Carleton's overarching goals for differentiation in Ontario. DUC's specific programs in philosophy and theology and its bilingual character also contribute to the distinct character of our host university. The current allocation of graduate spaces for DUC through Carleton University is much appreciated and has been invaluable, but our initial request for an allocation of 35 graduate spaces (12 master's and 23 doctoral) for DUC remains vital to our plans for program growth and strengthening our institution. The allocation of graduate seats to DUC and Carleton to be phased in over five years, as outlined in the affiliation letter from MTCU, is integral to the differentiation initiatives of both institutions.

Carleton's Strategic Mandate Submission, dated December 20, 2013, is a forceful and clear statement of its institutional intentions for development in the nation's capital as well as internationally. We believe that the strategic intentions of DUC, both locally, nationally and internationally, are fully coherent with Carleton's. Furthermore, our institution has learned much from its strategic self-study with Carleton and, as a community, we are excited to move forward in affiliation with our host university.

Yours sincerely

Dr. Maxime Allard
President and Regent of Studies
Dominican University College
96 Empress Avenue
Ottawa, Ontario
K1R 7G3

Attachment 5: Program Approval Summary

2013-2014 PROGRAM APPROVAL SUMMARY	
Please submit one form per program and attach the following:	
1) Program Approval Certification Form	
2) Program Calendar Information (including a list of courses offered each year with credits attached to each course)	
3) Quality Council Approval	
Institution:	Carleton University
Name of Program:	Bachelor of Health Sciences (B.H.Sc.)
Length of Program:	4 years (hons); 3 years (general) # of Semesters/Year: 2
Expected Start Date for Program:	September 2014
Suggested FORPOS Code & Program Weight:	123 – Science General and 1 st Yr Honours 124- Science, Upper Yrs Honours
Suggested CIP code:	51.0000
Proposed Tuition Fee & Explanation (including examples of comparator programs used to set the tuition level):	<p>2013-14 Tuition: <u>Domestic:</u> \$5,860 <u>International:</u> \$21,140 2014-15 tuition rates are yet to be determined.</p> <p><u>Other 'Health Sciences' tuition comparators (2012 rates increased by 3%):</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> University of Ottawa: -> \$5,836 <input type="checkbox"/> McMaster University: > \$5,967 <input type="checkbox"/> UOIT: -> \$5,859 <input type="checkbox"/> University of Western Ontario:-> \$5,802 <input type="checkbox"/> University of Toronto: -> \$5,866 <input type="checkbox"/> Ryerson University: ->\$5,856
Does this program include a thesis option?	Yes.
In addition to the checklist provided by the Ministry, please describe the following criteria below:	
Brief Program Description:	<p>Health-related careers dominate occupations demonstrating consistent labour shortages in Canada. This program prepares students for employment as well as for the advanced graduate or professional training required for a diverse array of health careers. It provides students with: (1) a strong foundation in the scientific knowledge and skills relevant to human health; (2) the capacity to contextualize this scientific knowledge within the broader multidisciplinary, multi-sector and multicultural approaches necessary for seeking solutions to major health issues; (3) the skills in communication, critical thinking, analysis, collaboration and teamwork fundamental to the effective application of knowledge in the workplace. This program therefore extends to the undergraduate level the philosophy of Carleton's MSc program: Health, Science, Technology, Policy which was recently approved for funding by the Minister.</p> <p>The program is structured around five intersecting concentrations (biomedical, global health, environment and health, health throughout the lifespan, and disability and chronic illness). Each concentration provides appropriate theoretical and methodological foundations, and situates this knowledge in the broad social, policy and regulatory contexts of health. Program flexibility allows students to switch between concentrations as they pursue their career aspirations, as well as to take two concentrations (for example, global health and health throughout the lifespan – a valuable combination in the field of international development).</p> <p>This program is distinguished by its distinct, intersecting combination of concentrations, its interdisciplinary orientation that incorporates social, economic, geographic, psychological and technological knowledge, and its emphasis on practical, career-related skills. It provides an outcomes-based education that prepares students to critically assess the new information, strategies and approaches needed to engage the increasingly rapid pace of change in health delivery and research.</p> <p>Universities frequently draw on the resources of medical schools in developing health science programs which then focus on the clinical aspects of health, thereby reducing</p>

