### A G E N D A

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<th>Timing</th>
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<tr>
<td>3:00</td>
<td>1.</td>
<td>Call to Order</td>
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<td>3:01</td>
<td>2.</td>
<td>Agenda (including consent items)</td>
<td>Approval</td>
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<tr>
<td>3:02</td>
<td>3.</td>
<td>Business Arising from the Minutes</td>
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**ACTION ITEMS**

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<tr>
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<tr>
<td>3:03</td>
<td>4.</td>
<td>Reports of Standing Committees</td>
<td>Decision</td>
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<td>4.1</td>
<td>Governance Committee</td>
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<td>4.2</td>
<td>Research &amp; Scholarship Policy Committee (Including appendices 1-2)</td>
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**DISCUSSION ITEMS**

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<thead>
<tr>
<th>Timing</th>
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<tbody>
<tr>
<td>3:15</td>
<td>5.</td>
<td>Report of the President and Vice-Chancellor (Including appendix 1)</td>
<td>Information</td>
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<tr>
<td>3:35</td>
<td>7.</td>
<td>Report of the Vice-President, Research</td>
<td>Information</td>
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<tr>
<td>3:45</td>
<td>8.</td>
<td>Senate Graduate Studies Committee</td>
<td>Discussion</td>
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<td>4:05</td>
<td>10.</td>
<td>Ad Hoc Committee on Maclean’s Rankings – Oral update</td>
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<tr>
<td>4:40</td>
<td>12.</td>
<td>Other Business</td>
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<td>4:45</td>
<td>13.</td>
<td>IN CAMERA Governance Committee - Election/Re-election of the Chancellor *</td>
<td>Decision</td>
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<tr>
<td>4:50</td>
<td>14.</td>
<td>Adjournment</td>
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**CONSENT ITEMS**

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<tr>
<td>15.</td>
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<td>Minutes</td>
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<td>• 657th Meeting of Senate held February 14, 2018</td>
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<td>• IN CAMERA Record of Proceedings held on February 14, 2018 *</td>
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<tr>
<td>16.</td>
<td></td>
<td>Unfinished Business from last Meeting</td>
<td>Information</td>
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<td>17.</td>
<td></td>
<td>Communications</td>
<td>Information</td>
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<tr>
<td>18.</td>
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<td>Report of the Chair</td>
<td>Information</td>
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<td>19.</td>
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<td>Report of the Academic Colleague (Including appendices 1-2)</td>
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<td>20.</td>
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<td>Report of the Actions of the Board of Trustees</td>
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<td>21.</td>
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<td>Reports of Standing Committees</td>
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<td>21.1</td>
<td>Senate Graduate Studies Committee</td>
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<td>21.2</td>
<td>Undergraduate Program Committee</td>
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<td>21.3</td>
<td>Teaching and Learning Policy Committee</td>
<td>Information</td>
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<td>21.4</td>
<td>Information, Technology and Infrastructure Committee</td>
<td>Information</td>
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* material placed in the Senate SharePoint site
TO: Chabriol Colebatch, University Secretary & General Counsel Brock University

FROM: Professor Larry Savage
Chair, Senate Governance Committee

DATE: March 6, 2018

REPORT TO SENATE 658, March 14, 2018

ACTION ITEMS

1. **Addition of Vice-President, Research to PP&BAC**

   MOVED (Savage/

   THAT Senate approve that FHB II: 9.4.2 (d) be amended as follows (bold and highlight indicate insertion, strikeouts indicate deletions):

   ex officio
   c) the Chair or Vice-Chair of Senate;
   d) the President or Provost and Vice President, Academic or Vice Provost and Associate Vice-President, Academic;
   e) the **Vice-President, Research** or Associate Vice-President, Research;
   f) two Faculty Deans; and
   g) a BUFA Observer (non-voting)

   Rationale: The voice and vote of the VPR at PPBAC is desirable to ensure that issues of research are adequately represented when the committee deals with budget analysis and strategic planning. Additionally, during the meeting of Governance, it had been suggested and accepted that the Associate, Vice-President be included as an option.

2. **Senate Committee Nominations**

   MOVED (Savage/

   THAT Senate approve that the following individuals be appointed to the following Senate Committees:

   a. Karen Bordonaro (Library) - Graduate Studies Committee
   b. Fayez Elayan (Goodman School of Business) - Academic Review Committee

   The rationale has been included in the report.
3. **IN CAMERA Election / Re-election of the Chancellor**

The Governance Committee’s recommendation to Senate regarding the Election /Re-election of the Chancellor will be considered in camera.

The confidential report has been placed in the Senate SharePoint for the review of Senators.

4. **FHB IV Amendments re Vice-Provost, Indigenous Engagement**

MOVED (Savage/ )

THAT Senate endorse the process outlined in the document, as amended during the meeting of Governance on February 28, 2018 to specify that where possible, efforts will be made to maximize the Indigenous representation on the Advisory Committee and as outlined in the report.

The Provost presented the proposed amendments to FHB IV, under the purview of the President, for the process for appointing and re-appointing a Vice-Provost, Indigenous Engagement. The Governance Committee discussed the amendments and agreed that the process outlined should be amended to specify that where possible, efforts will be made to maximize the Indigenous representation on the Advisory Committee. Senate Governance is seeking endorsement from Senate on the process outlined in the report.

**INFORMATION ITEMS**

5. **Senate Accommodations Session**

The Governance Committee provided feedback on and endorsed the recommended approach proposed by the Vice-Provost, Teaching, Learning and Student Success as outlined in the report. The Committee authorized the Chair and Vice-Chair of Senate and University Secretary to proceed with organizing the session.

6. **Future Senate Generative Discussion Topics**

The Chair of Senate introduced potential generative discussion topics for future meetings of Senate and the Committee agreed that the Chair of Senate would work with the University Secretary to determine the generative discussion to be selected for the next Senate.
Report to the Governance Committee
Chabriol Colebatch, University Secretary & General Counsel
Topic: Senate Committee Membership
February 28, 2018
Recommendation

MOTION
THAT the Governance Committee recommend to Senate that the following individuals be appointed to the following Senate Committees:

a. Karen Bordonaro - Graduate Studies Committee
b. Fayez Elayan - Academic Review Committee

RATIONALE
Graduate Studies Committee
A vacancy for a representative from the Library was created on the Graduate Studies Committee due to the secondment of a member (Librarian). A call for nominations was sent to the Library on January 31, 2018 with a deadline of February 14, 2018 at 5:00 p.m. One nomination was received. Statement from the nominee:

First, I accept this nomination. Second, I think it is important for there to be a continued librarian presence on the Graduate Studies Senate committee because we work with graduate students extensively in the Library in their coursework and in assisting them with their own library research needs. I am happy to serve in this capacity to finish out the service term begun by Mandy Deans Kassies on this Graduate Studies committee.

Academic Review Committee
A vacancy for a Goodman School of Business representative was created on the Academic Review Committee due to the resignation of a member. Prof. Elayan was next-in-stand in the Senate election results and so, in accordance with the FHB procedures, has been declared elected to Senate. He has agreed to serve on ARC in replacement of the GSB member who resigned from ARC.
1. Appointment/Reappointment of a Vice-Provost

The Provost and Vice President, Academic may appoint a Vice Provost as he/she deems necessary.

Board of Trustees October 1, 2015

1.1 Terms of Office
A. Terms of Appointment - A Vice-Provost shall normally hold office for an initial term not to exceed five years.
B. Reappointment/Renewal - A Vice Provost may be reappointed for a subsequent term which will not normally exceed 5 years.

Board of Trustees October 1, 2015
C. Extensions of Terms - The term of office of a Vice-Provost may be extended for one year periods, provided that, prior to making a recommendation the Provost and Vice-President, Academic, has
i) consulted with the Senior Administrators’ Council; and
ii) advised Senate of the pending extension.

1.2 The Advisory Committee
A. Terms of Appointment
At least 15 months in advance of the date of appointment for a Vice-Provost the Secretary to the University will advise the Provost and Vice-President, Academic and the Senate Governance Committee of the need to begin the appointment process. The Provost and Vice-President, Academic shall then ask the Governance Committee of Senate to recommend members of an Advisory Committee as indicated in B. The Senate Governance Committee shall make its recommendations for members of the Advisory Committee following the procedure outlined in the Terms of Reference of the Senate Governance Committee.

Board of Trustees October 1, 2015
B. The Advisory Committee shall be chaired by the Provost and Vice-President, Academic and shall consist of:
   i) one full-time faculty member representing each of the Faculties and a Professional Librarian (to be recommended by the Governance Committee of Senate),
   ii) one undergraduate student Senator or student Board member representing BUSU (to be recommended by the Governance Committee of Senate),
   iii) one graduate student Senator or student Board member representing the GSA (to be recommended by the Governance Committee of Senate),
   iv) one ongoing staff member (to be recommended by the Provost and Vice-President, Academic; ongoing staff members reporting directly to a Vice-Provost and are not eligible to serve), and
   v) one senior administrative officer of the University recommended by the Senior Administrators’ Council.
C. Before the Advisory Committee is announced, potential members of the Committee must agree, in writing, as a condition of membership, a) that they will not be candidates for the position under consideration, and b) that they will maintain strict confidentiality in accordance with D. below. When the membership of the Advisory Committee is announced, it will be made public and circulated to members of faculty, librarians, and staff and to BUSU and the GSA.

Senate 609
D. All proceedings of the Advisory Committee, and all communications to or from the Committee shall be held in strict confidence, both during the life of the Committee and thereafter. Unless otherwise decided by the Committee, only the Chair is authorized to release information about the proceedings of the Committee. The Provost and Vice-President, Academic shall discharge from the Committee any member who fails to comply with this requirement.
E. The Committee shall give careful consideration to the need to communicate with the community regarding either the review or search process.

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1. In the case of the Appointment/Reappointment of a Vice-Provost, Indigenous Engagement, an additional representative from the Aboriginal Education Council shall be added to the Advisory Committee. Furthermore, where fully constituted, Indigenous representation on the Advisory Committee shall constitute a majority.
Academic Accommodation and Accessibility  
Governance Discussion, February 22 2018

Anna Lathrop, Vice-Provost, Teaching, Learning and Student Success  
Sarah Pennisi, Director, Student Wellness and Accessibility  
Judith Brooder, Manager, Student Accessibility Services  
Christopher Lytle, AODA Coordinator

Following the generative discussion at Senate on academic accommodation and accessibility, the Chair of Senate indicated that the Chair of Governance would be the contact with regard to next steps re: hosting an open campus-wide forum on this topic.

In preparation for this event, the Chair of Governance invited Anna Lathrop, Sarah Pennisi, Judith Brooder and Christopher Lytle to attend a Governance Committee meeting on February 28th.

The intent of this meeting will be to discuss issues, concerns and questions that we might wish to ask our invited academic accommodations panel participants.

Recommendation 1: We recommend that the Brock University community (faculty, staff and students) be invited to send their questions to the University Secretary in advance of the campus forum, and that these questions should be summarized and forwarded to the panel participants in advance of their session.

A framework that Governance might wish to forward to the Brock community in order to solicit questions for the panel could fall into several categories.

Do you have any questions or concerns about academic accommodation with regard to:

1. Process  
2. Communication  
3. Confidentiality  
4. Academic Freedom  
5. Undue Hardship  
6. Essential Skills  
7. Fairness  
8. Pedagogy and Reasonable Accommodation  
9. Conflict resolution  
10. Retroactive Accommodation

Recommendation 2: That the Governance Committee determine who should be invited as panel participants.
TO: Chabriol Colebatch, Secretary to the University and General Counsel
Brock University

FROM: Professor June Corman
Chair, Senate Research and Scholarship Policy Committee

DATE: March 6, 2018

REPORT TO SENATE #658, March 14, 2018

ACTION ITEMS

1. [Brock-Niagara Centre for Health and Well-being Renewal]

   MOVED (Corman / ___ )

   THAT Senate renew the term of the Brock-Niagara Centre for Health and Well-being for a five-year period, commencing May 1, 2018.

   Rationale: In its five year, this Centre has demonstrated a unique ability to attract Niagara residents to participate in long term research projects. Residents benefit by learning to live active. Researchers and graduate students are able to advance research in this field with the active participation of Niagara residents.

   See attached documents in Appendix One

2. [Advanced Biomanufacturing Centre Renewal]

   MOVED (Corman / ___ )

   THAT Senate renew the term of the Advanced Biomanufacturing Centre for a five-year period, commencing May 1, 2018.

   Rationale: The Centre has clarified the issues raised by Senate.

   See attached documents in Appendix Two

Appendix One: Brock-Niagara Centre for Health and Well-being
Appendix Two: Advanced Biomanufacturing Centre
January 26th, 2018

June Corman, PhD
Chair, Research and Scholarly Policy Committee
Brock University
St. Catharines, ON
Canada

To the Research and Scholarly Policy Committee:

The Brock-Niagara Centre for Health and Well-Being is one of five Brock University Senate approved transdisciplinary Centres. Since its official opening in August 2013 we have worked very hard towards achieving self-sustainability while simultaneously growing the Centre in the areas of, research and innovation, teaching and learning, and community outreach. As Director of the Brock-Niagara Centre for Health and Well-Being, I would like to formally request a five year renewal. The renewal application package includes the following documents:

1. The self-study produced for the external review
2. The three reviews from external reviewers
3. The memo produced by the ORS internal hub review committee
4. The response to external reviewers and ORS internal hub review committee memo
5. A short summary of Centre activity since the self-study was submitted

I believe the renewal application package fulfills the requirements for Centre renewal. In fact, the response to external reviewers and ORS internal hub review committee highlights a number of hurdles and challenges the Centre had to overcome within its first 2.5 years of operation, while the summary of Centre activities since the 2016 self-study summarizes measures and activities taken by the Brock-Niagara Centre for Health and Well-Being to address comments made by the external reviewers. As Centre Director, I would like to thank the Research and Scholarly Policy Committee for their time and dedication. If the Committee has any questions or concerns I would be more than happy to address them.

Sincerely,

Deborah O’Leary, PhD
Director, Brock-Niagara Centre for Health and Well-Being
Professor, Department of Health Sciences
Brock University
BROCK-NIAGARA CENTRE FOR HEALTH AND WELL-BEING
Summary of Activity Post 2016 Self–Study
January 26th, 2018

Director: Dr. Deborah O’Leary (also Director of Heart Strong, Brock T.E.A.M.)
Original Faculty Members: Dr. Kimberley Gammage (Director of SeniorFit), Dr. David Ditor (Director of Power Cord), Dr. Terrance Wade, Dr. Madelyn Law, Dr. Andrea Josse, Dr. Lynn Rempel
New Faculty Member: Dr. Colleen Hood
Staff: Scott Stevens, Manager
Justin Parro, Coordinator

The following is a summary of new and continuing activities that have occurred at the Brock-Niagara Centre for Health and Well-Being since the 2016 self-study. Over the past two years the Brock-Niagara Centre team has made a conscious effort to address the concerns brought forward by the self-study and Office of Research Services internal HUB review committee (refer to document “Response to Report on BNCHWB Final.docx” (part of the submitted package) as well as activities summarized below). Hence, the following document provides a brief background about the Centre, followed by a summary of activities that fall within four main categories: Research and Innovation, Teaching and Learning, Community Outreach, and Sustainability.

