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Dawson College Strategic Research Plan *2015-18*

Abstract

A plan that defines Dawson College's research mission and objectives, and establishes the institutional policies needed to accomplish that mission.

Research Consultation Focus Group: Denise Brend (Social Service),
Tanya Chichekian (Academic Advising), Catherine Flemming (Nursing),
Kaila Folinsbee (OID), Shirley Jorgensen (Institutional Research),
Benjamin Seamone (Math), Richard Soare (Geography), Jonathon
Sumner (Physics)

1 Mission Statement

The research mission of Dawson College supports the College’s broader mission to contribute positively to our communities through knowledge generation and mobilization, to generate opportunities for our students to excel, create and be entrepreneurs and to foster innovation in education, science, society, and technology across disciplines.

Research at Dawson will strengthen the intellectual, economic and social development of Québec and Canada by generating new knowledge across disciplines, fostering, promoting and producing new ideas and products, training students and improving the lives of our stakeholders, community members and people around the globe. The College is committed to creating opportunities for faculty, students and staff to collaborate on research that builds communities, creates jobs and contributes to social and economic development in Montréal and beyond. The College will promote and reinforce the highest standards of integrity in all of its members’ scholarship and research initiatives.

2 Areas of Research Excellence

We have identified two major themes to promote, direct and grow research at Dawson College: *Social Innovation and Global Citizenship* and *Science, Technology and the Environment*. Within these major themes are five clusters that encompass the diversity of research activity at the College and reflect both emerging and core research strengths.

Global Citizenship & Social Innovation	Science, Technology, & the Environment
Teaching, learning and technology	Social and environmental sustainability
Accessibility and inclusion of diverse populations	Fundamental and applied science
Society, culture, communication and history	

2.1 Teaching, Learning, and Technology

This cluster studies the variables that affect student success, learning and retention, and evaluates technology and practices related to teaching. The emphasis is on measuring the effectiveness of innovative learning tools, practices and technologies in the teaching environment. Strong Communities of Practice exist that involve teachers and researchers from across many departments and other institutions. These groups implement innovative teaching practices, including active learning, problem-based learning, science education, and Universal Design for Learning (UDL).

Our survey data show that this is a very active area of research at Dawson, with almost half of current funded research being in this field. To ensure the ongoing success of research in this area, which is central to Dawson College's core mission of providing the highest quality education, the College will continue to support grant applications in this area, provide ongoing support (e.g. critical reviews, translation services) and promote the Communities of Practice, including encouraging new membership and networking with other institutions.

2.2 Accessibility and Inclusion of Diverse Populations

This cluster specializes in research aimed at advancing knowledge and promoting inclusive practices that support diverse populations. The ADAPTECH network (adaptech.org) includes numerous collaborators who are working on questions relating to students with a wide range of disabilities. Other potential areas of research include aspects of Québec's diverse population, including First Nations, immigrants and aging populations.

Since 2010, Dawson College has been co-managing with Cégep du Vieux Montréal the CCTT-PSN (College technology transfer centre in innovative social practices) CRISPESH (Research centre for the educational and professional inclusion of students with disabilities). CRISPESH is dedicated to addressing the social barriers, obstacles and facilitators to the full inclusion of people with disabilities into all sectors of society. These include, among others, issues of inclusive practices and policies, awareness, empowerment, self-determination, and self-advocacy. Projects also aim to emphasize the importance and benefits of inclusion to people with disabilities and to society in general. CRISPESH provides administrative support and help mobilizing knowledge for researchers working on projects related to students with disabilities.

As one of the two co-administering institutions for CRISPESH, Dawson will take a more active role in determining the direction of research oriented in this field and encourage its researchers to take advantage of the facilities offered by CRISPESH, for example, grant writing support. The research office will work in coordination with the administrators at the centre to establish and promote collaborations among researchers both within and between Cégeps and strengthen the ties between Dawson and CRISPESH to grow research for both the College and the CCTT.

2.3 Society, Culture, Communication and History

Research in this area draws on theory and methodology from diverse fields within the social sciences and humanities to explore how humans create meaning, the articulation between culture and identity and the trajectory of history in shaping modern society. Researchers in this cluster may evaluate the impact of new technologies (e.g. video games, social media, and big data) on communication and the economy, or may explore literature and historical documents to gain insights about human society and individuals. Projects include social innovation and community partnerships that improve the lives of diverse populations, and the Sciences Participating with Arts and Culture in Education (SPACE) project that finds confluence between science and the arts and humanities.