	<p>exposure to the other disciplines necessary for solving problems in health delivery and research. Such programs concentrate on preparation for medical school. However, a substantial number of graduates are unsuccessful in their applications. They are then faced with undertaking additional education to qualify for other career paths. Carleton's program addresses this situation in preparing students for a broad array of health-related career paths that includes medical school. In developing the program, extensive research was undertaken on the profiles of other health sciences and "pre-med" programs and on educational requirements for a wide range of health-related careers.</p>
<p>Certification by the executive head that there is convincing evidence of societal need:</p>	<p>The December 2012 report by CIBC World Markets Inc [<i>The Haves and Have Nots of Canada's Labour Market</i> (CIBC World Markets Inc., <i>In Focus</i>, Dec. 3, 2012) - http://research.cibcwm.com/economic_public/download/if_2012-1203.pdf] - reported that the 25 occupations demonstrating consistent labour shortages are dominated by health-related occupations, the health-related occupations for which this program provides a foundational education. The skill shortage in this area includes managers of social and community services, health professionals, life and applied sciences professionals and technical health occupations. The shortage of skilled labor in health professions includes physicians, nurses, dentists, veterinarians, optometrists, pharmacists, dietitians, nutritionists, social workers and counsellors.</p>
<p>Convincing evidence that any duplicative similarities to existing programs in Ontario/Canada are justifiable for reasons of public funding (please list/briefly describe similar programs):</p>	<p>This program is unique in Canada and meets pressing societal needs. Four of its concentrations do overlap to some extent with the content of other health-related programs. However, these concentrations remain distinctive in being situated within and constituting a fully integrated, interdisciplinary program:</p> <p><u>Biomedical:</u> Biomedicine is often taught within stand-alone programs or as one of two options in a general bachelor of health sciences degree. This limits the possibility of students situating their education within broader perspectives on health. Biomedical studies in Carleton's program occur in a rich interdisciplinary context, thereby constituting an integral aspect of a program designed to meet the specific and varied needs of students in the exciting and rapidly changing area of health science. The Carleton biomedical concentration is in this way distinguished, for example, from the University of Ottawa biomedical sciences program (B.Sc. in Biomedical Sciences). The University of Ottawa program relies to a large extent on courses offered by other programs to provide a predominantly "pre-med" education.</p> <p><u>Global Health</u> Offerings in global health are relatively popular in Canadian universities in health sciences or life sciences programs (there are nine such programs; five in Ontario: Brock, B.Sc. in Health Sciences; McMaster, B.H.Sc.; Toronto, B.H.S. in Life Sciences; Western, B.H.Sc.; Wilfrid Laurier, B.Sc. in Health Sciences; four in Canada: Calgary, B.H.Sc.; Lethbridge, B.H.Sc.; Manitoba, B.Sc. in Health Sciences; Simon Fraser, B.Sc. in Health Sciences). Carleton's concentration is unique in situating the science of global health in the context of policy and governance within a cross-cultural perspective. Global health offerings at other universities do not possess this focus. They tend to be constituted by courses from other programs such as economics and public policy. Carleton's program thus provides for a unique integration of science and policy.</p> <p><u>Environment and Health</u> There are similar offerings in Canada, housed in life science or environmental studies programs (for example, McGill, B.Sc. in Environmental Studies; Queen's, B.Sc. in Life Sciences; Toronto, B.Sc. in Life Sciences). This typically dictates their primary focus: the offerings either concentrate on health with tangential reference to the environment, or on the environment with tangential reference to health. Carleton's concentration is equally balanced between a focus on health and a focus on the environment and achieves a rich integration of the two.</p> <p><u>Health throughout the Lifespan</u> There are only two programs in Canada that provide for lifespan studies within their health sciences program (Waterloo, B.Sc. in Health Sciences; Western, B.H.Sc.). Carleton's program is unique in requiring courses that ensure the entire lifespan is covered. This is particularly important: early life is a critical period that can alter the trajectory for a great many illnesses; because our population is aging there will be an increased need to deal with the multiple vulnerabilities to poor health that are common in older people. In this way, Carleton's concentration provides the appropriate breadth to ensure students have the necessary background for a range of careers in this field.</p>

APPENDIX 2

	<p><u>Disability and Chronic Illness</u></p> <p>This concentration is unique among health sciences programs, draws on Carleton's strengths and leadership in this field (for example, the Paul Menton Centre for Students with Disabilities), and provides an education in dealing optimally with disabilities in both the young and old who have much to offer but are often excluded from a productive life.</p> <p>The combination of these five, distinctive concentrations within one integrated and interdisciplinary program, and the flexibility and opportunities this affords students as they identify their career aspirations, is not duplicated elsewhere.</p>
<p>If this is a collaborative program with another college/university, please identify partners, and describe the arrangement by which institutions claim for funding/enrolment.</p>	<p>N/A</p>
<p>Institutional Contact Person:</p>	<p>Sue Gilmour, Enrolment Reporting Officer Office of Institutional Research & Planning Carleton University Tel: 613-520-2600 (ext: 4471) Email: sue_gilmour@carleton.ca</p>

Bachelor of Health Sciences: Why Carleton University?

