

Seneca College of Applied Arts and Technology Strategic Research Plan

(Updated from 2003; approved by the Deans' Committee February 7, 2006)

Introduction

Our goal is to contribute to the quality of education, the economic growth of this province, and improvements in the quality of health and life. Seneca College has a strong commitment to developing the infrastructure and human capacity needed to engage in applied research. In so doing, this will enhance our capacity for innovation, and our ability to develop strong research skills in faculty, staff and students.

Seneca College of Applied Arts and Technology is the largest of the 24 Colleges of Applied Arts and Technology in Ontario, and indeed in all of Canada. All post-secondary programs offered at Seneca are approved by the Ontario Ministry of Training, Colleges and Universities (MTCU) and meet current Ministry credential standards. Seneca offers more than 100 post-secondary diploma programs, and close to 40 Ontario College Graduate Certificate programs designed for graduates with diplomas or degrees who wish to specialize in a specific area. In 2003, Seneca was granted differentiated status by MTCU, including the authority to offer up to 15% of its programs at the baccalaureate degree level. In the fall of 2003, students were admitted to the Seneca's Bachelor of Applied Business – Financial Services Management program, the first degree program offered at any Ontario college. Six other baccalaureate degree programs have subsequently been approved by MTCU; 2 additional proposals have been submitted recently for approval, and 2 more are currently under development. The full-time student enrollment is almost 19,000 students.

Major thrusts for research and research training program

As the largest college in the province of Ontario and indeed in all of Canada, Seneca has demonstrated strong leadership in career oriented training to the level of technical and graduate certificate specialization for diploma and degree holders. Seneca is committed to working with institutional partners in applied research projects that address social and economic needs confronting this province, such as the chronic and long-standing shortage of qualified personnel in technology. Research to be undertaken will contribute to long-term solutions by building research and training infrastructures to enhance technology, technology education and applied expertise that will strengthen technology and facilitate industry driven solutions to business and industry challenges, not only in Ontario, across Canada and internationally.

Strategic Research Plan

Strategic planning at Seneca College occurs both at the institutional and faculty/school level. It is "a process that (i) identifies and analyzes the trends that will impact on the College over the next three to five years and (ii) results in the development and annual review of the Strategic Plan" (Seneca College Strategic Plan, April 1998).

The Strategic Plan, which is approved by the College's Board of Governors, sets the overall direction for the College. Operational planning and allocation of resources at the faculty/work unit level are guided by the priorities identified in the Strategic Plan. The Strategic Plan includes a number of critical elements: the environmental scan identifies key external trends (economic, political, technological, business and industrial, social, demographic, educational) and internal forces that bear directly on the College's future. It articulates the fundamental ends, the Strategic Goals, to which the College aspires on behalf of the communities it serves. In November, 1998 the College's Board of Governors made a formal commitment to develop the College's research capacity. The 2001-2003 Strategic Plan committed the College to "move toward the

characteristics and qualities of advanced applied education” (Key Result #1) and to increase “the amount and complexity of applied research”. The current Strategic Plan, 2004-2009 again commits the College to “building organizational capacity” (Goal #3) by assisting faculty and staff to engage in applied research. It also states that it is the Mission of the College “to Lead in applied research... by contributing economically and socially with solution focused research activities in collaboration with business, industry, social agencies, other institutions of higher learning and government “(Strategic Plan, 2004-2009, p. 2).

Inherent in these commitments is the need for faculty to be actively involved in applied research to enhance program quality and address social and economic issues confronting Ontario and indeed Canadian society. The integration of applied research within the curriculum is an important element of the curriculum of the bachelor’s degree programs.