BACKGROUND
Linking academic and community health innovations, the Brock-Niagara Centre for Health and Well-Being is dedicated to enhancing quality of life among healthy individuals, and those with chronic disease. The Centre consists of four primary programs that service a number of special populations: SeniorFit (healthy seniors over the age of 55 years), Heart Strong (individuals with cardiovascular risk factors and/or disease), Power Cord (individuals with spinal cord injury, multiple sclerosis and Parkinson’s) and Brock T.E.A.M. (Therapeutic Exercise for Amputees in Motion). The Brock-Niagara Centre allows for the ongoing integration of innovative transdisciplinary research into high-impact community programming that promotes healthy living through disease prevention and management, as well as the related social and health benefits.

Key Facts
- The Centre has grown from supporting 50 community-based members back in 2013 to that of 500 as of January 2017.
- Within the first 2.5 years of existence, the Centre grew from 50 to ~350 members. Although this growth rate was unexpected, time was still required to generate a pool of research participants that the Centre team could draw upon. In addition, due to the unprecedented growth, the Centre faced a number of obstacles (outlined in the document
“Response to Report on BNCHWB Final.docx”) that directly impacted the team’s research productivity.

RESEARCH AND INNOVATION
Below is a summary of all research funding and projects since 2016. The Centre has worked very hard to address comments made by the external reviewers and Office of Research Services internal HUB review committee. It should be noted that the research activity highlighted below is primarily being conducted by the three Centre Directors (Dr. O’Leary, Dr. Gammage and Dr. Ditor). Nevertheless, the Centre team continues to work towards larger funded research studies focused on the core demographics of the Centre built from the projects listed below.

Funding
- The Brock-Niagara Centre for Health and Well-Being (specifically Dr. O’Leary, Dr. Wade and Dr. Josse) worked alongside the Lifespan Centre on the CIHR awarded grant titled “Brock Healthy Youth Project (B-HYP)” worth $1.43 million (July 2016-2021).
- Dr. Wade and Dr. O’Leary were awarded a CIHR bridge grant titled “Adverse childhood experiences (ACEs), blood pressure, and cardiovascular structure and function from childhood to early adulthood” worth $100,000 (July 2016-2017). They recently re-submitted to CIHR this past fall and were ranked eighth, with seven Project Grant applications obtaining funds. This grant will be resubmitted again this coming Spring with the hopes that it will be funded after addressing reviewers’ comments. As well, this same grant has been submitted to the Heart and Stroke Foundation with hopes to obtain full funding for the proposed study (funding results will be announced in March).
- Dr. Gammage was awarded a NSERC Discovery Development Grant titled “Understanding psychobiological responses to social-evaluative threats: Using body image as a model” worth $40,000 (July 2017-2019).
- Dr. Ditor was awarded an Ontario Centres of Excellence Proof of Principle Grant for the ACE-wheelchair leg rests worth $59,000 (February 2017-2018).
- Dr. Ditor is a co-investigator on a CIHR grant out of the University of BC titled “Chronic disease risk and intervention strategies” worth $1.8 million (January 2012 -2017).
- The Centre research team has also obtained a number of BUAF and Match of Minds grants (totaling approximately $24,000) from Brock University. These funds have provided the Centre research team with the ability to successfully obtain several larger grants (example provided above).

Projects
- The Brock-Niagara Centre team has implemented a number of studies since 2016 (refer to Project List below). The majority of these studies are undergraduate and graduate student thesis projects. These studies have led to a number of publications, conference presentations and manuscripts in progress. Due to the fact that this is to be a short summary of activities since the 2016 self-study, this information is not included, however it can be provided upon request.

Project List
1. The Niagara Longitudinal Heart Study: Examining adverse childhood experiences and cardiovascular development from childhood to early adulthood
2. The effects of aerobic exercise blood flow restriction training on cardiovascular health indices
3. The influence of isometric handgrip training on arterial health indices and cognitive function in hypertensive individuals
***This is a pilot project in collaboration with Western University, University of Windsor, McMaster, University of Michigan and Wayne State University. Currently the Centre is part of a CAN-USA Cardiac Rehabilitation Partnership with the ultimate goal of applying for a CIHR or NIH***
4. Investigating the effects of HIIT on non-invasive cardiovascular health indices
5. Investigating cardiac autonomic and mechanical function in individuals with spinal cord injury
6. Comparing the aerobic demand of various pieces of accessible exercise equipment in individuals with multiple sclerosis
7. Effects of acute aerobic exercise on inflammatory markers and mood in individuals with multiple sclerosis and spinal cord injury
8. The effects of a 3-month anti-inflammatory diet on neuropathic pain, depression, cognitive function and nerve function in spinal cord injury
9. The beneficial effects of the ACE wheelchair legs on range of motion, spasticity and edema after spinal cord injury
10. How do you define body image? Exploring conceptual gaps in understandings of body image at an exercise facility
11. The process of co-creating BIAS (Body Image Awareness Seminars): An action research project with members of an exercise facility
12. From one peer to another: Exploring how to incorporate body image conversations into peer support programs for people with disability
13. “I don’t think it matters what age group you are in”: Exploring body image coping strategies in women aged 55+
14. The effect of an exercise and a balance training intervention program on balance and mobility in community-dwelling older adults
15. Perceptions of peer support in SeniorFit and PowerCord members
16. Investigating the relationship between positive body image and physical activity across the lifespan
17. Focus group feedback: How can we improve the services provided at the Brock-Niagara Centre for Health and Well-Being?
18. Influence of postural threat on movement control
19. The development and evaluation of the SMART phone Heart Pain and Anxiety Intervention for Acute Coronary Syndromes [HE♥RT-PAiN-SMART-ACS]. Phase I: The qualitative needs assessment to design the prototype of the HE♥RT-PAiN-SMART-ACS

Innovation
- The Centre continues to support Dr. Ditor and his ACE wheelchair legs highlighted in the 2016 self-study.
- The Centre continues to pursue opportunities for innovation. However, at this point in time none have come to fruition.
TEACHING AND LEARNING

- The Centre continues to provide experiential learning placement opportunities for Brock University students including FAHS students from Health Sciences, Kinesiology, Recreation and Leisure, and Nursing, as well as International Students, students from the School of Business and MedPlus program (approximately 250/year).
- Undergraduate courses specifically developed for the Centre that continue to be offered every semester (including summer term) to provide experiential education opportunities for our undergraduate students include KINE 4P12, KINE 4F16, HLSC 3P95 and RECL 4F22.
- At the Brock-Niagara Centre for Health and Well-Being numerous fitness classes incorporate undergraduate student instructors. These specialized classes build on their expertise and as a result new and novel classes are offered each term to the Centre members such as Ballet Fitness, Zumba, Dance Fit, Salsa, Ballroom Dance etc.
- The Centre continues to support experiential learning opportunities for a large number of students from several institutions including McMaster Medical School, Guelph-Humber College, and Niagara College (approximately 30/year).
- The Centre continues to provide unique experiential learning and research opportunities for Brock University graduate students. Since 2016 we have had 14 Masters and 5 Ph.D. students specifically involved with research studies at the Centre. In addition, the Centre plays an active role in providing yearly placements for the FAHS Master of Professional Kinesiology and Master of Public Health programs.
- The Centre continues to provide hands-on experiential learning opportunities for local high school students through the Brock Mentorship program as well as high school co-op programs.
- Over the Fall semester the Centre has worked closely with Dr. Madelyn Law with the initiative of expanding our undergraduate student learning opportunities by providing student placements geared towards the development and implementation of new and innovative program delivery approaches and program quality improvement.
- Over the last semester the Centre has worked with Dr. Colleen Hood to organize and coordinate a Therapeutic Recreation Program for the Heart Strong Program. This program will be implemented this Winter term by undergraduate Therapeutic Recreation students within the FAHS. This program will act as a pilot with hopes to extend this programming to the other three Centre programs. As well, Dr. Hood has indicated that she would like to conduct some research around this specific programming in years to come.

COMMUNITY OUTREACH

- The Brock-Niagara Centre for Health and Well-Being continues to work closely with all partners highlighted in the 2016 self-study.
- The Centre continues to participate in local health fairs such as the Niagara-on-the-Lake Health Fair and the Thorold Seniors Health Fair.
- Several new partners have come to fruition since 2016 including an active partnership with the Shelley Gautier Para-Sport Foundation. The Shelley Gautier Para-Sport
Foundation and the Brock-Niagara Centre for Health and Well-Being have a MOU “License to Occupy” agreement where the Brock-Niagara Centre stores, as well as uses the Foundation’s wheelchair accessible bicycles to provide exercise programming to our community members.

- The Centre has an active partnership with the Niagara Amputee Association. The Niagara Amputee Association works with the Brock-Niagara Centre for Health and Well-Being to promote the benefits of exercise for amputees. In fact, the Association pays for a portion of the membership fee when their members join the Centre. As well, the Niagara Amputee Association and the Brock-Niagara Centre for Health and Well-Being have a MOU “License to Occupy” agreement where the Association uses the Brock-Niagara Centre’s facility to meet with potential members, while simultaneously introducing them to the Brock T.E.A.M. program.
- The Brock-Niagara Centre for Health and Well-Being has an on-going partnership with the Niagara Children’s Centre where their youth programs have the opportunity to use the Brock-Niagara Centre’s facilities for their unique programming.
- In 2016 the Centre met a number of times with the Lord Mayor of Niagara-on-the-Lake Pat Darte and the Township’s CAO Sheldon Randall with regards to developing a satellite site in Niagara-on-the-Lake. Due to budgetary constraints at the time, progress was put on hold. However, as of recently discussions have resumed.
- Provided a tour and met with the Mayor of Lincoln Sandra Easton, Chief Administrative Officer/City Manager Mike Kirkopoulous and Regional Council Member Toney Quirk. This meeting highlighted the need for more programming geared towards seniors within the Niagara region. There was discussion regarding the possibility of a future partnership in terms of program development and implementation within Lincoln.
- Since winter 2016, the Centre has been pursuing the opportunity to partner with the Wellness Suites Condominiums. Solidifying a partnership and MOU would allow us to provide our services to the residents of the condos.
- Since the summer of 2017, the Centre has been in discussions with the City of Welland to create a satellite site that would offer our programming to Welland residents whom may not be able to travel to the Centre and benefit from its programming.
- Over the past year we have developed a partnership with a local physiotherapist (Cindy Au-Yeung) who now practices out of the Centre. This partnership has provided an added service to our members.
- In December of 2017 the Centre was approached by a Brock Alumni, Ben Beuttenmiller, who is a recent Brock graduate with a degree in Business Administration. Ben has started his own personal attendant driving business targeting seniors who have lost their license or confidence to drive but still desire to get around. The Centre will continue to discuss whether this service would benefit our community members and how we could possibly promote this service to our members.
- The Centre has worked diligently to create partnerships with several community members to offer a number of specialized fitness classes such as Tai Chi, Chi Gong, Yoga, Hsing-I and Para-Bocci.
• We are currently in negotiations to host a workshop by the Canadian Association for the Advancement of Women and Sport and Physical Activity targeted to women 55-70 years of age this winter.

• As Director I presented at the Canadian Association of Health Sciences Deans Annual Meeting regarding the role that the Brock-Niagara Centre for Health and Well-Being plays in bridging academic and community health innovations on May 8th, 2017.

• As Director, along with Dr. Kimberley Gammage, we provided a talk to the Brock University Retirement Association, “The Brock-Niagara Centre for Health and Well-Being – a model for teaching, learning and community engagement” on January 18th, 2017.

• As Director of the Brock-Niagara Centre for Health and Well-Being I met with the Niagara Region Public Health on June 17th, 2016 to begin discussions as to how we may work together to provide optimal care for seniors within the Niagara Region.

• As Director of the Brock-Niagara Centre for Health and Well-Being I was part of Dr. Miguel C. Rodrigues, US Department of State visit to Brock University on May 16th, 2016. The purpose of this visit was to learn about research at Brock in order to identify possible opportunities for future collaboration in the areas of global health, science diplomacy, US policy, the artic, climate, oceans, innovation and others.

• Over the past two years the Centre has met and provided a number tours. These tours have included the Mayor of Welland Frank Campion, MPP of the Whitby-Oshawa riding Lorne Coe, Mayor of Thorold Ted Luciani, and Dr. Jane Culpan of Queen Margaret University, Scotland.

• We continue to provide yearly tours for the summer International Studies program.

SUSTAINABILITY

• Since 2016, the Centre has gained 150 new community-based members, bringing the Centre’s total paying membership to 500 as of January 2017. A number of these members include those with Multiple Sclerosis and Parkinson’s, as the Centre has expanded its services to these special populations. This was proposed in our 2016 self-study. It should be noted that growth of the Centre has plateaued simply due to the existing space constraints.

• Also highlighted in the 2016 self-study, the Brock-Niagara Centre has been granted a US patent for the ACE-wheelchair legs. Better Motion Group has agreed to manufacture the ACE-wheelchair legs product and once developed, there are plans to license the product through major medical device distributors in Canada and the US. The Centre will benefit greatly from a percentage of this revenue generating stream.

• Since Fall 2016 the Centre has had a rental agreement with the Niagara Amputee Association.

• Starting in 2017 the Centre also has a rental agreement with a local physiotherapist. The company name is Gateway to Motion.

• Over the past two years the Centre has continued to raise money through the Walk of Life in conjunction with the Cardiac Health Foundation of Canada. Funds raised have been used to purchase new equipment required for programming.
• The Brock-Niagara Centre is currently in discussions with the City of Welland and Niagara-on-the-Lake about the possibility of a satellite site. The Centre is in the process of developing a business plan for the proposed project. Welland and Niagara-on-the-Lake will consider the plan and whether it is within their budget to support. Early indications are very positive. The proposed plan will provide money for a part-time Coordinator, student volunteers and specialized equipment. Although this opportunity will not bring in a large surplus of revenue, it is a great opportunity to promote the Centre as well as expand its programming to distant communities.

• The Brock-Niagara Centre is in discussions with the Wellness Suites Condominiums (privately owned company) towards solidifying a business plan. This partnership would allow the Centre to provide services for a fee to the residents of the condos. These Condominiums are currently located in Niagara Falls, however the owner hopes to build several condominiums across the Niagara Region, each providing fee-based programming.

• In both 2016 and 2017, the Centre worked with Pearl Gloves to be one of three recipients within the Niagara Region to receive funding from their yearly fundraising event titled “Niagara’s Fight Against MS”. To date, the Pearl Gloves Charity Boxing Event has raised over $75,000 for the Power Cord Program.