EXISTING HEALTH SCIENCE PROGRAMS AT CARLETON UNIVERSITY

Carleton University has offered a Life and Health Sciences program for many years, and currently has about 70 students enrolled in the program. Offered through the Integrated Science Institute, the current program is a concentration within the Bachelor of Science degree. This program provides a basic approach to pre-med, and while some graduates have successfully gone on to enter medical school, other students require additional undergraduate education if they wish to pursue other non-clinical career paths in health. In fact, this is a characteristic of most if not all existing “pre-med” programs in that most graduates from them are not able to get into the small number of spaces available in Canada’s medical schools, and the clinical focus of the programs are not well-suited to the other career options in health sciences and the health system in general. So for some years now, we have been looking to strengthen and improve the quality of our current “pre-med” program in order to better meet the needs of undergraduate students looking for careers in health sciences or medicine; and to better meet the evolving needs of Canada’s rapidly changing health system.

The first phase of this development involved the establishment of a Master of Science degree in Health Science, Technology, and Policy (the HSTP degree), which was approved by the Minister of Training, Colleges and Universities in the spring of 2013. The Bachelor of Health Sciences completes the suite of programs that will provide a more robust and career-focused set of health program options for students at Carleton. To house these new programs, Carleton is replacing its Institute of Health Science, Technology, and Policy with a Department of Health Sciences, and we are closing the Integrated Science Institute and discontinuing the existing purely biomedical “pre-med” education program.

In establishing the new Bachelor of Health Sciences, Carleton University is building on its current presence in the field of undergraduate biomedical and health sciences education and research by creating a unique degree that responds directly to the fast-changing environment for the delivery of health services and the conduct of research in health. Furthermore, these changes will increase the distinctiveness of Carleton’s “pre-med” program compared to that of the University of Ottawa, which is in Biomedical Sciences.

WHY SHOULD CARLETON OFFER A NEW HEALTH SCIENCES PROGRAM?

As a university without a medical school, Carleton has the flexibility to develop and deliver an interdisciplinary health sciences program that provides:

1. A broad and rich education that:
 - a. Is appropriate to the increasingly complex character of cross-sectoral, multidisciplinary service delivery and research in health; and
 - b. Allows students who recognize the many career opportunities in health beyond the practice of medicine to receive an education focused on those opportunities.

2. A flexible program structure allowing students to shape their education as they move through the program according to their developing career aspirations, and thereby lay a foundation for one of the health-related occupations for which there is a significant labour shortage.
3. A biomedical education in a context that:
 - a. Allows students who decide not to progress to medical school or who realise that they may not gain admission to medical school to adapt their education appropriately for other health-related career paths within a flexible program; and
 - b. Recognises the increasingly complex environment within which clinical medical practice occurs and provides an appropriately interdisciplinary foundation for students entering medical school.

WHAT DOES THE PROGRAM ACHIEVE?

Carleton's program addresses the following issues:

1. Research and the delivery of services in the field of health are becoming increasingly complex, cross-sectoral and multidisciplinary in character. Health sciences programs need to respond to this rapid change.
2. The December 2012 report by CIBC World Markets Inc [*The Haves and Have Nots of Canada's Labour Market* (CIBC World Markets Inc., *In Focus*, Dec 3, 2012) http://research.cibcwm.com/economic_public/download/if_2012-1203.pdf] reported that the 25 occupations demonstrating consistent labour shortages are dominated by health-related occupations. There is a need to address this situation.
3. It is the case that only a minority of students taking biomedical programs with the intention of entering medical school are successful in their applications to medical schools. Those who are unsuccessful (in many cases the majority) typically have to take additional courses to qualify them for other career opportunities, including those in the broader field of health. There is a need to address this issue.
4. Medical practice occurs within an increasingly complex, cross-sectoral and multidisciplinary context. Few 'pre-med' programs address this changing environment. There is a need to change this (please see 'The Canadian Medical Profession is Facing Major Upheaval,' *Globe and Mail*, August 23, 2013, with respect to the growth of multidisciplinary health-care delivery teams).