Seneca is committed to:

- applied research that focuses on addressing existing challenges in education, business and industry locally, as well as nationally and internationally
- systematically developing research proposals and programs in response to identified real socio-economic issues/needs. Appropriate funding sources are sought to support the research.
- cross-discipline collaboration in research initiatives. This includes collaboration with business, industry, and other educational or research institutions.
- initially supporting operational costs from a central budget, based on replacement costs for faculty release time, with a goal of research projects/programs becoming self-supporting within 5 years, through grant and partnership funding as well as philanthropic funding negotiated by the College’s Department of Resource Development
- administration of all research grants/foundation monies received through the Office of Research & Innovation (ORI), in collaboration with the Department of Resource Development

Enhancing Institutional Capacity for Research

The College’s focus of research activities are currently on building overall capacity for applied research, and the integration of research into the curricula of baccalaureate degree programs and Centres of Excellence. The College has committed considerable resources to enhance the College’s long term research capacity. The appointment of an Associate Vice-President Research & Innovation in January 2003 was evidence of the College’s strong commitment to ongoing research. The Office of Research & Innovation and the Centre for Professional Development assist faculty and staff to develop research and grant proposals, integrate research into the curricula, and conduct relevant applied research.

Mandate of the Office of Research & Innovation (ORI)

The mandate of the Office of Research & Innovation is to establish Seneca College as a national leader in applied research and advanced applied education in Canada. The ORI is responsible for furthering the academic vision and priorities of the College with respect to applied/academic research.

Core Functions of the Office of Research & Innovation

- collaboratively identify specific applied research opportunities consistent with Seneca’s strengths, strategic goals and communities served
- in collaboration with the chairs and deans, identify specific opportunities for integrating applied research into existing and new curricula
- seek out research funding opportunities and new research initiatives from private and public sources

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- in collaboration with the Department of Resource Development and faculty and staff, seek and establish private and public partnerships in applied research initiatives
- encourage and facilitate the realization of commercialization opportunities
- provide leadership in the implementation of relevant policies, such as Ethics Review (for research involving human and animal subjects) and research integrity policies that are consistent with Tri-Council guidelines
<http://www.nserc.ca/programs/ethics/english/policy.htm>
- conduct an effective and efficient ethical review and approval process to ensure compliance with ethical standards and College policies such as Seneca's Intellectual Property Policy
- in collaboration with Marketing and Communications, provide leadership in the publication/dissemination of research findings internally and externally
- support individual faculty and research teams, departments, schools and Faculties by providing consultation and support throughout all aspects of the research process
- in collaboration with the Centre for Professional Development, provide professional development opportunities for faculty to enhance their research and grant proposal writing skills

Research & Ethics Review Committee

The Research & Ethics Review committee (established in 1994) reviews all applications to conduct research at Seneca College - this includes both the review of the quality of the research proposals and ethical review. It also acts as an ethical review committee for research conducted by Seneca employees but funded solely by outside groups and conducted outside of Seneca College.

Administration of Grant Monies

The College's accounting department has for over forty years administered both small and very large grant monies received from funding sources such as government ministries, Social Sciences and Humanities Research Council (SSHRC), Medical Research Council of Canada (MRC), Canadian Foundation for Innovation (CFI), Ontario Innovation Trust (OIT), Ontario Centres of Excellence (OCE) and Communications and Information Technology (CITO) grants. The highest standards of accounting, reporting and auditing practices are implemented.

In addition, the department of Resource Development (established in 2002) has human and technical resources dedicated to the effective monitoring of charitable and grant monies received by the College, including monies to support research projects.

The accountability for staying within the approved budget according to funding criteria rests with the Principal Investigator or Research Team Lead and ultimately by the Dean of the respective Faculty. The Associate Vice President Research & Innovation is responsible for ensuring that institutional reporting is submitted as required by funding bodies.

Planning and Approval Process

- The Strategic Planning process for identification of institutional priorities and planning of strategic directions is described above.
- In addition to making faculty aware of Calls for Proposals issued by granting agencies such as CFI, OIT, and CITO, calls for preliminary research proposals are disseminated regularly to faculty and staff to encourage the development of research proposals that are aligned with current college priorities.

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- Preliminary proposals are reviewed by the Associate Vice President, Research & Innovation, the Deans Committee and/or peer review committees as appropriate to select projects for full development based on current college priorities and resources available to support the projects for a period of 4-5 years.
- Those research teams for the projects selected proceed to develop the Notice/Letter of Intent as applicable.
- The Associate Vice President Research & Innovation and ORI staff assist the research teams to develop the research proposal and complete grant applications.
- The Research & Ethics Review Committee provides helpful feedback during the ethics review process.
- The Vice President Resource Development and staff assist with the procurement of funding from external partners.
- For projects that require significant and long term college investment, the researchers present the developed project proposal, including financial implications to the Vice President Academic and Deans' Committee who make ranked recommendations for the final approval of projects; the recommendations of the VP Academic and Deans' Committee are submitted to the President for final approval.