• The Centre has also expanded to offer a number of continuing education workshops within its facility. The first was offered in the fall of 2017 by Kevin Wilson BKin, CPT, Co-Founder /Head of Athletic Performance and A2 - Athletic Performance and Medicine. Kevin organized and implemented a two-day Taping Workshop. As for a second workshop, the Centre has been in contact with the Canadian Association for the Advancement of Women and Sport and Physical Activity to run a workshop for women 55-70 years of age. We will find out whether this is an option in 2018.

• Since 2016 the Centre has obtained a number of Ontario Youth Employment Program and Experience Ontario Grants totaling $32,000. These grants help to offset staff salaries.

To conclude, this document is a summary of activities since the 2016 self-study as they pertain to the Brock-Niagara Centre for Health and Well-Being. As can been seen, the Brock-Niagara Centre team has worked diligently to address concerns highlighted by the Office of Research Services internal HUB review committee, in particular the Centre team has focused on expanding its research portfolio and funding. The Brock-Niagara Centre team hopes that this document meets the satisfaction of the Research and Scholarly Policy Committee. Any questions or concerns that need to be addressed may be forwarded to the Director, Dr. Deborah O’Leary (doleary@brocku.ca).
FEEDBACK REGARDING TD HUB REVIEW

Brock-Niagara Centre for Health and Well-Being

Background

Before remarking on some of the comments provided by the Reviewers and Advisory Committee, we would like to highlight some key facts that will help to put things into context regarding the Brock-Niagara Centre for Health and Well-Being (BNCHWB). Specifically, we would like to highlight factors that impacted BNCHWB researchers over the past three years as the Centre was being established. In doing so, we hope to clarify some of the constraints we faced.

First, the BNCHWB required a number of initial tasks to ensure it was established as a functioning and sustainable Centre with the unique capacity for both research and community programming. The Transdisciplinary Hub opportunity provided the impetus for the creation of the BNCHWB. The BNCHWB did not exist, and would not have existed, until being named one of five Transdisciplinary Hubs that were awarded $200,000 each year for five years starting January 2013. Hence, once the announcement was made in October 2012, we worked diligently to gain Senate approval to become an official Centre by April 2013. Once designated as an official Centre, we were then able to hire our Manager, as well as coordinate the move of both the SeniorFit (Director Dr. Gammage) and Power Cord (Director Dr. Ditor) programs from Welch Hall down to the Brock Research and Innovation Centre on Lockhart Drive, where the Heart Strong program (Director Dr. O’Leary) was already housed. Therefore, not until the end of November 2013 was the BNCHWB fully operational.

Secondly, once the Centre was operational the clientele base needed to grow in order to conduct new and impactful research, as well as to be self-sustaining, over the long-term. As a newly formed Centre, the BNCHWB started out very small with 60 members in total across the three programs (~30 SeniorFit, ~20 Heart Strong and ~10 Power Cord). Our vision was much larger than 60 members. As a result, Drs. O’Leary, Gammage and Ditor worked diligently over the next three years to increase clientele numbers within the existing programs, as well as create the Brock Therapeutic Exercise for Amputees in Motion (Brock TEAM) program in partnership with the Niagara Amputee Association. As a result of hard work, we grew very quickly and between August 2013 and May 2016 (when the report was due) we had grown to 350 members.

However, our success in growing the Centre’s client base came at a cost as there were many new obstacles that had to be overcome. First, we required dedicated promotional material including, the design of a webpage and brochures for the Centre and each program. Second, even though we did very little direct marketing to promote our programs (due to the financial costs), word of mouth resulted in our rapid growth and thus a lot of time was spent amalgamating and streamlining procedures across the three programs to accommodate the influx of new clientele. This included the recruitment and training of additional students and volunteers, development of new programming (such as fitness classes and educational workshops), hiring of several part-time staff, and increasing our hours of operation. Third, we underwent the process of hiring a
Coordinator to assist the Manager as our growing clientele and related duties were unsustainable for one full-time individual. Fourth, due to our rapid growth we endured several renovations to house new equipment in order to accommodate additional members. Fifth, we planned several fundraising events (including the Walk of Life, Hudson Bay Giving days, and continuing education programming) as an alternative revenue generating stream as this component was part of our original financial plan for self-sustainability. Sixth, due to our growth occurring quicker than anticipated, we scrambled to source and implement a means to track membership attendance and payments that coincided with Freedom of Information and Protection of Privacy (FIPPA) regulations. Seventh, as Brock University was undergoing a PCI compliant review, we were required to ensure that our payment options (i.e., credit card) appropriately followed a number of regulations.

Needless to say, this was new territory as we were now running a business for the first time on top our regular teaching, research, and university and community service duties. The first three years were very hectic and somewhat cumbersome as we surprisingly encountered significant resistance and very little help in navigating through various obstacles. This made the experience of setting up and maintaining the Centre all the more difficult. For example, it took several months for us to gain access to the now University wide use of WordPress for the development of a webpage. Likewise, it took about six months to gain approval for our membership tracking software that was essential for tracking membership attendance and payments. A combination of us tackling the unknown, not knowing who to go to for specific help, along with resistance displayed by several units within the university and some units not willing to help at all, resulted in a steep learning curve over the first three years.

To put all these struggles into context of workload, Dr. Gammage is Director of the SeniorFit program and Dr. Ditor is Director of the Power Cord program, while Dr. O’Leary is Director of the Heart Strong program as well as the BNCHWB. Although all three of these core members play a role in running the Centre, a half course relief has only been provided to Dr. O’Leary as Director of the BNCHWB. This team decision was made based on the goal to be self-sustaining. Taking extra money from the Centre as course relief was not deemed to be financially practical. Further, the team members all teach one additional course every year on overload. This is necessary in order to offer the experiential learning courses (KINE 4P12, KINE 4F16, HLSC 3P95) that are required to provide student supervision at the Centre, without which we would not be able to operate. As well, these experiential learning opportunities are a critical aspect of the university’s strategic mandate agreement with the Ontario government. In fact, Dr. Gammage also teaches an additional section of her experiential course for which she receives no teaching relief or compensation. As a team, we were in agreement that the welfare of the Centre was our most important priority. We knew that the creation of the Centre would become a high point of the Niagara community and expanding our clientele to establish the Centre as both a community health centre and centre of high-quality research meant dedication and commitment to Brock and the Niagara Region. We also knew that, as a result of our initial efforts to establish a solid foundation upon which the Centre could grow, it would exponentially elevate Brock’s image, involvement, and impact within the community.
Today, the BNCHWB serves 400 members and has over 30 community and university partnerships. Closing our doors is not an option. As a team we have put our hearts and souls into this endeavour and have sacrificed several aspects of our careers over the first three years for the future success of the Centre as a place that both produces impactful, cutting-edge research and exemplifies Brock’s commitment to Niagara.

Response to Reviewers Comments

Taking into account the above information we would like to address comments from the Reviewers and Advisory Committee regarding our research progress. The particular comments include:

1. “In spite of their considerable practical impacts, there is a lack of evidence of how much research they have actually done since the Centre’s inception…”

2. “These are accomplished researchers, but it is not mentioned how their research has benefitted from their involvement in the hub.”

3. “Clearly, they have come together in a very close and effective way to create the centre and make it work, but research output is needed to explain the outcomes of their interdisciplinary work.”

While we appreciate the Reviewers comments, we believe these specific statements require some clarification since they do not fully reflect the depth and breadth of research that has occurred at the Centre over the past three years.

At the outset, it should be noted that the Centre’s physical space enhanced BNCHWB researchers’ capacity to conduct high-quality research. Before the Centre was established, Power Cord existed in WH144, while SeniorFit was located in WH16. Both of these rooms were very small and could only fit a limited number of exercise equipment, especially WH144 which was only big enough to fit two pieces of accessible exercise equipment – one FES and one resistance training machine (RT300 and the Uppertone). At that time, Dr. Ditor had external funding (Rick Hansen Foundation, SCI Solutions Network, Ontario Neurotrauma Foundation) to buy more equipment, but there was simply no space in WH144 to accommodate it. The creation of the BNCHWB allowed Power Cord to move to the Brock Research and Innovation Centre and occupy its current 1700sqft space, which in turn allowed Dr. Ditor to purchase many other pieces of exercise equipment that have been crucial for his research program. Likewise, Dr. Gammage’s SeniorFit program benefitted from the creation of the BNCHWB as WH16 no longer serves the dual purpose of a small exercise room and lab. The SeniorFit program is now housed along with the Heart Strong program within a 4600sqft space as part of the BNCHWB and Dr. Gammage has a dedicated lab to conduct her research.

It is within the BNCHWB space that individual research programs and collaborations have been able to develop and grow over the past three years with the expectation of continued research growth in years to come.
Individual Research Programs (see below for related publications)

As noted, growth of each program in terms of number of clients was essential for existing research projects, as well as the development of new research avenues to be pursued. Since our inception in 2013 we have grown from 60 to now approximately 400 members. This growth has taken years, while supporting existing research and spurring new research projects across members of the team. It has augmented research production and quality, as well as allowing for Graduate thesis projects and student funding that would not have been possible without the Transdisciplinary Grant.

1. The creation of the BNCHWB allowed us to expand the Power Cord program to include individuals with multiple sclerosis. This was an excellent expansion from a community engagement perspective, and it also allowed Dr. Ditor to form new research partnerships with Dr. Jens Coorssen while he was still Chair of Molecular Physiology in the School of Science and Health at Western Sydney University, and currently while he is the new Dean of Graduate Studies at Brock University. Specifically, Dr. Ditor conducted a study investigating the effects of an anti-inflammatory diet in individuals with spinal cord injury. Some of the blood samples were sent to Dr. Coorssen’s lab in Australia for a proteomics analysis, which may discover new relationships between inflammation, depression, neuropathic pain and protein expression. In addition, Dr. Coorssen was leading a project in Australia that investigated potential novel precursors and risks for the development of multiple sclerosis, and Dr. Ditor and one of his current Graduate students assisted with data collection at Power Cord that added to this project. Although no manuscripts have been produced from these collaborations as of yet, the proteomics manuscript is in preparation.

2. The creation of the BNCHWB has allowed Dr. O’Leary to collaborate with Dr. Cheri McGowan at the University of Windsor, Dr. Kevin Shoemaker at the University of Western Ontario, and Dr. Andrew Levy at Wayne State. This collaborative team is looking at the benefits of isometric handgrip training in individuals with hypertension. Of this multi-site project, the BNCHWB is one site that has currently collected data on 40 participants over the last year and a half. Two of Dr. O’Leary’s Graduate students have gained valuable research experience through this collaboration and a manuscript is to be submitted within the next month highlighting some novel findings regarding the benefits of isometric handgrip training not only on blood pressure, but cognitive function. As well, Dr. O’Leary’s lab has just completed a study investigating the benefits of high intensity interval training on cardiovascular autonomic regulation and is just about to start a new study looking at low intensity aerobic blood flow restriction training.

3. The creation of the BNCHWB allowed Dr. Gammage to continue collaborations with Dr. Craig Hall at Western University. They have completed data collection looking at body image outcomes and exercise in post-menopausal women with osteoporosis, with the goal to submit a paper in the next several months.
Collaborations Within BNCHWB (see below for related publications)

Although, each of the three Directors certainly maintains their own research programs, the creation of the BNCHWB has encouraged the three Directors to collaborate in a transdisciplinary/interdisciplinary fashion that has greatly enriched their research production and quality. It has also allowed for new and innovative Graduate thesis projects not possible without the aid of the Transdisciplinary Grant. Drs. O’Leary, Gammage and Ditor have come together as a team and, over the last several years, their partnership has been the impetus for several collaborative research projects and grants.

Drs. Gammage, O’Leary and Ditor have combined their expertise in order to research the feasibility and benefits of a peer support program in healthy seniors, individuals with cardiovascular disease, spinal cord injury and multiple sclerosis. This collaborative research is currently under the directive of one of Dr. Gammage’s PhD students. It also prompted several grant applications. For example, resources between the BNCHWB, the Lifespan Centre, the Niagara Health System, Wellspring and Tabor Manor were coordinated to submit a $2.2 million grant application to the Ministry of Health and Long-Term Care HSRF Program that focussed on the development, implementation, and evaluation of a patient-centred peer-mentor program for physical activity to enhance physical and mental well-being across a variety of aging and chronic disease populations. This application intertwined a number of disciplines into a mixed-methods research design. Unfortunately, the HSRF program was cancelled prior to adjudication of the competition. Nevertheless, Dr. Gammage and Dr. O’Leary submitted a smaller version of this grant application to the Heart and Stroke Grant this past August (2016). Successful applicants will be notified within the next couple of weeks.

Drs. Gammage, O’Leary and Ditor are collaborating to extend Dr. Gammage’s current research on body image to include individuals with spinal cord injury and those with heart disease. The role that body image has on exercise adherence and factors that influence body image are unique for each of the Centre’s populations. Understanding the differences and the role that these factors play on body image are essential towards improving exercise adherence and overall quality of life. In fact, one of Dr. Gammage’s Master’s students completed a project investigating positive body image in individuals with spinal cord injury that resulted in three publications (in collaboration with Dr. Ditor). In addition, this work led to a second project investigating how body image could be integrated into the existing peer support program at Spinal Cord Injury Ontario. Based on her Master’s work, this student continued her Ph.D. studies at Brock. Without the BNCHWB, Dr. Gammage would not have been able to retain this outstanding student as her interest was in conducting body image research with understudied populations (i.e., older adults, individuals with multiple sclerosis and spinal cord injury, cardiac rehabilitation patients).

Drs. Ditor and Gammage have also collaborated on two projects (one on-going) investigating psychological factors related to exercise participation in individuals with spinal cord injury. In the first, which resulted in one publication, self-efficacy and quality of life changes across an exercise program in individuals with spinal cord injury were investigated. Currently, Dr. Ditor is supervising a graduate student investigating mood (including depression) and exercise in individuals with multiple sclerosis, with Dr. Gammage’s involvement.
Drs. Ditor and O’Leary have also collaborated on a number of projects through the co-supervision of a PhD student. The overall theme of these studies was to investigate cardiac autonomic and ventricular diastolic function and how these two factors interact as part of overall cardiovascular regulation in those with spinal cord injury. To date this research agenda has produced two manuscripts (publication date 2016), with two more in submission. Likewise, Drs. Ditor and O’Leary currently have a paper in progress that originated from a Masters student project titled “Comparing the aerobic demand of various pieces of accessible exercise equipment in those with multiple sclerosis”.

Lastly, there are two affiliated research projects worth mentioning. First, Dr. O’Leary is CO-PI on a CIHR grant with Dr. Terrance Wade, who is also a member of the BNCHWB. This bridge funding is worth $100,000. Drs. O’Leary and Wade have re-submitted to both the Heart and Stroke Foundation, as well as CIHR in hopes that they will receive full funding for their project that investigates the link between adverse childhood experiences, blood pressure, and cardiovascular structure and function from childhood to early adulthood. Likewise, Dr. O’Leary is a co-applicant on the CIHR funded Brock’s Healthy Youth Project (B-HYP). This is a large CIHR funded project through the Lifespan Centre. This project consists of collaborative work between a number of Brock University Centres (i.e. Lifespan, BNCHWB and Centre for Bone and Muscle Health) as it aims to evaluate mental and physical health among youth and young adults. This grant is based on the fact that in order to understand youth health problems and how they track into adulthood, it is necessary to assess how mental and physical health interact over time and whether these interactions change due to physical growth, sexual, physiological or neurological maturation, or psychosocial factors.