CAN CARLETON DELIVER THIS PROGRAM?

1. Carleton has a long-standing and significant presence in biomedical and health education that provides powerful sources of support for the new program:

- a. As mentioned above, Carleton currently offers a purely biomedical ‘pre-med’ education through its integrated science program; this program will be closed to make way for the new program, a program that provides ‘pre-med’ education in a rich interdisciplinary context appropriate to the fast-changing environment for health delivery and research.
 - b. Carleton offers a number of successful undergraduate and graduate programs in health-related areas: food science and nutrition, medical physics, biomedical engineering, biology and biochemistry, neuroscience and mental health, cognitive science, psychology, sociology, geography, health policy; all these programs will contribute courses to the new health sciences program.
 - c. Carleton has recently established a broadly interdisciplinary graduate M.Sc. program in Health: Science, Technology and Policy, which recently received funding approval from the Minister of Training, Colleges and Universities; the new knowledge created through this program in collaboration with external partners will be transferred to the new undergraduate program by faculty as well as graduate students acting as teaching assistants.
2. Carleton has since its founding in 1942 amassed considerable experience in the successful establishment and delivery of interdisciplinary programs (its first graduates were in public administration and journalism).
 3. The program has been authorised to commence by the Ontario Universities’ Council on Quality Assurance.

Carleton is poised to inaugurate a new health sciences program that stands at the cutting edge of undergraduate health education. The proposal as submitted to the Ministry addresses the direct relationship of this program to student demand, the needs of the job market, and its uniqueness in relation to other Ontario and Canadian health sciences programs. This will place Carleton in a much stronger position to help address the growing needs of Ontario’s health system, providing the pathway for those Carleton students who are seeking entry into medical school while at the same time providing real career options for students might otherwise never enter into the health system.

Submitted by:

Dr. Peter Ricketts
Provost and Vice-President (Academic)
Carleton University

September 8, 2013

New Programs - Proposed Graduate BIU Eligible Students (Full-Time Students)

B.2 General Allocation Envelope

<u>Priority New Programs</u>	<u>Projected Start</u>	<u>Eligible FT's at Full Deployment</u>
Master's in Information Technology	Fall 2015	43
Master's in Northern Studies (1 Year)	Fall 2015	10
Masters - Health Sciences	Fall 2016	30
MEng. - Biomedical Engineering	Fall 2015	20
Total Master Level		103
PhD in Ethics and Public Affairs (see note 2)	Fall 2014	16
Doctoral in Information Technology	Fall 2015	24
Doctoral in Health Sciences	Fall 2016	32
Total Doctoral Level		72

New Programs Under Development

Master's in Statistics
 Master's in Datascience & Analytics
 Master's in Entrepreneurship
 Master's In Accounting
 Master's In Management Studies
 Master's in Public Administration stream in Indigenous Policy and Administration (IPA) - secured incremental BIU funding from MTCU.
 MA/MBA in Economics and Finance
 Graduate Diploma in Ethics and Public Affairs
 Graduate Diploma In Conflict Resolution
 Graduate Diploma in Curatorial Studies

B.3 Priorities Envelope

<u>B.3(b) Niche Programs - "Ask"</u>	<u>Projected Start</u>	<u>Eligible FT's at Full Deployment</u>
Doctoral in Biomedical Engineering	Fall 2016	18
Totals - at Full Deployment		18

Note:

- 1) **Totals - at Full Deployment** - refers to program enrolments at steady state, when the program is fully rolled out (typically four years for a doctoral program and two years for a Master's program).
- 2) **PhD in Ethics and Public Affairs** - as per discussions with the MTCU as part of Carleton's affiliation agreement with the Dominican University College.

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	16,440	17,218	17,677	18,125	18,689	19,276	19,831	20,413	21,053
Master's	1,658	1,632	1,650	1,680	1,730	1,809	1,824	1,824	1,824
PhD	536	576	616	596	633	638	643	643	643
Total Eligible Full-Time Headcounts	18,634	19,426	19,943	20,401	21,052	21,723	22,298	22,880	23,520
	Ineligible Students								
	Actuals			Preliminary	Projected				
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Undergraduate	1,722	1,850	1,838	1,914	2,000	2,090	2,184	2,282	2,385
Master's	356	339	476	456	468	489	493	493	493
PhD	228	242	288	348	301	277	280	280	280
Total Ineligible Full-Time Headcounts	2,306	2,431	2,602	2,718	2,934	3,005	3,107	3,205	3,308
Total Full-time University Headcount (Eligible + Ineligible)	20,940	21,857	22,545	23,119	23,986	24,728	25,405	26,085	26,828

Notes:

1. For Eligible Master's and PhD Carleton is planning to meet the current (2014-'15) end-state targets adding the 15 M. and 5 P. for Dominican affiliation (to 2016-17) for Eligible Fall FTEs. Carleton intends to meet the existing preliminary end-state allocated for '2014-15' in 2015-'16 for Master's. Already existing PhD programs will meet the current end-state target in 2014-'15.