Approximately 45% of our potential body of researchers identify their discipline as the social sciences and humanities (Dawson Research Survey, 2014). This suggests that there is potential to grow research in this area. Taking advantage of governmental funding opportunities that emphasize social innovation (e.g. SSHRC CCSIF), we will grow the amount of research done in this field over the next three years by providing more training on grant writing and facilitating partnerships and networks with other institutions and organizations.

2.4 Social and Environmental Sustainability

Climate change and ecological collapse are among the most pressing issues of our time. Researchers in this cluster use applied, innovative, multidisciplinary approaches to tackle social, environmental and technological challenges facing the world. Research in this field includes projects that promote innovative ways to make campuses more sustainable, development of community gardens and research on urban gardening and food systems, and projects that focus on preventative health and wellness from a holistic environmental perspective. Dawson researchers, in partnership with community organizations and colleagues from Montreal and elsewhere, will create and mobilize knowledge to the community. As partners in the educational enterprise, students and faculty will work together on transformative research that will improve their shared environment. The College will take a lead role in developing partnerships between Dawson, academic institutions and community organizations, in Canada and abroad, to remain at the forefront of action-research that positively transforms our planet.

2.5 Fundamental and Applied Sciences

Research in the sciences reveals new facts about the natural world, and generates new technologies and processes that contribute to economic growth and a better quality of life. Dawson researchers across departments ask fundamental questions about the world like: “Were Martian landscapes shaped by glaciers?”, “How do children’s brains develop?” and “How can we increase the competitiveness of wind power in today’s energy market?”

In the survey on research, natural science has the second largest representation of prospective researchers (after the social sciences); however, research in this domain currently contributes only about 17% of funded projects. The survey shows that natural science researchers are far more likely to be doing research at other institutions than at Dawson, as affiliate faculty, post-docs or PhD students. Missing the opportunity to allow these researchers to fulfill their potential at Dawson costs the institution in human capital. Over the next three years, the College will make a concerted effort to double the number of researchers and projects in this area, by initiating institution-led projects in applied research, lobbying appropriate funding bodies to allow college teachers to take the lead on certain grants, and facilitating collaborations between our researchers and external partners, both at other academic institutions and in industry.

3 Strategic Objectives

Research at Dawson College is based on a commitment to enhancing and supporting a dynamic relationship between teaching and inquiry. Dawson has a strong tradition of research excellence across disciplines, and is home to an experienced and widely recognized group of researchers. The College commits to promoting and supporting transformative research and scholarship that meets the highest standards of integrity and ethics. The College will increase institutional capacity by supporting research faculty, applied, scholarly and creative activities, and research that enhances and encourages student engagement. Internal investment in research activities will effectively leverage external grants and contracts and promote partnerships to serve the community.

This plan identifies three Strategic Objectives to develop research capacity and increase externally funded research at the College. Meeting these objectives will support and sustain research capacity in areas of existing strength, as well as grow research into new areas.

Strategic Objectives	I. Increase the number of researchers	II. Increase external funding	III. Develop applied research
Goals	Encourage teachers to participate in and initiate research projects; Attract and retain teachers with strong research credentials	Increase the amount of external funding awarded to the institution by 20% over three years	Develop innovative projects that serve the needs of the Dawson Community; Develop partnerships with industry
Main implementation strategies	Internal investment in research release; Increase the visibility of current research and the Research Office	Encourage and support proposal submission by researchers; Write institutional grants to support existing strengths and new directions	Survey faculty to determine fruitful private partnerships; Network with other institutions and private industry
Indicators of achievement	Increased number of teachers submitting grants and doing research; Increased student participation in research; Increased visibility of research	More grants and larger grants awarded to the college to increase total external awards by 20% in five years; Higher rank among Canadian colleges for research revenue (47 of 50 in 2013)	Number of externally funded applied research projects; Industry investment in the College; Partnership agreements (domestic and international)

3.1 Objective 1. Grow the number of researchers at Dawson

3.1.1 Increase through internal investment the number of faculty who can devote time to research

According to the survey on research, the most important factor limiting participation in research at Dawson is the lack of release time available. Dawson allocates the equivalent of three full-time salaries to support research release for its teachers. Proposals submitted to external agencies have more than doubled in the past five years at the College, and we predict that trend to continue based on this trend and interest expressed by faculty to the research office. In addition, internal release allocated to researchers has exceeded the release envelope for the past three years in a row, resulting in no release available to be carried forward for 2015-16. Given these trends, we predict that the available funds to support research release will be insufficient to support funded researchers over the next five years. Support during the initial stages of proposal development is a critical determinant of whether a researcher pursues his or her project, or whether he or she becomes discouraged and gives up. Since time is the limiting factor for college teachers to pursue research, investment in the initial stages of a project can be crucial to support early stage researchers. The availability of release time to support research will be a critical tool to help Dawson recruit and retain high-quality researchers.