**Conclusion**

We thank the Reviewers and the Advisory Committee for their feedback. As a team we are fully aware of the misconception regarding our lack of research productivity. However, in light of our goal of growing our clientele base to insure self-sustainability and a healthy research participant recruitment pool, as well as the numerous obstacles that the Centre encountered the first three years, we feel our research has been more than ample. This response only highlights the research of the three Directors, as it was the combination of their programs and ultimately their responsibility to grow the BNCHWB within the first three years to what it is today. However, now that we have gone through a number of growing pains, have overcome a number of obstacles and are comfortable with our clientele base, we have included all our members in the process of updating the Centre’s research objectives and collaborations. The next few years will be very exciting!
The following projects/publications would not have been possible without the collaborations afforded by Brock-Niagara Centre for Health and Well-Being:


Snyder K, O’Leary D, Ditor DS. Comparing the aerobic demand of various pieces of accessible exercise equipment in individuals with MS. Manuscript in preparation.


Cline L, Bailey KA, Gammage KL. “I always wondered what would happen when I got older”: Exploring body image coping strategies in women from a seniors’ exercise program”. Submitted to Health Psychology Open. HPO-17-0003.


Sharif H, Wainman L, O’Leary D, Ditor DS. Cardiac autonomic and ventricular diastolic interactions in individuals with spinal cord injury. Submitted to Clinical Autonomic Research. AUTR-D-16-00101.


REPORT ON ACTIVITIES OF RESEARCH CENTRES AND INSTITUTES

Part I

1. Name of Research Unit: Advanced Biomanufacturing Centre (ABC)

2. Objective(s) of the Research Centre:

The mandate of the ABC is the development of new technologies to address industrial challenges through the synergistic use of biological and chemical techniques and principles.

The overall mission of the Advanced Biomanufacturing Centre (ABC) is the pursuit of new methods for the manufacture of medicinally important compounds, chemical building blocks, and new materials. In the future, petrochemicals for manufacturing will not be available. New ways to provide these building blocks will have to be discovered. The answers will come from the fusion of biology and chemistry that historically have existed as "two solitudes", but that will now address supply problems for chemical manufactures.

3. Specific Projects

Projects within the ABC include:

i. Enzymatic demethylation of thebaine
ii. Biocatalytic routes to structured silicone-based materials
iii. Genetic manipulation of plants for the production of high value secondary metabolites
iv. Exploring plants for biomachinery to form Si-C bonds
v. The role of silicon in plant immunology

4. Membership:

The Member Researchers of the ABC actively conducting and/or participating in transdisciplinary research. Member Researchers are hired by their individual Departments/Faculties and either apply to join the ABC or are asked to join via formal invitation.

The current membership of the ABC includes:
   a) Vincenzo De Luca (Department of Biological Sciences)
   b) Charles Després (Department of Biological Sciences)
   c) Tomas Hudlicky (Department of Chemistry)
   d) Paul Zelisko (Department of Chemistry)

Discussions are currently underway with other academics at Brock to add them to the roster of Member Researchers for the ABC.
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<td>98</td>
<td>37</td>
</tr>
</tbody>
</table>

7. Other Publications and Presentations (number and type):

Included in totals listed in Section 6.

8. Highly Qualified Personnel Trained Since 2012 (number and type):

<table>
<thead>
<tr>
<th>Member</th>
<th>Undergraduate Students</th>
<th>Masters Students</th>
<th>PhD Students</th>
<th>Post-Doctoral Fellows</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Luca</td>
<td>6</td>
<td>9</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Després</td>
<td>7</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Hudlicky</td>
<td>32</td>
<td>11</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Zelisko</td>
<td>30</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>69</td>
<td>23</td>
<td>25</td>
<td>14</td>
</tr>
</tbody>
</table>
9. **Clients (number and type – e.g., industry, government, etc.)**

Since 2012 the Member Researchers of the ABC have collaborated with 7 industrial partners.

10. **Success/Impact**

The success/impact of the Member Researchers affiliated with the ABC is clearly demonstrated by the ~$12.5 million in research funding obtained over the past 5 years, >100 peer-reviewed publications, ~100 conference/invited presentations, 37 patent applications, and over 130 HQP trained. The success of the ABC has attracted industrial partners and resulted in collaborations.

11. **Community Engagement/Outreach (e.g., direct and via social media)**

Community engagement has occurred through industrial collaborations and the training of HQP for the workforce.

12. **Signatures:**

Paul Zelisko  
*Director, Advanced Biomanufacturing Centre*

Ejaz Ahmed  
*Dean, Faculty of Mathematics and Science*

Tim Kenyon  
*Vice-President Research*
Part II

13. Does the Research Centre continue to meet a need within the University? If yes, explain how this was assessed.

The ABC continues to meet a need for researchers interested in combining the techniques of biology and chemistry to tackle questions more fully than either discipline can on its own. The Centre provides a forum for ideas to develop and to be implemented.

This need was assessed in part by the desire for the current Member Researchers to continue with the Centre and to expand its membership; positive feedback has also been received from potential new Member Researchers that have been contacted to date. In addition, the report of the external reviewers indicated that there is strength in such a centre, with one reviewer even suggesting that the ABC should be transformed into a National Centre of Excellence. Discussions with members of the senior administrators at Brock have clearly indicated a need for the Centre as a means of bringing together researchers to further the University’s research mandate.

14. Does the mission of the Research Centre remain compatible with the mission/goals/objectives of the University? If yes, describe how.

One of the goals of the University is to remain a comprehensive university that provides high-level training for HQP. The research output and funding associated with the ABC, and the number of students, research associates, and post-doctoral fellows that have been trained by the Member Researchers of the ABC are clearly in line with the University’s objectives on these fronts. The ABC strives to be, and has demonstrated itself to be, a hub for cutting edge research that helps to promote Brock on a local, provincial, national, and global level. The mandate of the ABC to work closely with industrial partners positions Brock’s students for careers in highly competitive fields.

15. Does the Research Centre duplicate any other entity within the province? If yes, describe any connections made.

To the best of our knowledge the ABC is unique within Ontario.

16. Does the Research Centre include the involvement of non-university organizations? If yes, describe their role(s).

The ABC includes the involvement of industrial partners. These industrial partners serve as members of the ABC’s Advisory Committee and/or as research collaborators. As part of the Advisory Committee industry representatives provide insights into current industrial challenges and market trends, helping to better
contextualize the research data coming from the ABC. As collaborators industry is a source of research funding and practical challenges to overcome/address.

**17. Describe the Research Centre’s constitution. If there are members from outside Brock University, fully describe their role particularly as it relates to decisions made about the Research Centre.**

*Advisory Committee*

The ABC will form an Advisory Committee that will include the members of the ABC, community members with experience and interest in commercializing Intellectual Property, and others from the Brock community who are not members of the ABC but who can provide valuable counsel. The Advisory Committee will support the vision of the ABC as Canada’s pre-eminent centre for biotechnology innovation.

*Steering Committee*

The Steering Committee will be composed of the Director of the ABC and, nominally, 3 member researchers of the ABC. Additional resource people, such as the Director of Technology transfer, may join the Steering Committee in an advisory capacity as non-voting members. Day-to-day management of the ABC will be the responsibility of the Director.

*Member Researchers*

These are the individual researchers of the ABC actively conducting and/or participating in transdisciplinary research. Member Researchers are hired by their individual Departments/Faculties and either apply to join the ABC or are asked to join via formal invitation.

*Management*

The ABC is constituted by its members and will be governed by a Director and a Steering Committee. Faculty members and members from the Brock and greater community, who have a knowledge of and interest in the commercialization of Intellectual Property will form the Advisory Committee.

The Advanced Biomanufacturing Centre will report to the Dean of the Faculty of Mathematics and Science, and secondly to the Vice-President, Research solely in the matters of financial accountability. The Director of the ABC will be vested with the financial responsibility for its operations and expenditures.

*Director*

The Director will be nominated from among the members of the ABC, after
consulting with the Steering Committee, and will be elected for a 3-year term. The Director will be selected through the following procedure:

- During the fall term of the final year of a Director's term, the members of the ABC, and after consultation with the Steering Committee, will seek potential candidates. A vote of all members will be held to select the next Director at the fall general meeting.

The Director, in collaboration with the members of the ABC, will:

a) Develop, implement and monitor the strategic plan for the ABC, in consultation with the Steering Committee.
b) Provide leadership in advancing the mission of the ABC
c) With the Steering Committee, be responsible for the financial management of the ABC, including the protocols for funding competitions and fellowships, the disbursement of funds, and financial reporting.
d) Chair of the Steering Committee
e) Develop protocols for communications between ABC and the media, and commercial partners.
f) Network to build relations among researchers, to expand collaborations across the university and beyond.
g) Provide a yearly written report and presentation to the Steering Committee, and the Dean of the Faculty of Mathematics and Science and the Vice-President, Research. The report and presentation will summarize the activities of ABC and will seek advice on future strategic directions. The report will be distributed at least two weeks before the annual meeting.

Steering Committee

Along with the Director, the Steering Committee is the day-to-day governing body of the ABC. Membership of the Steering Committee will comprise the members of the ABC. Member Researchers will be appointed to the Steering Committee for either 2- or 3-year terms.

Meeting Schedule

The Committee will meet at least once per academic term. Additional meetings of the Committee can be called at the discretion of the Director or through petition by at least half of the Steering Committee membership. Two weeks notice must be given before each Steering Committee meeting.

Responsibilities of the Steering Committee

a) Provide support to the Director in advancing the vision, goals and objectives of the ABC
b) Make operational decisions
Criteria for, and Categories of, Membership within the ABC

All members are expected to share the goals of transdisciplinary collaboration in the field of biomanufacturing, written in broad terms.

Members

Membership is normally made up of active researchers at Brock University. The process for becoming a member of the ABC is as follows:

1. Prospective applicants must submit to the Director a CV and a one-to-two page statement of intent outlining the research and its relationship to biomanufacturing, together with their collaborators in the ABC, and their planned contribution to the ABC.
2. The Steering Committee will review all applications and recommend membership or not.

Members of the ABC may resign their membership through a letter of resignation to the Director.

Privileges and Responsibilities of Membership

Steering Committee

- Attend Steering Committee meetings, provide leadership in advancing the mission of the ABC, recommend memberships, be responsible for the financial management of the ABC, review the annual report of the Director, amend the ABC Rules and Procedures, as necessary, oversee adjudication of grants and hire staff.
- The Committee will attempt to make decisions as much as possible through consensus. Failing to reach consensus, the following voting procedures apply:
  - Members of the Steering Committee, including the Director, each have one vote.
  - For in-person votes, quorum for the Committee is a simple majority of the Steering Committee membership. For electronic votes, no quorum rule applies since all members will have an opportunity to vote. Decisions of the Committee will be taken by majority vote.
- Voting on hiring decisions and recommendations for membership will be
E-voting is permitted according to the following process:
  - The director emails regarding an e-vote and asks for objections to the e-vote. If no one objects to an e-vote within 48 hours the e-vote can proceed. All Steering Committee members have 5 working days from the initial email proposing the e-vote to vote.

**Advisory Committee**

The Advisory Committee will be composed of faculty members, researchers, and members from the Brock and greater community, who have a knowledge of and interest in the commercialization of Intellectual Property.

**18. Describe the Research Centre’s current budget.**

The following budget is approximate as the needs of biological and chemical groups vary. To date these costs have been met through ABC funds, external grants, and industrial partnerships.

<table>
<thead>
<tr>
<th>Category</th>
<th>Annual Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel costs</td>
<td>$200,000</td>
</tr>
<tr>
<td>Supplies and materials</td>
<td>$32,000</td>
</tr>
<tr>
<td>Instrument charges, analytical fees</td>
<td>$8,000</td>
</tr>
<tr>
<td>Brock Innovation, patent costs, commercialization, business development</td>
<td>$30,000</td>
</tr>
<tr>
<td>Fundraising, consulting, government relations</td>
<td>$30,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$300,000</strong></td>
</tr>
</tbody>
</table>

**19. Outline the Research Centre’s five-year plan. For instance, where do you see the Research Centre in five years? How do you plan to meet this vision? Do you currently have the internal/external resources to do so? If not, how do you plan to acquire these resources (personnel, dedicated physical space, financing etc.)?**

Our goal is to continue to develop the ABC into a premier research centre not only at Brock University, but also within Canada. The 5-year plan for the ABC involves the following goals:

i. Expand the membership of the ABC
ii. Continue to attract and work with industry partners to tackle real-world challenges
iii. Develop service/experiential learning opportunities with the Goodman School of Business
iv. Expand the patent and licensing portfolio of the ABC
v. To secure larger/longer-term research funds from provincial and federal agencies
To achieve this vision for the Centre continued cooperation with the senior administration of Brock University, and in particular the Office of Research Services will be paramount. This interaction will be necessary to permit the ABC Member Researchers to continue to apply for new and existing research funding opportunities and to foster partnerships with industry.

The website for ABC will continue to be developed in an effort to better promote the ABC both within and external to the confines of Brock. This will include publicizing the accomplishments of the Member Researchers, highlighting industrial partnerships, and listing publications and patent applications. Including the Terms of Reference for the ABC on the site as well as the procedure for applying to become a Member Researcher and to become a member of the Advisory Committee. The ABC will work with ORS, Government Relations, and Marketing and Communications to reach out to new industrial partners and develop fruitful, long-term relationships.

The compliment of Member Researchers will be expanded by approaching individuals whose research interests both compliment and expand the expertise of the ABC will be invited to join the hub. This will be in addition to researchers that apply to become Member Researchers of their own volition. The Steering Committee of the ABC will review the membership at the very least on an annual basis to discuss whether invitations to other researchers should be extended.

The intellectual property being generated by the Member Researchers presents an interesting opportunity for service/experiential learning. Initial discussions have already taken place with the Goodman School of Business with the aim of developing a system that would provide business students to work with the ABC scientists to explore the business opportunities associated with the ideas being generated, while at the same time permitting science students to work with experts from Goodman to gain knowledge/experience in business. This is an opportunity that would dovetail with the Brock LINC that is currently under development.

The Director and Steering Committee will continue to work with Brock's ORS to commercialize IP and to develop licensing agreements with industry. As part of this effort the ABC will continue to work with the University to develop a commercialization agreement that would also see a share of revenue/royalties from intellectual property returned to the ABC.

Working with ORS the ABC will seek out new and existing funding opportunities from agencies such NSERC, OCE, CIHR, and CFI to name but a few and industrial partners. These opportunities will be used to fund HQP, supplies, and equipment as the needs arise.