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	16,440	17,218	17,677	18,125	18,709	19,363	20,041	20,743	21,469
Master's	1,658	1,632	1,650	1,680	1,730	1,943	2,068	2,105	2,139
Ph.D.	536	576	616	596	633	660	698	732	764
Total Eligible Full-Time Headcounts	18,634	19,426	19,943	20,401	21,072	21,966	22,807	23,580	24,372
	Ineligible Students								
	Actuals			Preliminary	Projected				
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Undergraduate	1,722	1,850	1,838	1,914	2,000	2,090	2,184	2,282	2,385
Master's	356	339	476	456	468	539	584	607	620
Ph.D.	228	242	288	348	301	287	303	318	332
Total Ineligible Full-Time Headcounts	2,306	2,431	2,602	2,718	2,769	2,916	3,071	3,207	3,337
Total Full-time University Headcount (Eligible + Ineligible)	20,940	21,857	22,545	23,119	23,841	24,882	25,878	26,787	27,709

Notes:

- Carleton will request an extra 338 full-time Master's and 55 Ph.D. by 2016-17 (this table does not include the additional spaces already allocated to Carleton for affiliation with Dominican University College - 20 spaces a year to 2016-17 - these are included in Table 1).
- Programs incorporated into this table for which applications for approval/capital may be forthcoming:
 - Bachelor of Health Sciences (program already approved, capital request)
 - Bachelor of Global and International Studies
 - Bachelor of Information Technology - Information Resource Management (joint with Algonquin)
 - Bachelor in Building Information Modeling (joint with George Brown)
 - Bachelor in Risk and Actuarial Science
 - Bachelor of Civic Media
 - Bachelor in Finance (joint with George Brown)
 - Certificate in Public Policy and Program Evaluation
 - Bachelor in Indigenous Studies
 - Bachelor in Energy Technology (joint with St. Lawrence)
 - Bachelor of Commerce in Hospitality Management and Sports Management (joint with Algonquin) (program and capital request)
 - Bachelor in Biotechnology (joint with Algonquin)
 - Master's and Ph.D. in Health Sciences
 - Master's in Northern Studies
 - Master's and Ph.D. in Information Technology
 - Master's in Data Science and Analytics
 - Master's in Statistics (joint with University of Ottawa)
 - Master's in Entrepreneurship and Technology Innovation
 - Master's in Accounting
 - Diploma in Conflict Resolution
 - Master's in Management Studies
 - Ph.D. in Ethics and Public Affairs
 - Diploma in Curatorial Studies
 - Master's in Economics and Finance (M.A./M.B.A.)
 - Master's and Ph.D. in Biomedical Engineering

MTCU 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)		
Program Area	Total Full-time Headcount (Eligible) (2012-13)	Rationale
Environment and Sustainability	1,167	Carleton has numerous programs across the university that focus specifically on the environment and sustainability (<i>e.g.</i> Environmental Studies, Environmental Science, Environmental Engineering, Sustainable and Renewable Energy), and many programs that have strong environmental and sustainability components (<i>e.g.</i> Geography, Earth Science, Public Administration and Policy Management). Architecture and Industrial Design are also included in this area given their very strong sustainability focus in both those programs. Sustainability and Environment was one of four strategic themes under Carleton's 2008-13 Strategic Plan (Defining Dreams) and remains a strategic theme in the new Strategic Integrated Plan (Sustainable Communities - Global Prosperity).
Life and Health Sciences	1,233	Health and Life Sciences constitutes an important cluster of programs at Carleton in Sciences, Engineering, and Social Sciences. Building upon Carleton's traditional strengths in life sciences, health has been an area of strategic growth for the past five years. This area constitutes a very significant research strength at Carleton, and is central to the partnerships with the hospitals and medical research institutions in Ottawa. Health was one of four strategic themes under Carleton's 2008-13 Strategic Plan (Defining Dreams) and remains a