In addition, by creating an environment that is supportive of research, the College will develop a reputation as an alternative to universities for high performing researchers. This will enable us to attract new faculty with strong research portfolios, and retain existing high performing researchers.

To sustain the growing researcher population, and to support new and existing research projects:

The research office:

- **Will manage and oversee an internal competition for research release**
- **Will support and encourage applications to agencies that fund release time**

The College:

- **Will invest an additional 2.0 full-time equivalent (FTEs) in release per year, over-and-above the existing 3.0 FTEs allocated for funded researchers.**

3.2 Objective 2. Increase external funding for research

Externally awarded funding for research at Dawson has risen substantially in recent years; overall, grant submission has more than doubled in the past five years compared to 2003-07 (31 vs. 64 proposals). In addition, for grants submitted by a Dawson principal investigator, the total amount requested from external agencies was \$380,000 per year on average from 2007-2011, but quadrupled to a total of \$1.6 million per year requested on average from 2011-2013. Based on

these trends and the strong cohort of young researchers currently at the College, we anticipate this growth to continue, or at least remain at the current higher level.

To sustain the growing researcher population, and to support new and existing research projects college researchers must be eligible for funding opportunities that are currently limited to university researchers (e.g. FRQSC Établissement de nouveaux professeurs-chercheurs and Soutien aux équipes de recherche, NSERC Discovery Grants).

Providing incentives to teachers who do research by investing in release time targeted at strong ongoing projects and competitive project ideas should result in growth in external funding.

The research office:

- **Will increase external funding by initiating more applications to external funding bodies for institutionally-based projects (e.g. Canada First Research Excellence Fund, NSERC Community and College Innovation Program).**
- **Will initiate and support networking opportunities to partner Dawson researchers with industry and academic experts to develop competitive projects.**

The College:

- **Will lobby at multiple levels (provincial, federal) to ensure colleges are recognized as centres of research excellence.**
- **Will develop new partnerships with other institutions (Cégeps, Québec and Canadian universities), and explore partnerships in applied research and innovation with industry.**

3.3 Objective 3. Develop Applied Research

Researchers will be encouraged to apply to existing programs to develop projects that impact society and create long-term economic advantages for Canada. Specifically, we will target the NSERC CCI program for researchers in the natural sciences and engineering, and the new SSHRC Community College Social Innovation Fund for researchers in the social sciences. The College will actively inform researchers and provide opportunities for training in grant writing and information sessions on these grants.

We will host networking events to match researchers with small and medium enterprises, collaborators from other institutions, as well as community organizations to develop partnership projects that are innovative and aligned with governmental priority areas.

The research office:

- **Will invest in training and information sessions to help researchers prepare applications for applied research funds.**

- Will explore an application for an Industrial Research Chair for Colleges grant through the NSERC CCI program.
- Will work with CRISPESH to partner with community organizations in the area of disability studies.

The College:

- Will support teachers with interests in applied research to develop external partnerships and support their professional development to update their existing skills.
- Will organize and host networking events to bring in external partners and develop a reputation for applied research.

3.4 Investment in the Research Office to Meet Objectives

Meeting these three key objectives will require investment in research administration infrastructure. Currently, the Research Coordinator position is staffed at 50%. Making that position full time would allow the Research Office to:

- Lead in developing policies related to research support
- Identify and develop key performance indicators and metrics to better inform decisions
- Assess data to identify opportunities and establish planning priorities
- Measure and evaluate the success of initiatives outlined in this Strategic Plan

In addition, a full-time Research Coordinator will more effectively promote and drive new research projects, identify new funding sources (e.g. alumni and private foundations), more effectively promote research excellence and impact, and ensure compliance with regulatory bodies, Canadian and international law, and ethical research standards.

The College will commit an additional internal investment of \$5,000 per year to help researchers achieve their research goals; this would include:

- Professional copy editing and design for grant proposals, manuscripts and final reports,
- Statistics consulting for data analysis,
- Support for catering meetings and networking events,
- Funds for page charges and photocopying.

The College:

Will invest in an additional 50% professional position for a Coordinator of Research (1 full-time position) and allocate \$5,000 per year to an internal budget to support small-scale activities linked to research