The resources to achieve these aims, for the most part, already exist at Brock. For equipment needs external funding will be sought from granting agencies and industrial partners, but all with the assistance of existing personnel at Brock. For
the foreseeable future the ABC can continue to operate within the existing space(s) allocated to the Member Researchers so there will not be a need for additional space (perhaps beyond what might be available in the Brock LINC) in the next 5 years.
1 February 2018

Prof. June Corman
Chair, Senate Research and Scholarship Policy Committee
Brock University
1812 Sir Isaac Brock Way
St. Catharines, Ontario
L2S 3A1

Dear Prof. Corman,

Thank you for passing along the comments and queries from Senate regarding the renewal of the Advanced Biomanufacturing Centre (ABC). I am happy to address them as part of this information package. This particular package of information supplements the information that was supplied to the Senate Research and Scholarship Committee for its December 11, 2017 meeting, and in some instances duplicates it in an effort to provide Senate with the information that they have requested.

Please find detailed responses to the comments you provided to me below along with relevant documents as attachments.

Sincerely,

Paul Zelisko

Encl.
Response to Queries/Comments from Senate #656

1. **What is the current governance structure?** What is the process of selecting the Director? What role does the Director play? What is the governance structure responding the $1,000,000 grant and so on. (Senators are led astray given that the web page does not have the current Director name.)

There are a number of points that have been raised here. For the purposes of clarity I will address them one at a time. The majority of these points are discussed in the Terms of Reference developed for the Advanced Biomanufacturing Centre based on the proposal approved by Senate 5 years ago.

a) **What is the current governance structure?**

The current governance structure for the Advanced Biomanufacturing Centre consists of three bodies:

i. **Advisory Committee** - includes members of the ABC, community members with experience and interest in commercializing intellectual property, and other members of the Brock community that are not members of the ABC but that can offer valuable counsel (current members: Peter Pekos - Dalton Pharma, Rae Townsed - CSL Silicones, Jim Van Camp - Vanchem Performance Chemicals)

ii. **Steering Committee** - composed of the Director of the ABC, and nominally 3 member researchers of the ABC

iii. **Member Researchers** - the members of the ABC actively conducting transdisciplinary research; Member Researchers are hired by their individual Departments/Faculties and either apply to join the ABC or are asked to join via invitation

iv. **Director** - elected from the Member Researchers of the ABC to 3-year terms

b) **What is the process of selecting the Director?**

The Director of the ABC is a nominee from the Member Researchers of the ABC; individual Member Researchers may nominate themselves as candidates for the Directorship or be nominated by other Member Researchers. Directors are elected for 3-year terms. During the fall term of the final year of a Director’s term, the members of the ABC, and after consultation with the Steering Committee, will seek potential candidates. A vote of all members will be held to select the next Director at the fall general meeting. Through this process the Director and Director-Elect will overlap by one year to facilitate the transfer of knowledge between the two individuals and to help prepare the Director-Elect for his/her upcoming role.

Concern was also raised at Senate #656 that the Director of the ABC is not a tenured or tenure-track faculty member. According to FHB 9.2.1 (see Appendix) members of a Research Centre “may include faculty, postdoctoral fellows, graduate students, librarians, and other researchers”. A Research Centre is to be “managed by an academic director with an advisory committee”. An academic is generally defined as being a teacher or a scholar at an institute of higher education. Given this definition all of the current
members of the ABC are academics - all Member Researchers teach courses at Brock and have externally funded research programmes. As such, the governance structure, membership, and Directorship of the ABC are all in compliance with University regulations.

c) *What role does the Director play?*

First and foremost the Director represents the ABC to other bodies at Brock (Dean, VPs, Senate, etc.) and to the local and greater communities of Brock University and will provide leadership in advancing the mission of the ABC. The Director advocates on behalf of the ABC. As part of this advocacy role the Director, in consultation with the Steering Committee of the ABC develops, revises, and monitors the strategic plan for the ABC. The Director works with Research Finance to manage the funding of the ABC and makes financial reports back to the membership of the ABC. As part of his/her role the Director serves as Chair of the Steering Committee. The Director works to build relationships and networks between the members of the ABC and researchers at Brock, at other institutions, and with industry. On an annual basis the Director prepares reports to the Steering Committee, the Member Researchers, the Dean of the Faculty of Mathematics and Science, and the Vice-President, Research. These reports summarize the research activities and partnerships of the ABC as well as its financial status.

d) *What is the governance structure re spending the $1,000,000 grant and so on?*

The distribution/allocation of general ABC research funds (i.e., not those specifically assigned/applied for by a given researcher or researchers) by the ABC and all other financial matters are concerning the Centre are managed by the Director and the Steering Committee. Of the funds allocated to the ABC, $200,000 ($50,000/year/Member Researcher) is still outstanding.

e) *Senators are led astray given that the web page does not have the current Director name.*

Dr. Paul Zelisko (Chemistry) is the current Director of the ABC. He has only recently received training on the WordPress Content Management System and will be adding content to the ABC website in due time. However, he has learned enough about the system to at least update the information for the Directorship.

2. *How is transdisciplinarity practiced? Do researchers come together to develop transdisciplinary research? Or does each researcher embody a transdisciplinary approach?*

The Director and Steering Committee have encouraged the development of transdisciplinarity through two different, yet related avenues.

The first is the development of transdisciplinary knowledge/practices/techniques within the individual research teams of the Member Researchers. The rationale for this approach is to permit individual researchers to carry out experiments to generate preliminary, transdisciplinary data. This preliminary data can then be used to identify the research
questions that need to be addressed and also the expertise/skill sets required of potential collaborators. With this approach each Member Researcher is encouraged to develop, at least to some extent, transdisciplinarity within his/her own research team.

The second, and more widely reaching, facet of transdisciplinarity within the ABC encourages the collaboration of researchers in different disciplines (predominantly Biology and Chemistry to date, although steps are being taken to try and broaden these interactions to include individuals from Applied Health Sciences and the Goodman School of Business). These transdisciplinary collaborations have been and are designed to capitalize on the different sets of expertise to tackle research questions that are beyond the scope of any individual research programmes currently being operated by the Member Researchers of the ABC.

A number of papers have been published by the ABC Member Researchers that have a transdisciplinary component. As an example these include publications between Member Researchers (e.g., Zelisko-Hudlicky, De Luca-Hudlicky) and between Member Researchers and with transdisciplinary collaborators at Brock outside of the ABC (e.g., Hudlicky-Tsiani [2 papers], De Luca-Simionescu, Zelisko-Bidochka [2 papers], Zelisko-Harroun [2 papers]).

3. **One major player [of the ABC] is member of Biology who is retiring. Given succession planning, how does that intersect with responsibility of department to make their own succession plans?** - it should be noted that this point was provided to the Director of the ABC from the University Secretariat when he sought information on any additional points raised at Senate #656 regarding the renewal of the ABC so that a thorough and comprehensive report could be provided on behalf of the ABC.

To clarify, none of the current Member Researchers of the ABC has formally announced retirement, and we certainly would hope that a Senator or Senate would not suggest that a Member Researcher should retire. The age of any of the individuals associated with the ABC cannot be a factor in determining the renewal and/or future success of the Centre.

The Member Researchers are hired into a specific academic department at Brock and then may seek membership in the ABC through either invitation or application. As such, the ABC has no input whatsoever into the hiring practices of any Department within the University or its succession plans.

**Response to Comments Made by External Reviewers Regarding the ABC**

Before addressing each of the External Reviewer’s reports, we would like to make some general remarks. The reports were, overall, quite positive in nature. The vast majority of the categories that the reviewers were asked to examine were rated as either “Average development/success”, “Above average development/success” or “Well above average development/success”. Only one external reviewer provided ratings of “Below Average development/success” for two of the evaluation categories. In none of the categories was the ABC rated as “Well below average development/success”. It should also be noted that the external reviewer (Reviewer #1) that did rank two of the evaluation categories as
“Below Average development/success” went on to state that with respect to having achieved its stated goals the ABC had “been very successful in relation to the original application & stated goals”, that the development of the ABC “would be considered to be excellent” at his/her institution, and that the “outcomes [of the ABC] are above average relative to the investment”; the external reviewer that had the most negative things to say admitted that the ABC has met or exceeded expectations in its first 5 years of existence.

The comments contained in this section of the report will focus on the areas that the reviewers suggested could benefit from improvement or where they indicated that some clarification would be warranted. Since the reports are readily available we will not repeat the positive comments made by the reviewers.

Reviewer #1:

1. Evidence of high-impact and innovative transdisciplinary research, scholarship and innovation. - Above average development/success

“The recent publication list has articles by the group in high impact journals, including: PNAS, Plant Physiology, and The Plant Journal, as well as US and Canadian patents. However, it is difficult to evaluate the ongoing productivity of the members of the initiative from a one year snapshot.”

We agree that it is difficult the productivity of the ABC from a 1-year snapshot. As a result we have included updated CVs for all of the Member Researchers associated with the ABC with the understanding that these will be treated with the utmost confidentiality.

2. Evidence of excellence in research and scholarship by Hub members that would not have been achieved in the absence of their membership. - Average development/success

“The self-study identifies some undocumented interactions among members of the group that would not have happened without the ABC…”

Not all of the transdisciplinary efforts undertaken by the Member Researchers of the ABC have been published at this point. It is not at all uncommon in experimental research, especially ones involving different research teams with different expertise that are tackling new challenges. However, these efforts are still ongoing and they are expected to yield publishable data in the not too distant future.

3. Evidence of excellent leadership and sound management. - Average development/success

“Leadership of director (Brindle) mentioned in the self-study but leadership responsibilities and roles not well described.”

As mentioned above and in the attached terms of reference and in the preceding passages, the responsibilities of the Director have been clearly outlined. As Director of the ABC lan
Brindle worked on behalf of the Member Researchers with the senior administration to develop an agreement between Brock and the ABC to return a portion of the proceeds from patents and licenses back to the ABC - the senior administration has to date failed to make any headway with respect to such an agreement and achieving such an agreement is a principle mandate for the current Director. Brindle prepared reports for the Dean and Vice-President, Research and for Senate committees as required. He networked with industry and brought potential projects and partnerships to the attention of the Steering Committee. From a financial standpoint, Brindle worked with the Office of Research Services to ensure that the ABC received the funding that had been promised to the unit - as of this date there are still outstanding funds owed to the ABC by Brock.

4. **Evidence of effective and high-profile external partnerships and collaborations.** - *Above average development/success*

There are no comments from the reviewer that need to be addressed with respect to this section.

5. **Evidence of economic and social impact on local communities (in this case, Niagara) and beyond.** - *Below average development/success*

As the reviewer rightly indicates a number of ventures arose from the actions of the ABC. Agreements with Noramco and the creation of Vindolon Inc. are both evidence of impacts on the community. The creation of a new synthetic process for the manufacturing of pharmaceuticals and the creation of a new company based on the research conducted in the ABC are most definitely indications of both economical and societal impact. The creation of a commercial enterprise after less than 5-years of ABC research (let alone any research endeavour) is quite remarkable and the reviewer’s ranking for this category does not, in our opinion, adequately reflect this.

However, the impact of these ventures is dependent not only on the research efforts of the Member Researchers of the ABC but also on the ability of Brock’s Office of Research Services (ORS) to protect/commercialize/license the intellectual property generated by the ABC. In as much as the Member Researchers of the ABC generated intellectual property and filed the necessary invention disclosure reports with ORS, the mechanisms necessary to transform the intellectual property to something that was readily available beyond the confines of Brock. The Director of the ABC will continue to work with ORS and Brock’s senior administration to develop methods for more effectively commercializing IP and for transferring the technologies developed by the Member Researchers.

6. **Evidence of a plan (and steps taken) to achieve financial sustainability of the Institute/Centre at the end of the five-year funding period.** - *Below average development/success*

The reviewer comments that:

“The plan for sustainability is to secure IP, which can be licensed and use the royalties to support future ABC projects. Although the commentary of
the self-study states that “It will be crucial for the sustainability of ABC that some portion of royalty and licensing revenues, generated by the members of ABC, be ploughed back into ABC to support its current members” the document does not indicate whether this has been agreed to by the members.

There is no indication of how the licensing is and will be handled for the existing and submitted patents, respectively.

The use of overhead on current grants for leveraging is not described.

The self-study does not mention the status of the industry memberships described in the proposal document that would be a source of revenue for the ABC.”

As mentioned above, the Member Researchers of the ABC have worked diligently to generate IP from their transdisciplinary and filed the appropriate invention disclosures with ORS. However, in spite of the ABC’s repeated efforts with Brock’s senior administration aid to develop an agreement/process to transfer portions of licensing revenues back to the ABC, this has not materialized in spite of requests over the past 5 years. The original application for the ABC to Senate included, both in writing and in spirit, that a portion of ABC licensing revenues and royalties would, at least in part, be returned to the ABC as part of its sustainability plan. As an example, Hudlicky’s partnership with Noramco has generated ~$980,000 over the last 6 years. Of this Brock received $400,000. As part of the sustainability model developed for the ABC a portion of these funds should have flowed back to the ABC.

As an example of this potential, there was interest by Noramco to license Hudlicky’s synthetic process for noroxymorphone for a minimum $50/kg up to 7,000 kg/year of production ($350,000/annum) that would provide substantial revenue that could be used to sustain the research efforts of ABC Member Researchers. However, representatives from ORS failed to secure this agreement and Noramco has subsequently returned the licenses.

7. Statement and explanation of academic achievements that would not have occurred in the absence of funding.

There are no comments from the reviewer that need to be addressed with respect to this section.

8. Statement and explanation of any major deviations from planned activities set out in the TD hub application.

There are no comments from the reviewer that need to be addressed with respect to this section.

9. To what extent do you find that that the Transdisciplinary Hub has achieved success in relation to the original funding application and stated goals? - Has
been very successful in relation to the original application & stated goals

There are no comments from the reviewer that need to be addressed with respect to this section.

10. Based on your experience within your institution, please assess the extent to which the development of this Transdisciplinary Hub would be considered to be excellent. - Within my institution, its development would be considered to be excellent

There are no comments from the reviewer that need to be addressed with respect to this section.

11. The Transdisciplinary Hub has received special university funding of $200,000 per year. Based on your experience at your institution, please assess the development of the Transdisciplinary Hub in relation to that investment. - The outcomes are above average relative to the investment

There are no comments from the reviewer that need to be addressed with respect to this section.

12. Suggestions for Improvement and Development

“Identify clear leadership for the Centre.
Enhance the local profile and function of the Centre.

Work on a plan for financial sustainability of the ABC that includes agreements for royalty sharing and grant overhead leveraging.

Seek to transform the ABC into a National Centre of Excellence.”

The Terms of Reference for the ABC (attached) clearly outline the leadership structure for the Centre. Once training on the new content management system has been completed the ABC website will updated in an effort to increase the profile of the Centre. The Director of the ABC will continue what has now been a 5-year effort with the senior administration to implement an agreement for the return of funds stemming from intellectual property generated by the Member Researchers back to the ABC. The option to transform the ABC into a National Centre of Excellence will be explored.