		strategic theme in the new Strategic Integrated Plan 2013-18 (Sustainable Communities - Global Prosperity). Carleton's recently approved Bachelor of Health Sciences degree will be an important area of undergraduate growth over the next five years.
Public Policy, Administration, and Governance	2,034	A foundational area of program strength at Carleton since its creation in 1942, and is the focus of the Faculty of Public Affairs. Carleton is renowned for its programs in this area (<i>e.g.</i> Bachelor of Public Administration and Policy Management, and the Master of Arts in Public Administration) and as a result many programs across the university (especially interdisciplinary graduate programs) have developed a public policy component (<i>e.g.</i> Sustainable and Renewable Energy; Infrastructure Protection and International Security; Health Science, Technology, and Policy). This area of program strength lies at the heart of Carleton's moniker of Canada's Capital University.
Information Technology	2,159	Carleton has a strong record in IT programs at both undergraduate and graduate levels (<i>e.g.</i> Computer Science, Computer Engineering, Software Engineering) and our Bachelor of Information Technology degree is a unique integrated degree/diploma program between Carleton and Algonquin College. This area is of great importance for Carleton's partnerships with local industry given the high profile of Ottawa's IT sector. Recently, Carleton has expanded its programming strengths in Digital Media, which was one of four strategic themes under Carleton's 2008-13 Strategic Plan (Defining Dreams) and remains a strategic theme in the new Strategic Integrated Plan 2013-18 (Sustainable Communities - Global Prosperity).
Law and Social Justice	1,828	Carleton's programs Law and Legal Studies and Criminology and Criminal Justice have been important areas of undergraduate enrolment growth in the past five years. A strong focus on social justice links these programs with other programs such as Human Rights, Social Work, and Women and Gender Studies, as well as emerging areas in Philanthropy, Accessibility Studies, and Disability

		Studies. This area of program strength is particularly enhanced by Carleton's location in the National Capital Region, and has strong ties to the public policy and administration programs at Carleton.
Human Behaviour and Development	2,554	Programs in this area (including Psychology, Cognitive Science, and Child Studies) constitute the largest enrolments in the Faculty of Arts and Social Sciences. Supported by strong research in areas such as Developmental Psychology, Visualization and Simulation, Neuroscience, Human-Computer Interaction; human behaviour and development constitutes one of the most important social science areas at Carleton both in terms of undergraduate and graduate enrolments and research capacity.
Advanced Technology	2,613	Focusing on Engineering and Sciences, advanced technology has developed as an important area of program strength in the last ten years at Carleton. In recent years, enrolment and research growth in the Faculty of Engineering (<i>e.g.</i> Electrical; Aerospace Engineering; Electronics; Biomedical, Mechanical, Computer and Systems Engineering) has been significant at Carleton, and in Physics students and faculty are engaged in world class research in facilities like SNOLAB and CERN's Large Hadron Collider.
Business, Entrepreneurship, and Innovation	1,477	This area of strength incorporates the recently AACSB accredited programs of the Sprott School of Business (including the undergraduate programs in Commerce, International Business, and Entrepreneurship; the Sprott MBA; and the only doctoral program in Management in Ottawa) together the joint Business and Engineering master's programs in Technology Innovation Management (TIM), which includes the highly successful Lead to Win program in which students create and operate companies that generate employment in the Ottawa region. Carleton has just opened the new Accelerator as the home for Carleton Entrepreneurs.
Media, Communications,	3,059	Carleton has always been associated with strong programs in this area, starting with Journalism,

<p>and Culture</p>		<p>which was the very first program at Carleton. In addition to having Canada's leading Journalism program, Carleton has built this area through programs in Communications (<i>e.g.</i> Communications and Communications Engineering), Media (<i>e.g.</i> Film Studies; Interactive Media and Design; Digital Humanities), Language (<i>e.g.</i> Linguistics, French, English), and Culture (<i>e.g.</i> Cultural Mediations, Religious Studies, Music). New Digital Media was one of four strategic themes under Carleton's 2008-13 Strategic Plan (Defining Dreams) and remains a strategic theme in the new Strategic Integrated Plan 2013-18 (Sustainable Communities - Global Prosperity).</p>
<p>Global and International Studies</p>	<p>1,734</p>	<p>Carleton has a strong cluster of programs under this area, including its renowned master's program in International Affairs and the Bachelor of International Business. In addition, numerous area studies (<i>e.g.</i> European, Russian, and Eurasian Studies) and global programs (<i>e.g.</i> Global Politics, Global Financial Management and Systems) add to Carleton's strength in this area. Global Identities and Globalization was one of four strategic themes under Carleton's 2008-13 Strategic Plan (Defining Dreams) and remains a strategic theme in the new Strategic Integrated Plan 2013-18 (Sustainable Communities - Global Prosperity). This is an area of important growth for Carleton, and we are currently developing a new Bachelor of Global and International Studies, which will be submitted for approval in 2014.</p>