Inter-Institutional Affiliations

Seneca College has a history of effective partnerships with other educational institutions and the private sector, as well as a strong record of active participation in relevant consortia, alliances and networks. The proposals to be submitted for consideration for CF1 funding will build on this history and our commitment to support applied research that has a positive impact on our community.

Seneca-York Affiliation – the TELi

Both Seneca College and York University have for many years promoted the use of instructional technology and the development of exemplary post-secondary learnware through a broad series of initiatives. Nearly every Faculty and School at both Seneca and York is using instructional technology as an integral part of their curriculum delivery. The combined experience of the partners in instructional design, education and multimedia gives us a symbiotic strength that we would not achieve individually. In addition, both institutions are known for their links to private enterprise through jointly managed projects.

The Technology Enhanced Learning institute (TELi) is a partnership of Seneca College and York University that promotes innovative, collaborative approaches to transforming teaching and learning through the use of technology. Building on our existing expertise in education, technology and digital media, we collaborate to engage in leading edge research, development, implementation, and evaluation of a new generation of technologies and applications that will enable educators to enhance K-12, post-secondary education, and lifelong learning.

TELi initiates joint projects by drawing upon multidisciplinary expertise from Seneca and York. The TELi has a mandate to engage in research and development, practice, evaluation and dissemination in three key thematic areas:

- Theme 1: New modes of teaching and learning that capitalize on advanced technologies
- Theme 2: Collaboration tools and processes for teaching, learning, and research

- Theme 3: Advanced simulation and visualization techniques for teaching and learning

York and Seneca are currently partners with several other post-secondary institutions and Simon Fraser University as lead institution in the exciting Simulations and Games in Education (SAGE) project funded by SSHRC. The TELi and TELi projects have the potential to attract highly qualified personnel and to provide the context for the development of other highly qualified personnel.

Other collaborative Initiatives

Seneca has as a strong record of effective participation in relevant consortia, alliances and networks. Faculty and staff have in the past, and continue to, participate actively in large, multi-institutional collaborative research projects such as: the NETERA Alliance led Broadband Enabled Lifelong Learning Environment (BELLE)/eduSource project (funded by CANARIE); the Advanced Broad-band Enabled Learning (ABEL) project led by York University (also funded by CANARIE), and the wireless Learning Project (in collaboration with McGraw Hill, Southern Alberta Institute of Technology (SAIT) and several private sector partners). Seneca College is currently the lead institution in the Learning Objects Repository Project supported by significant private sector and Ontario Innovation Trust funds. A number of research projects of Seneca faculty in collaboration with private sector partnerships have recently been funded by CITO.

Dissemination of research findings

Faculty are encouraged to publish and disseminate research findings. The College's web based academic journal *The College Quarterly* is an effective vehicle for the dissemination of the findings within the College, across the Ontario colleges and across Canada through links on the Association of Colleges of Applied Arts & Technology of Ontario (ACAATO) and Association of Canadian Community Colleges (ACCC) web sites. Several faculty who participated in the CFI/OIT funded Biotechnology Center for Applied Research & Training (BCART) program have already published reports of their findings in other peer reviewed journals including the *Journal of Applied Physiology*, the *Journal of Chemical Education* and *Nature Medicine*.

The Office of Research & Innovation (ORI) provides resources (e.g., manuscript submission guidelines for a broad range of relevant peer-reviewed publications) for faculty and staff to access on the ORI web site to assist with publication of findings.

Measuring Success

All research projects are required to identify the expected outcomes and deliverables anticipated, as well as the timeframe for achieving these outcomes. Interim reports are submitted regularly by the project leads as required by funding agencies and to the appropriate Deans and Associate Vice President Research & Innovation. In addition, the Associate Vice President Research & Innovation monitors the achievement of the expected outcomes of projects/programs supported through grants and private partnerships, progress reports submitted to funding partners, the number and variety of research proposals developed and funded, the number of publications, and research grant to assess our progress towards achieving the College's Strategic research goals.