Reviewer #2:

1. Evidence of high-impact and innovative transdisciplinary research, scholarship and innovation. - Above average development/success

“It may take time to achieve a high level of synergy, but the impact of this inter-disciplinary collaboration is generating valuable results evidenced by the number of patents filed and papers published in high-impact scientific journals.”
We agree with the reviewer that the vision for the ABC needs to be patient and look into the future. Melding scientific disciplines that have traditionally operated independently of each other will take time as individuals from the two disciplines develop the techniques/knowledge base to pursue intellectual challenges in tandem.

2. Evidence of excellence in research and scholarship by Hub members that would not have been achieved in the absence of their membership. - **Above average development/success**

There are no comments from the reviewer that need to be addressed with respect to this section.

3. Evidence of excellent leadership and sound management. - **Average development/success**

“It was not clear if most of those activities are ABC or individual initiatives.”

The activities are a combination of both joint pursuits between ABC Member Researchers (and other transdisciplinary collaborators) and individual efforts. Individual Member Researchers need to develop a certain level of transdisciplinary skills/knowledge within their own research teams in order to gain an appreciation for the collaborator that will have the knowledge and tools to best tackle a particular intellectual challenge.

4. Evidence of effective and high-profile external partnerships and collaborations. - **Average development/success**

There are no comments from the reviewer that need to be addressed with respect to this section.

5. Evidence of economic and social impact on local communities (in this case, Niagara) and beyond. - **Above average development/success**

“The metalloprotein involved in the transport of salicylate within plants and plant defense responses attracted interest in collaboration from a local manufacturer of malic acid. The economic value for this venture is unclear. Continued relationship between Hudlicky and Noramco appears promising, and further opportunities appear possible if the partnership is expanded.”

The interaction with the malic acid manufacturer in the Niagara Region is continuing to be explored, both from scientific and economic standpoints. The Director of the ABC and Hudlicky are continuing to work with Brock’s ORS to explore further opportunities with Noramco and related companies.

6. Evidence of a plan (and steps taken) to achieve financial sustainability of the Institute/Centre at the end of the five-year funding period. - **Average development/success**
“It appears that the key strategy for ABC to achieve financial sustainability is to secure IP, which can then be licensed to various industries. There are also some on-going business relationships under prior patent licensing. Funding stability is important at this juncture for ABC to protect IP and leveraging funding for new research/venture projects that could have snowball effect. It may be critical to allow a large portion of royalty or licensing revenues generated by ABC members to flow back to ABC in next several years. This can help capture the value of prior investment by bring most of research findings and IP to commercial applications.”

The reviewer is correct that a key feature in the sustainability of the ABC is the return of funds from the licensing of IP back to the Centre is a key feature of sustainability for this unit. The Directorship of the ABC has for the past 5 years been seeking an agreement with the University for the return of such funds to the ABC, and will continue to do so moving forward.

As an example, Hudlicky’s partnership with Noramco has generated -$980,000 over the last 6 years. Of this Brock received $400,000. As part of the sustainability model developed for the ABC a portion of these funds should have flowed back to the ABC.

In addition, there was interest by Noramco to license Hudlicky’s synthetic process for noroxymorphone for a minimum $50/kg up to 7,000 kg/year of production ($350,000/annum) that would provide substantial revenue that could be used to sustain the research efforts of ABC Member Researchers. However, representatives from ORS failed to secure this agreement and Noramco has subsequently returned the licenses.

7. Statement and explanation of academic achievements that would not have occurred in the absence of funding.

There are no comments from the reviewer that need to be addressed with respect to this section.

8. Statement and explanation of any major deviations from planned activities set out in the TD hub application.

“In the original plan, ABC was aspired to attract 30+ companies for membership, all of whom would pay a membership fee to the ABC. This aspect appears weaker than what in the plan and may be strengthened in the future.”

It is still the mandate of the ABC to pursue this model, but the Centre cannot actively do so until an agreement can be reached with the University regarding the return of IP funds back to the ABC; there has been no evidence of movement from the senior administration on this front.

9. To what extent do you find that that the Transdisciplinary Hub has achieved success in relation to the original funding application and stated goals? - Has been successful in relation to the original application & stated goals
There are no comments from the reviewer that need to be addressed with respect to this section.

10. Based on your experience within your institution, please assess the extent to which the development of this Transdisciplinary Hub would be considered to be excellent. - Within my institution, its development would be considered to be excellent

There are no comments from the reviewer that need to be addressed with respect to this section.

11. The Transdisciplinary Hub has received special university funding of $200,000 per year. Based on your experience at your institution, please assess the development of the Transdisciplinary Hub in relation to that investment. - The outcomes are above average relative to the investment

There are no comments from the reviewer that need to be addressed with respect to this section.

12. Suggestions for Improvement and Development

“The licensing of patent is a strong indication of value and means of financial sustainability for the hub, so advertisement and negotiation may be beefed up for existing/new patents. Commercialization staff will be helpful in facilitating the process.

It wasn’t clear what the needs identification process has been and how much the potential industry been involved. Sometimes their inputs can help give us a good sense on where gaps are and what new technologies are needed. For example, with the silicone-based molecules for plant defense elicitation, there are products on the market, so it needs to be evaluated how different is this one, potential market share, cost of development and registration, time required to bring it to the market etc. because royalties typically do start to flow until there is a sale and the product won’t be sold until it’s registered with the Canadian Pest Management Regulatory Agency.”

We will continue to work with ORS and encourage them to better advertise and commercialize the IP generated by Member Researchers in the ABC. In addition the Director of the ABC will continue to seek advice from stakeholder companies regarding the need for certain technologies and their industrial viability.

Reviewer #3:

1. Evidence of high-impact and innovative transdisciplinary research, scholarship and innovation. - Above average development/success

There are no comments from the reviewer that need to be addressed with respect to this
2. Evidence of excellence in research and scholarship by Hub members that would not have been achieved in the absence of their membership. - **Above average development/success & Well above average development/success**

There are no comments from the reviewer that need to be addressed with respect to this section.

3. Evidence of excellent leadership and sound management. - **Above average development/success**

“I am not sure what a “collective” is? Is there a physical place for the ABC within Brock or is it virtual? Is there a Board or just the PI’s themselves? Regardless, the strong interdisciplinary publication records is indicative of fruitful collaborations that otherwise might not have been initiated.”

There is no physical space at Brock that has been assigned to the ABC; the Member Researchers currently work out of the spaces that have been allocated to them by their respective departments. Currently there is no need for space dedicated exclusively to the ABC.

4. Evidence of effective and high-profile external partnerships and collaborations. - **Above average development/success**

“Evidence of very successful external relationships with high profile partners, such as Noramco, is presented. Other smaller companies and start-ups are also mentioned. The relationship to companies such as Bartek was not clear and could have been elaborated upon further (under section 3). For example, in terms of doubling malic acid production, how does a more efficient manufacturing process enable doubling of the market for a globally leading producer? It might save money!”

Potential partner companies are invited (and will continue to be invited) to join the Advisory Committee and to offer their insights with respect to not only challenges within their industry but also future directions. Research partnerships with these companies are forged through 6-month grants through provincial (Ontario Centres of Excellence) and federal (NSERC) funding agencies before moving the relationship to larger value, longer-term research projects.

5. Evidence of economic and social impact on local communities (in this case, Niagara) and beyond. - **Above average development/success**

“This is difficult to evaluate short term. There is no question that the PIs contribute to the hiring of a significant pool of researchers at Brock, contributing to HQP development. How start ups such as Vindolon perform in the future is difficult to gauge but a clear entrepreneurial spirit is shown and the potential is there.”
As the reviewer notes, this is difficult to assess in the short-term, but the training of HQP through the ABC is clearly an example of economic and societal impact as highly skilled individuals are being prepared to enter the workforce. We will continue to monitor the impact of the ABC moving forward.

6. Evidence of a plan (and steps taken) to achieve financial sustainability of the Institute/Centre at the end of the five-year funding period. - Above average development/success

A project is currently in development between two Member Researchers of the ABC and Syngenta to look at plant disease resistance. Discussions are currently underway with additional experts outside of the ABC at Brock in an effort to develop a more comprehensive research project.

7. Statement and explanation of academic achievements that would not have occurred in the absence of funding.

There are no comments from the reviewer that need to be addressed with respect to this section.

8. Statement and explanation of any major deviations from planned activities set out in the TD hub application.

There are no comments from the reviewer that need to be addressed with respect to this section.

9. To what extent do you find that that the Transdisciplinary Hub has achieved success in relation to the original funding application and stated goals? - Has not been successful in relation to the original application & stated goals

Given the reviewer’s positive feedback for the preceding sections of the review and the absence of comments for this particular section, we are unsure of how to respond to the evaluation.

10. Based on your experience within your institution, please assess the extent to which the development of this Transdisciplinary Hub would be considered to be excellent. - Within my institution, its development would be considered to be excellent

There are no comments from the reviewer that need to be addressed with respect to this section.

11. The Transdisciplinary Hub has received special university funding of $200,000 per year. Based on your experience at your institution, please assess the development of the Transdisciplinary Hub in relation to that investment. - The outcomes are above average relative to the investment
There are no comments from the reviewer that need to be addressed with respect to this section.

12. Suggestions for improvement and development

“A Board-type structure could be implemented to oversee the Hub and interface with members. This could include local business leaders, private sector scientists and perhaps local government. Large funding opportunities may arise in the near future and it may be wise to have someone from Bittle’s and/or Bradley’s office on such a Board. Founding of a physical institute at some point in the future may be considered if continued funding can be obtained.

While it appears that Brock University has supported the Hub with special funds until now, I would encourage strong support for this venture within the senior leadership at the University. The members of this Hub are amongst the strongest and highest profile scientific researchers at Brock, and well known nationally and internationally.”

As the number of Member Researchers of the ABC grows, it may well become necessary to meld the current Advisory and Steering Committees of the Centre into a Board structure. However, expansion of the ABC membership is likely necessary before such a change is undertaken.

The Director and Member Researchers of the ABC will continue to work with the senior administration of Brock University to elicit continued support for the Centre and to strengthen the Centre’s impact on the local, national, and global communities.

Reviewer #4:

1. Evidence of high-impact and innovative transdisciplinary research, scholarship and innovation. - Well above average development/success

There are no comments from the reviewer that need to be addressed with respect to this section.

2. Evidence of excellence in research and scholarship by Hub members that would not have been achieved in the absence of their membership. - Well above average development/success

“What also is very important is the protection of the intellectual property.”

The Director and Member Researchers of the ABC will continue to generate IP and to work with ORS to protect said intellectual property in advancement of the Centre’s mandate.

3. Evidence of excellent leadership and sound management. - Well above average development/success

There are no comments from the reviewer that need to be addressed with respect to this
4. **Evidence of effective and high-profile external partnerships and collaborations.** - **Above average development/success**

There are no comments from the reviewer that need to be addressed with respect to this section.

5. **Evidence of economic and social impact on local communities (in this case, Niagara) and beyond.** - **Well above average development/success**

There are no comments from the reviewer that need to be addressed with respect to this section.

6. **Evidence of a plan (and steps taken) to achieve financial sustainability of the Institute/Centre at the end of the five-year funding period.** - **Above average development/success**

“There is a plan. However, in general, this is the weakest link in the chain. It depends on the viability of the licensed to the mentioned companies, or the consecution of multi-year grants, such as the study of the incorporation of silicon compounds in plants. It is good to have alternative plans to avoid problems. It is very important that the authorities of the University agree that part of the royalties and licensing revenues, generated by the members of ABC, be ploughed back into ABC to achieve their plants.”

The Director of the ABC and the Member Researchers will continue to work with ORS and the senior administration at Brock to generate a mechanism for returning royalties/licensing revenue back to the ABC. A renewed effort will also be undertaken to develop partnerships with industry to not only bring industrial funds to the Centre but to also facilitate applications to provincial and federal funding agencies.

7. **Statement and explanation of academic achievements that would not have occurred in the absence of funding.**

“One of the most challenging problems is the costs of the protection of the intellectual property. The initial cost of a granted patent in 10 countries could be as much as more than 300,000 USD. Without help for this subject, the financial sustainability of the Institute cannot reach. The initial funding also let to the hiring of additional researchers which were basic to several of the patented developments.”

The members of the ABC will continue to work with relevant parties at Brock to better market the IP generated by the Centre. This process may benefit from collaboration with the students and faculty in the Goodman School of Business.

8. **Statement and explanation of any major deviations from planned activities set out in the TD hub application.**
There are no comments from the reviewer that need to be addressed with respect to this section.

9. To what extent do you find that the Transdisciplinary Hub has achieved success in relation to the original funding application and stated goals? - Has been extremely successful in relation to the original application & stated goals

There are no comments from the reviewer that need to be addressed with respect to this section.

10. Based on your experience within your institution, please assess the extent to which the development of this Transdisciplinary Hub would be considered to be excellent. - Within my institution, its development would be considered to be extraordinary

There are no comments from the reviewer that need to be addressed with respect to this section.

11. The Transdisciplinary Hub has received special university funding of $200,000 per year. Based on your experience at your institution, please assess the development of the Transdisciplinary Hub in relation to that investment. - The outcomes are above average relative to the investment

There are no comments from the reviewer that need to be addressed with respect to this section.

12. Suggestions for Improvement and Development

“The Transdisciplinary Hub has been very successful. The only suggestion could be the reasonable increment of the researchers. The proposal increment of two researchers seems goods if this addition comes with assistant researchers and post-doctoral.”

Efforts are currently underway to increase the number of Member Researchers affiliated with the ABC both from within and from outside of the Faculty of Mathematics and Science.

Summary of Research Output by ABC Member Researchers Over First Term (2012-2017) of the ABC

<table>
<thead>
<tr>
<th>Member Researcher</th>
<th>Publications</th>
<th>Transdisciplinary Publications</th>
<th>Patent Applications</th>
<th>Presentations</th>
<th>External Research Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeLuca</td>
<td>28</td>
<td>5</td>
<td>2</td>
<td>20</td>
<td>$5,001,248</td>
</tr>
<tr>
<td>Després</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>$1,505,823</td>
</tr>
<tr>
<td>Hudlicky</td>
<td>67</td>
<td>13</td>
<td>25</td>
<td>52</td>
<td>$5,175,826</td>
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<tr>
<td>Zelisko</td>
<td>16</td>
<td>16</td>
<td>7</td>
<td>26</td>
<td>$1,579,890</td>
</tr>
<tr>
<td>Totals</td>
<td>115</td>
<td>35</td>
<td>37</td>
<td>103</td>
<td>$13,262,787</td>
</tr>
</tbody>
</table>
Appendices

1. Brock Faculty Handbook (FHB) regulations for the establishment and review of academic centres
2. Advanced Biomanufacturing Centre Terms of Reference
3. Reports from the ABC external review process
4. CVs of ABC Member Researchers
9. Policy on the Establishment and Review of Research Centres and Institutes

9.1 Preamble

The establishment of Research Centres and Institutes assists research and teaching in a university in many ways. These structures encourage scholarly research and creativity among collectives of faculty, post-doctoral fellows, graduate students, librarians and other researchers that challenge traditional and established disciplinary boundaries. They allow for an identity to be created through which individuals or teams may apply for internal or external research grants and contracts that will enhance the reputation of the University, provincially, nationally and internationally.