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)				
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
Health Sciences	1,550	7.8%	Bachelor of Health Sciences (B.H.Sc.) M.Sc. and Ph.D. in Health Sciences	New undergraduate program approved by MTCU. Expansion to include health economics and policy; planned to commence in September 2014. Graduate programs to build upon the expansion of the undergraduate program and research capacity in Health Sciences; planned to commence in September 2016.

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<p>Global and International Studies</p>	<p>1,675</p>	<p>8.4%</p>	<p>Bachelor of Global and International Studies (BGINS)</p>	<p>A new interdisciplinary undergraduate degree building upon Carleton's extensive academic and professional expertise in internationalization, globalization, and area studies; planned to commence in September 2015.</p>
			<p>Bachelor in International Business</p>	<p>An existing program but expected to grow in synergy with the new BGINS program slated to begin in September 2015.</p>
			<p>M.A. in Northern Studies</p>	<p>A new interdisciplinary master's program drawing upon Carleton's strength in northern studies, including physical, environmental, social, economic, and cultural development; planned to commence in September 2015.</p>
			<p>M.A. and Ph.D. in International Affairs</p>	<p>Expansion of existing graduate programs in</p>

				synergy with development of BGINS program; to broaden fields and scope of existing and research capacity in Global and International Studies.
Information Management and Digital Media	1,350	6.7%	<p>Bachelor of Information Technology (B.I.T.) in Information Resource Management</p> <p>Bachelor's degree in Building Information Modeling (B.I.M.)</p>	<p>A collaborative degree with Algonquin College, this is a new stream to be added to the existing suite of programs in the collaborative BIT degree; graduates will receive a BIT degree from Carleton and a Library and Information Technician diploma from Algonquin; planned to commence September 2015.</p> <p>A collaborative degree with George Brown College in Building Information Modeling, building upon Carleton's expertise in IT and George Brown's expertise in Construction Science and Management; graduates will receive a BIT</p>

				<p>degree from Carleton and an Advanced Diploma from George Brown; planned to commence in September 2016 or 17.</p>
			<p>B.Sc. in Risk and Actuarial Science</p>	<p>Building upon strengths in the School of Mathematics and Statistics and Carleton's strengths in the area of risk analysis, infrastructure protection, security, social sciences and business, this degree will address a growing need in the area of risk assessment, management, and security; planned to commence in September 2016.</p>
			<p>Bachelor's degree in Civic Media</p>	<p>A new degree under development in the School of Journalism and Communication; planned to commence in September 2017.</p>
			<p>Master's and Ph.D. in Information</p>	<p>Graduate level programs to build upon the successful</p>

			Technology	<p>BIT programs in the School of Information Technology; this is an area of growing employment demand for graduates with master's and doctoral level education and training in IT; planned to commence in September 2015.</p>
			Master's in Data Science and Analytics	<p>Building on the collaborative Master's in this area, this new graduate program will be linked with Carleton's research partnership with IBM; this is a rapidly growing area of expertise for managing and analyzing very large data bases and complex analytical techniques and operations; planned to commence in September 2015.</p>
			M.Sc. in Statistics	<p>A new joint master's degree in collaboration with the University of Ottawa, and offered through the Ottawa-Carleton Institute of</p>

			Bachelor of Computer Science (B.C.Sc)	<p>Mathematics and Statistics; planned to commence in September 2015 or 16.</p> <p>Continued expansion of this existing degree to meet the growing demand for Computer Science and related IT graduates.</p>
Business, Entrepreneurship, and Governance	2,025	10.1%	<p>Bachelor of Commerce (B.Comm.)</p> <p>Bachelor's degree in Finance</p>	<p>Capacity to grow the existing degree program to meet the growing demand for Business graduates; Carleton is exploring potential partnerships with Algonquin College in the areas of Business, Hospitality, and Sports Management.</p> <p>A collaborative degree with George Brown College; graduates will receive a B.Comm. degree from Carleton and an Advanced Diploma in Finance from George Brown; planned to commence in</p>