Given the expansion of Brock's research enterprise, and the development of transdisciplinary research clusters as an institutional priority, a policy governing how Research Centres and Institutes are created, approved, reviewed and, where appropriate, disbanded is essential. The following policy and procedures provide guidelines for the establishment of new Research Centres and Institutes, and the lines of reporting for each.

9.2 Definitions

9.2.1 Research Centre

Research Centres are Faculty-based collectives with a defined mission, created to explore areas of research and scholarship of importance to the collective and to the University. They may include faculty, postdoctoral fellows, graduate students, librarians, and other researchers. Research Centres are managed by an academic director with an advisory committee, and report to a Faculty Dean. They may choose to offer academic programs under the direction of the Faculty Dean, and in such cases faculty may be directly appointed to them.

9.2.2 Institute

Institutes are cross-Faculty research collectives with a defined mission. They may include faculty, postdoctoral fellows, graduate students, librarians and other researchers (including adjuncts appointed from other research institutions) who share a particular research focus of strategic importance to the University. Institutes are non-teaching units. Any academic programs affiliated with an Institute are housed in one of the academic Faculties with oversight by the Faculty Dean. Faculty are associated with Institutes but are not directly appointed to them. Institutes are administered by an academic director with an advisory committee and report to the Vice-President, Research.
9.3 Process

9.3.1 All new Research Centres and Institutes must be approved by Senate upon the recommendation of the Senate Research and Scholarship Policy Committee.

9.3.2 Research Centre

A proposal to establish a Research Centre is submitted to the Dean of the Faculty that will serve as its administrative home and, with that Dean's endorsement, following discussion with interested departments and programs, to the Senate Research and Scholarship Policy Committee for recommendation to Senate for approval. The creation of a Research Centre requires the approval of the Dean of the Faculty involved. See FHB III, C. 9.4.1 I. below.

9.3.3 Institute

A proposal to establish an Institute is submitted to the appropriate Deans and the Vice-President, Research, and with their endorsement, following discussion with interested departments and programs, to the Senate Research and Scholarship Policy Committee for recommendation to Senate for approval. The creation of an Institute requires the approval of the Vice-President, Research. See FHB III, C. 9.4.1. I. below.

9.4 Application Procedure

9.4.1 Required Documentation/Information for New Research Centres and Institutes

a. Completion of the Application for a New Research Centre or Institute (Self Study Document A). This application can be accessed on-line on the University Secretariat's website, https://brocku.ca/university-secretariat. It can also be accessed through the Office of Research Service.

9.4.2 Approval Mechanism

The Senate Research and Scholarship Policy Committee will normally forward to the Senate one of the following recommendations within 60 days of receipt of the proposal.

a. Full approval: normally for five years.

b. Probationary Approval: normally for a three-year period during which specific objectives or deficiencies must be met or arrangements finalized, as outlined by the Senate Research and Scholarship Policy Committee. In the annual report of the Research Centre/Institute, progress towards these objectives or arrangements or correction of deficiencies must be addressed. During the three-year probationary period, but after the first annual report has been filed, application for full approval (a subsequent 5 years) can be made.
c. The Senate Research and Scholarship Policy Committee will not forward to Senate a proposal for a Research Centre/Institute that, from the Committee’s perspective, does not meet the minimum requirements for approval or that requires substantial revision prior to reconsideration by the Committee. In arriving at such a decision, the Senate Research and Scholarship Policy Committee will have consulted with other Senate or University committees, as necessary.

9.5 Review and Renewal

Research Centres and Institutes will produce a brief annual report using Part I of the Report on Activities of Research Centres or Institutes for submission to the relevant Faculty Dean (for Research Centres) or the Vice-President, Research (for Institutes). This document can be accessed on-line on the University Secretariat’s website, www.brocku.ca/university-secretariat.

Any reports required by external agencies/funders should be copied to the Vice-President, Research. Six months prior to the expiration of the term of approval, the Chair of the Senate Research and Scholarship Policy Committee shall invite a request for renewal and Parts I and II of the Report on Activities of Research Centres on Institutes from the Director of the Research Centre/Institute (accessed on-line on the University Secretariat’s website, www.brocku.ca/university-secretariat). After receiving these submissions, the Chair of the Senate Research and Scholarship Policy Committee shall consult as appropriate with Departmental Chairs, Program Directors, Faculty Deans and the Vice-President, Research, with respect to the operations and effectiveness of the Research Centre/Institute during its term and report to the Committee. Upon completing its review, the Senate Research and Scholarship Committee may recommend:

1. that the term of the Research Centre/Institute be extended for an additional three to five years; or
2. that the term of the Research Centre/Institute be extended for an additional three to five years subject to modifications recommended by the Senate Research and Scholarship Policy Committee.
3. that the Research Centre/Institute should be disbanded, in which case the Senate Research and Scholarship Policy Committee shall refer the matter to the Dean (in the case of a Research Centre) or the Vice-President, Research (in the case of an Institute).

Senate 589, 631, 651
Advanced Biomanufacturing Centre (ABC) Terms of Reference

Mandate

The mandate of the ABC is the development of new technologies to address industrial challenges through the synergistic use of biological and chemical techniques and principles.

The overall mission of the Advanced Biomanufacturing Centre (ABC) is the pursuit of new methods for the manufacture of medicinally important compounds, chemical building blocks, and new materials. In the future, petrochemicals for manufacturing will not be available. New ways to provide these building blocks will have to be discovered. The answers will come from the fusion of biology and chemistry that historically have existed as “two solitudes”, but that will now address supply problems for chemical manufactures.

Constitution

Advisory Committee

The ABC will form an Advisory Committee that will include the members of the ABC, community members with experience and interest in commercializing Intellectual Property, and others from the Brock community who are not members of the ABC but who can provide valuable counsel. The Advisory Committee will support the vision of the ABC as Canada’s pre-eminent centre for biotechnology innovation.

Steering Committee

The Steering Committee will be composed of the Director of the ABC and, nominally, 3 member researchers of the ABC. Additional resource people, such as the Director of Technology transfer, may join the Steering Committee in an advisory capacity as non-voting members. Day-to-day management of the ABC will be the responsibility of the Director

Member Researchers

These are the individual researchers of the ABC actively conducting and/or participating in transdisciplinary research. Member Researchers are hired by their individual Departments/Faculties and either apply to join the ABC or are asked to join via formal invitation.
Management

The ABC is constituted by its members and will be governed by a Director and a Steering Committee. Faculty members and members from the Brock and greater community, who have a knowledge of and interest in the commercialization of Intellectual Property will form the Advisory Committee.

The Advanced Biomanufacturing Centre will report to the Dean of the Faculty of Mathematics and Science, and secondly to the Vice-President, Research solely in the matters of financial accountability. The Director of the ABC will be vested with the financial responsibility for its operations and expenditures.

Director

The Director will be nominated from among the members of the ABC, after consulting with the Steering Committee, and will be elected for a 3-year term. The Director will be selected through the following procedure:

- During the fall term of the final year of a Director’s term, the members of the ABC, and after consultation with the Steering Committee, will seek potential candidates. A vote of all members will be held to select the next Director at the fall general meeting.

The Director, in collaboration with the members of the ABC, will:

a) Develop, implement and monitor the strategic plan for the ABC, in consultation with the Steering Committee.

b) Provide leadership in advancing the mission of the ABC

c) With the Steering Committee, be responsible for the financial management of the ABC, including the protocols for funding competitions and fellowships, the disbursement of funds, and financial reporting.

d) Chair of the Steering Committee

e) Develop protocols for communications between ABC and the media, and commercial partners.

f) Network to build relations among researchers, to expand collaborations across the university and beyond.

g) Provide a yearly written report and presentation to the Steering Committee, and the Dean of the Faculty of Mathematics and Science and the Vice-President, Research. The report and presentation will summarize the activities of ABC and will seek advice on future strategic directions. The report will be distributed at least two weeks before the annual meeting.

Steering Committee

Along with the Director, the Steering Committee is the day-to-day governing body of the ABC. Membership of the Steering Committee will comprise the members of the ABC.
Member Researchers will be appointed to the Steering Committee for either 2- or 3-year terms.

**Meeting Schedule**

The Committee will meet at least once per academic term. Additional meetings of the Committee can be called at the discretion of the Director or through petition by at least half of the Steering Committee membership. Two weeks notice must be given before each Steering Committee meeting.

**Responsibilities of the Steering Committee**

a) Provide support to the Director in advancing the vision, goals and objectives of the ABC  
b) Make operational decisions  
c) Financial management of the ABC  
d) Oversee the process of membership of the ABC  
e) Oversee adjudication of cluster funding  
f) Review the annual report of the Director.  
g) Amend the ABC Rules and Procedures as necessary.  
h) Oversee the hiring of staff members as necessary.

**Criteria for, and Categories of, Membership within the ABC**

All members are expected to share the goals of transdisciplinary collaboration in the field of biomanufacturing, written in broad terms.

**Members**

Membership is normally made up of active researchers at Brock University. The process for becoming a member of the ABC is as follows:

1. Prospective applicants must submit to the Director a CV and a one-to-two page statement of intent outlining the research and its relationship to biomanufacturing, together with their collaborators in the ABC, and their planned contribution to the ABC.  
2. The Steering Committee will review all applications and recommend membership or not.

Members of the ABC may resign their membership through a letter of resignation to the Director.

**Privileges and Responsibilities of Membership**

**Steering Committee**
• Attend Steering Committee meetings, provide leadership in advancing the mission of the ABC, recommend memberships, be responsible for the financial management of the ABC, review the annual report of the Director, amend the ABC Rules and Procedures, as necessary, oversee adjudication of grants and hire staff.

• The Committee will attempt to make decisions as much as possible through consensus. Failing to reach consensus, the following voting procedures apply:
  o Members of the Steering Committee, including the Director, each have one vote.
  o For in-person votes, quorum for the Committee is a simple majority of the Steering Committee membership. For electronic votes, no quorum rule applies since all members will have an opportunity to vote. Decisions of the Committee will be taken by majority vote.

• Voting on hiring decisions and recommendations for membership will be held by secret ballot.

• E-voting is permitted according to the following process
  o The director emails regarding an e-vote and asks for objections to the e-vote. If no one objects to an e-vote and asks for objections to the e-vote within 48 hours the e-vote can proceed. All Steering Committee members have 5 working days from the initial email proposing the e-vote to vote.

Advisory Committee

The Advisory Committee will be composed of faculty members, researchers, and members from the Brock and greater community, who have a knowledge of and interest in the commercialization of Intellectual Property.

Meeting Schedule

The Committee will meet at least once per academic term. Additional meetings of the Committee can be called at the discretion of the Director or through petition by at least half of the Steering Committee membership. Two weeks notice must be given before each Advisory Committee meeting.
EVALUATION OF SPECIFIC SECTIONS OF THE SELF-STUDY

Instructions: Items 1 to 6 below correspond to the first six sections of the Transdisciplinary Hub’s Self-Study. For each section, please evaluate the development of the Transdisciplinary Hub by placing an x above the descriptor in the appropriate box. Please use your home institution as a reference for comparison.

1. Evidence of high-impact and innovative transdisciplinary research, scholarship and innovation.

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Comments:
The research conducted by the principal investigators is innovative, high impact and transdisciplinary;

Tomas Hudlicky’s group has made significant progress in investigation of oxidative N—demethylation of morphine and worked with Vince DeLuca’s group to assemble the 7 step pathway from tabersonine to the anticancer drug precursor vindoline in yeast.

Vince DeLuca’s group has made significant progress in elucidating the biochemical pathway catalyzing the transformation of tabersonine to anticancer vindoline alkaloids.

The Despres group has made significant progress on defining the potential of copper-based salicylate-carrying proteins for increasing plant resistance to predation and infection and with Zelisko’s group has explored the potential for silicon-based molecules for increasing plant immunity to diseases.

Paul M. Zelisko’s group shown that it is possible to use enzymes as green catalysts to cross-linking silicone polymers, which have potential uses in drug delivery, biomedical devices, agricultural products, wound care, wound management, encapsulation technology, environmentally-friendly silicone synthesis and paper coatings.

The recent publication list has articles by the group in high impact journals, including: PNAS, Plant Physiology, and The Plant Journal, as well as US and Canadian patents. However, it is difficult to evaluate the ongoing productivity of the members of the initiative from a one year snapshot.
2. Evidence of excellence in research and scholarship by Hub members that would not have been achieved in the absence of their membership.

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Comments:
The self-study identifies some undocumented interactions among members of the group that would not have happened without the ABC, including:

- consultations about interpretation NMR spectra between Hudlicky’s and DeLuca’s groups that resulted in understandings in the chemical structures of the intermediates that were critical for a patent application (not described in DeLuca list but may be the US Patent Application No 62/302,342 [compositions and methods for making terpenoid indole alkaloids] mentioned in section 5)
- collaboration between Zelisko, and Despres groups to explore the potential of new silicon-based molecules for conferring immunity from disease

The ABC also gave researchers profile with industry that has led to the establishment of licensing agreements between Hudlicky and Noramco (not described), and between Zelisko and Vancem (for an improved corrosion-resistant coating for steel)

3. Evidence of excellent leadership and sound management.

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<th>Average development/success</th>
<th>Above Average development/success</th>
<th>Well above average development/success</th>
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Comments:
Leadership of director (Brindle) mentioned in the self-study but leadership responsibilities and roles not well described.
4. Evidence of effective and high-profile external partnerships and collaborations.

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<th>Well below average development/success</th>
<th>Below average development/success</th>
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<tr>
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<td></td>
<td></td>
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</table>

Comments:
The self-study identifies some high profile collaborations with government and industry that members of the ABC have participated in, including:

- a visit to Brock (at the request of Ms Karra Lee Gerrits, Senior Trade Commissioner responsible for the Agri-Food sector with the Embassy of Canada to Japan) by Professor Kunihiro Kitano (Chair of the Hokkaido Bioindustry)
- organization of a “Canada Israel workshop on Plant Biology and Agriculture in the 21st century” and (at the request of the office of the President of NSERC, Professor B. Mario Pinto with the Israeli Center of Research Excellence and with the involvement of the Israeli Ambassador to Canada, Mr. Raffael Barak)

Both of these interactions led to continuing contacts, publications and commercialization opportunities, including the formation of a new company (not clear which Despres and students to create a company in Biolinc or Deluca Epimeron to create Vindolon).

5. Evidence of economic and social impact on local communities (in this case, Niagara) and beyond.

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Comments:
Some evidence of local impact but local programming and outreach does not seem to be a focus or a strong point of the Centre.