				September 2016.
			Master's degree in Entrepreneurship and Technology Innovation	A collaborative initiative between the Sprott School of Business and the Faculty of Engineering and Design; planned to commence in September 2015 or 16.
			Master's degree in Accounting	To prepare students for the new CPA designation; planned to commence in September 2015.
			Undergraduate Certificate in Public Policy and Program Evaluation	Building on Carleton's highly successful Graduate Diploma in Program Evaluation to provide an undergraduate certificate option for this area of great national and international demand; planned to commence September 2016.
			Graduate Diploma in Conflict Resolution (Type III)	An existing diploma program that requires government allocation for inclusion within Carleton's

				allocation of graduate spaces change in funding status planned for September 2015.
			Bachelor's in Public Affairs and Policy Management (B.P.A.P.M)	Expansion of existing program within new areas of concentration and specialization in security, environment, policy, politics and health; planned to commence in September 2015.
			Master of Arts in Public Administration (MAPA), stream in Indigenous Policy and Administration	New stream in the MAPA program, Carleton selected under RFP, and approved by MTCU for development and funding (special allocation of graduate spaces); planned to commence in September 2015.
			Master's degree in Management	A research master's program to feed into the existing PhD program; planned to commence in September 2015 or 2016.
			Ph.D. in Ethics and Public Affairs	An interdisciplinary doctoral program housed in the Department of

				<p>Philosophy, educating highly qualified personnel in the study and application of ethics in public and private sectors; planned to commence in September 2</p> <p>This program will link to National Capital Region museums and has potential for strong adjunct faculty and research; planned to commence in September 2015.</p> <p>This is an expansion of the current minor in indigenous studies; addresses a strategic direction under Carleton's Aboriginal Coordinated Strategy; planned to commence in September 2017.</p> <p>Building upon existing separate concentrations in Economics and Business Administration; will provide a new joint degree option for graduates; planned to commence in</p>
			<p>Graduate Program (Type II and III) in Curatorial Studies</p>	
			<p>Bachelor's degree in Indigenous Studies</p>	
			<p>MA/MBA in Economics and Finance</p>	

				September 2015.
Advanced Technology and Innovation	2,925	14.6%	<p>Bachelor's degree in Energy Technology</p> <p>Bachelor's degree in Biotechnology</p> <p>Master's and Ph.D. in Biomedical Engineering</p>	<p>A joint initiative between the Faculty of Engineering and Design and St. Lawrence College; planned to commence in September 2016 or 17.</p> <p>Potential for a joint initiative between the Faculty of Science and Algonquin College; planned to commence in September 2016.</p> <p>Building upon the growth of Biomedical Engineering at the undergraduate level and the M.A.Sc. at Carleton, we plan to add an M.Eng. and Ph.D. in this important and growing field; this will complement the growth of Health Sciences at Carleton and the enrichment of research partnerships between Carleton and regional medical institutes</p>

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				and companies involved in the design and application of biomedical devices; MEng planned to commence in September 2015 and PhD in September 2016.
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Carleton University Proposed Institutional Metrics											
Category	Metric	Value	Notes								
Jobs, Innovation and Economic Development	Total # of Carleton founded companies	185	benchmark 2010; will update every 3 years								
	Total # of funded regional partnerships (government, industry and not-for-profit)	1,003	2012-'13								
Teaching and Learning	% of programs with experiential learning (including co-op, Community Service Learning [CSL], internships). Metric includes both graduate and undergraduate component.	Undergraduate: 42 out of 48 programs Graduate: 24 out of 88 programs	2013-'14								
	Average Teaching Evaluation score (3 yr average)	4.47 out of 5	2010-'11 to 2012-'13								
Student Population	% of full-time, first-year students participating in first-year seminars, tutorials and/or laboratories.	89.1%	2013-'14								
	NSSE Benchmark: Supportive Campus Environment	<table border="0"> <tr> <td></td> <td><u>Carleton</u></td> <td><u>Ontario</u></td> </tr> <tr> <td>1st year</td> <td>59.1%</td> <td>57.2%</td> </tr> <tr> <td>2nd year</td> <td>54.6%</td> <td>52.5%</td> </tr> </table>		<u>Carleton</u>	<u>Ontario</u>	1st year	59.1%	57.2%	2nd year	54.6%	52.5%
	<u>Carleton</u>	<u>Ontario</u>									
1st year	59.1%	57.2%									
2nd year	54.6%	52.5%									
Research and Graduate Education	# of active external adjunct professors	467	2013-'14								
Institutional Collaboration to Support Student Mobility	# of graduate students in university/university joint graduate programs	1,141	2013-'14								