A number of potential economic spinoffs are cited in the documentation that were catalyzed by the ABC, including:

- a novel chemicals for agriculture start-up headed by Despres and funded by Ontario Genomics that may create employment in Niagara
- a new company with Deluca called Vindolon to market active medicinal Iridoids and moterpenoid Indole alkaloids created by the Deluca lab for potential treatment of pain, cardiovascular disease, cancer, high blood pressure and dementia
- a continuing relationship between the Hudlicky and Noramco ato explore the opportunities with Canadian companies to commercialize opiates, including Dalton Pharmaceuticals in Toronto

6. Evidence of a plan (and steps taken) to achieve financial sustainability of the Institute/Centre at the end of the five-year funding period.

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</table>
Comments:
The plan for sustainability is to secure IP, which can be licensed and use the royalties to support future ABC projects. Although the commentary of the self-study states that “It will be crucial for the sustainability of ABC that some portion of royalty and licensing revenues, generated by the members of ABC, be ploughed back into ABC to support its current members” the document does not indicate whether this has been agreed to by the members.

There is no indication of how the licensing is and will be handled for the existing and submitted patents, respectively.

The use of overhead on current grants for leveraging is not described.

The self-study does not mention the status of the industry memberships described in the proposal document that would be a source of revenue for the ABC.

**Instructions:** Items 7 & 8 below correspond to sections 7 and 8 of the Transdisciplinary Hub’s Self-Study. For each section, please indicate any positive and/or negative comments that you may have.

7. Statement and explanation of academic achievements that would not have occurred in the absence of funding.

Comments:
Overall, the principal investigators appear to have used the ABC funds to enhance the research in their areas of expertise, explore novel areas of intersection that have led to greater scientific insights, launched new areas of research and to give their groups profile to commercialize their results.

8. Statement and explanation of any major deviations from planned activities set out in the TD hub application.

Comments:
Not much information to comment on in this section.

OVERALL EVALUATION
Office of the Vice-President Research

Instructions: Items 9 to 11 below, please evaluate the development/success of the Transdisciplinary Hub by placing an x (e.g., __X__) next to the most appropriate descriptor.

9. To what extent do you find that the Transdisciplinary Hub has achieved success in relation to the original funding application and stated goals?
   (a) ___ Has not been successful in relation to the original application & stated goals
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   (c) ___ Has been successful in relation to the original application & stated goals
   (d) __X__ Has been very successful in relation to the original application & stated goals
   (e) ___ Has been extremely successful in relation to the original application & stated goals

10. Based on your experience within your institution, please assess the extent to which the development of this Transdisciplinary Hub would be considered to be excellent.
    (a) ___ Within my institution, its development would not be considered to be excellent
    (b) __X__ Within my institution, its development would be considered to be excellent
    (c) ___ Within my institution, its development would be considered to be extraordinary

11. The Transdisciplinary Hub has received special university funding of $200,000 per year. Based on your experience at your institution, please assess the development of the Transdisciplinary Hub in relation to that investment.
    (a) ___ The outcomes are below average relative to the investment
    (b) ___ The outcomes are average relative to the investment
    (c) __X__ The outcomes are above average relative to the investment

SUGGESTIONS FOR IMPROVEMENT AND DEVELOPMENT

Instructions: Please indicate any suggestions that you may have for the improvement or development of the Transdisciplinary Hub.

Identify clear leadership for the Centre.

Enhance the local profile and function of the Centre.

Work on a plan for financial sustainability of the ABC that includes agreements for royalty sharing and grant overhead leveraging.

Seek to transform the ABC into a National Centre of Excellence.
EVALUATION OF SPECIFIC SECTIONS OF THE SELF-STUDY

Instructions: Items 1 to 6 below correspond to the first six sections of the Transdisciplinary Hub’s Self-Study. For each section, please evaluate the development of the Transdisciplinary Hub by placing an x above the descriptor in the appropriate box. Please use your home institution as a reference for comparison.

1. Evidence of high-impact and innovative transdisciplinary research, scholarship and innovation.

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<tr>
<td>Comments:</td>
<td>Close interactions between chemistry and biology, especially molecular biology, at ABC is of excellent potential generating unique and breakthrough research results. In the past couple of years, almost all Ag-related biological companies have been bought up by multinational chemical giants, including AgraQuest by Bayer, Novozymes by Monsanto, and Baker Underwood by BASF... Although the purpose of this strategy has not been publicized widely, one would expect these purchases would allow the multinationals to screen for new active ingredients using the microbial resources at these biological firms. This trend in the industry seems to match the logic behind the establishment of ABC. It may take time to achieve a high level of synergy, but the impact of this inter-disciplinary collaboration is generating valuable results evidenced by the number of patents filed and papers published in high-impact scientific journals. Some of the patents may attract commercial investment into ABC, and the potential and progress on this aspect are being observed with several projects. Silicon-based molecules for plant immunity against diseases may be of potential; it’s likely of interests to a broad Ag/crop sector, especially to the greenhouse industry where reduced use of chemical pesticides is particularly valued.</td>
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2. Evidence of excellence in research and scholarship by Hub members that would not have been achieved in the absence of their membership.

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<tr>
<td>Comments:</td>
<td>Recent licensing agreements with industry are strong evidence of innovation (patents) and relevance of research to new opportunities. Some of the discoveries/agreements may still be possible without the hub, but the collaborative culture in ABC and critical mass established likely helped maximize the opportunities of research and enhanced the visibility of ABC, and together facilitating the progress. A couple of patents appear to have substantial potential for commercial opportunities. Several publications were in fairly high-impact journals in the fields, including Plant Cell, PNAS, Plant Physiology, Plant Journal, Chem-Eur. J. and BMC Genomics.</td>
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3. Evidence of excellent leadership and sound management.

| __________________ | __________________ | __X__ | __________________ | __________________ |
| Well below average development/success | Below average development/success | Average development/success | Above Average development/success | Well above average development/success |

Comments:
It appears that the vision of ABC was well laid out in the proposal, with the leadership of two research Chairs. There also seems a management structure in place for ABC operations and strong sense of collaboration among the members. There is also evidence for leading new research proposals, recognition via organizing scientific conferences in related fields, and establishing new enterprises using the technologies developed. It was not clear if most of those activities are ABC or individual initiatives. Specific information is insufficient for assessing this aspect adequately, especially for the management of ABC.

4. Evidence of effective and high-profile external partnerships and collaborations.

| __________________ | __________________ | __X__ | __________________ | __________________ |
| Well below average development/success | Below average development/success | Average development/success | Above Average development/success | Well above average development/success |

Comments:
All members appear to be active in external partnerships and collaborations, with several good initiatives, including hosting international visits and “Canada-Israel workshop on Plant Biology and Agriculture in the 21st century” delegated by Canadian Embassy in Japan and NSERC. Collaborations developed by Zelisko with world-renowned experts in lipid science in Austria and USA is another strong evidence of external partnership at research levels.

5. Evidence of economic and social impact on local communities (in this case, Niagara) and beyond.

| __________________ | __________________ | __________________ | __X__ | __________________ |
| Well below average development/success | Below average development/success | Average development/success | Above Average development/success | Well above average development/success |

Comments:
It appears that ABC has trained some highly qualified people equipped with both science and entrepreneurship, which helped them launch a start-up to develop novel chemicals for agriculture with support of local and provincial funding. Leveraging funding from ABC might have increased the chance for this to happen. The metalloprotein involved in the transport of salicylate within plants and plant defense responses attracted interest in collaboration from a local manufacturer of malic acid. The economic value for this venture is unclear. Continued relationship between Hudlicky and Noramco appears promising, and further opportunities appear possible if the partnership is expanded. Engaging a Calgary-based company marketing novel genes to corporate partners interested in producing pharmaceuticals through synthetic biology seems to carry economic potential for growing the business, and the expertise from ABC members is well suited. The business venture...
leading to the creation of the new company Vindolon Inc. is a strong evidence of economic/social impact of patented technologies developed at ABC.

6. Evidence of a plan (and steps taken) to achieve financial sustainability of the Institute/Centre at the end of the five-year funding period.

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Comments:
It appears that the key strategy for ABC to achieve financial sustainability is to secure IP, which can then be licensed to various industries. There are also some on-going business relationships under prior patent licensing. Funding stability is important at this juncture for ABC to protect IP and leveraging funding for new research/venture projects that could have snowball effect. It may be critical to allow a large portion of royalty or licensing revenues generated by ABC members to flow back to ABC in next several years. This can help capture the value of prior investment by bring most of research findings and IP to commercial applications.

Instructions: Items 7 & 8 below correspond to sections 7 and 8 of the Transdisciplinary Hub’s Self-Study. For each section, please indicate any positive and/or negative comments that you may have.

7. Statement and explanation of academic achievements that would not have occurred in the absence of funding.

Comments:
Without ABC, the identity and function of the metalloprotein in the transport of salicylate within plants and host defense mechanisms against diseases would not be revealed so clearly, especially relating to the importance of copper in the protein. This is clearly the advantage associated with the critical mass and collaborative culture in ABC. Additionally, investigating silicon-based molecules for plant immunity against diseases might not have happened.

8. Statement and explanation of any major deviations from planned activities set out in the TD hub application.

Comments:
Things progressed well on most fronts, especially in academic quality/productivity, training graduate students, and patent filing.

In the original plan, ABC was aspired to attract 30+ companies for membership, all of whom would pay a membership fee to the ABC. This aspect appears weaker than what in the plan and may be strengthened in the future.
OVERALL EVALUATION

Instructions: Items 9 to 11 below, please evaluate the development/success of the Transdisciplinary Hub by placing an x (e.g., _X__) next to the most appropriate descriptor.

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11. The Transdisciplinary Hub has received special university funding of $200,000 per year. Based on your experience at your institution, please assess the development of the Transdisciplinary Hub in relation to that investment.
    (a) ___ The outcomes are below average relative to the investment
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    (c) _X__ The outcomes are above average relative to the investment

SUGGESTIONS FOR IMPROVEMENT AND DEVELOPMENT

Instructions: Please indicate any suggestions that you may have for the improvement or development of the Transdisciplinary Hub.

1. ABC is a novel transdisciplinary hub which has achieved commendable results in a relatively short period of time. The culture of collaboration appears very strong there, and as a biologist myself, I find huge value when talking and working with chemists or physicists (at synchrotron) who often extend my imagination and capability tremendously, and likely vice versa. So it is highly likely that more exciting discoveries can come out this group.

2. The licensing of patent is a strong indication of value and means of financial sustainability for the hub, so advertisement and negotiation may be beefed up for existing/new patents. Commercialization staff will be helpful in facilitating the process.

3. It wasn’t clear what the needs identification process has been and how much the potential industry been involved. Sometimes their inputs can help give us a good sense on where gaps are and what new technologies are needed. For example, with the silicone-based molecules for plant defense elicitation, there are products on the market, so it needs to be evaluated how different is this one, potential market share, cost of development and registration, time required to bring it to the market etc. because royalties typically do start to flow until there is a sale and the product won’t be sold until it’s registered with the Canadian Pest Management Regulatory Agency…
EVALUATION OF SPECIFIC SECTIONS OF THE SELF-STUDY

**Instructions:** Items 1 to 6 below correspond to the first six sections of the Transdisciplinary Hub’s Self-Study. For each section, please evaluate the development of the Transdisciplinary Hub by placing an x above the descriptor in the appropriate box. Please use your home institution as a reference for comparison.

1. Evidence of high-impact and innovative transdisciplinary research, scholarship and innovation.

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**Comments:**
Clear evidence of transdisciplinary research activities is presented. Several publications in top journals (PNAS, ACIE etc) of mixed authorship (biologists, chemists, materials) as well as patents and interest from industrial partners speak to both the transdisciplinary aspect and high-impact of these works.

2. Evidence of excellence in research and scholarship by Hub members that would not have been achieved in the absence of their membership.

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**Comments:**
Many contributions of mixed authorship within the PI’s are presented e.g. Hudlicky/Zelisko; Hudlicky/De Luca; Despres/Brindle (not cited).

3. Evidence of excellent leadership and sound management.

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**Comments:**
I am not sure what a “collective” is? Is there a physical place for the ABC within Brock or is it virtual? Is there a Board or just the PI’s themselves? Regardless, the strong interdisciplinary publication records is indicative of fruitful collaborations that otherwise might not have been initiated.
4. Evidence of effective and high-profile external partnerships and collaborations.

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Comments:
Evidence of very successful external relationships with high profile partners, such as Noramco, is presented. Other smaller companies and start-ups are also mentioned. The relationship to companies such as Bartek was not clear and could have been elaborated upon further (under section 3). For example, in terms of doubling malic acid production, how does a more efficient manufacturing process enable doubling of the market for a globally leading producer? It might save money!

5. Evidence of economic and social impact on local communities (in this case, Niagara) and beyond.

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Comments:
This is difficult to evaluate short term. There is no question that the PIs contribute to the hiring of a significant pool of researchers at Brock, contributing to HQP development. How start ups such as Vindolon perform in the future is difficult to gauge but a clear entrepreneurial spirit is shown and the potential is there.

6. Evidence of a plan (and steps taken) to achieve financial sustainability of the Institute/Centre at the end of the five-year funding period.

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Comments:
Again this is difficult to evaluate given the capricious nature of funding from Governmental sources. My reading is that the interaction with Noramco is strong and has led to actual royalties being generated. It is very positive to see this happening as many academics tally up “ego-patents” that ultimately prove worthless. Very few academic researchers in Canada find themselves in such a position. It would be great to see revenue from such sources placed back into a fund for ABC researchers to leverage, perhaps as in-kind contributions as part of other funding applications. Listing other companies such as Syngenta (now sold to ChemChina), Monsanto, Bayer (etc) without further reference to actual potential products and relationships seemed a bit like name dropping.
Office of the Vice-President Research

**Instructions:** Items 7 & 8 below correspond to sections 7 and 8 of the Transdisciplinary Hub’s Self-Study. For each section, please indicate any positive and/or negative comments that you may have.

7. Statement and explanation of academic achievements that would not have occurred in the absence of funding.

Comments:
I think that this has been answered partially in sections 1 and 2. It appears founding of the ABC has acted as an instrument to promote effective collaboration within the various groups. How much of this would have occurred otherwise is difficult to gauge however many academics spend their days locked in highly specialized “silos” and so I believe the record shows that the ABC has been successful in knocking down a few walls.

8. Statement and explanation of any major deviations from planned activities set out in the TD hub application.

Comments:
Nil.

**OVERALL EVALUATION**

**Instructions:** Items 9 to 11 below, please evaluate the development/success of the Transdisciplinary Hub by placing an x (e.g., __X__) next to the most appropriate descriptor.

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10. Based on your experience within your institution, please assess the extent to which the development of this Transdisciplinary Hub would be considered to be excellent.
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11. The Transdisciplinary Hub has received special university funding of $200,000 per year. Based on your experience at your institution, please assess the development of the Transdisciplinary Hub in relation to that investment.
    (a) ____ The outcomes are below average relative to the investment
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    (c) __X__ The outcomes are above average relative to the investment
Office of the Vice-President Research

SUGGESTIONS FOR IMPROVEMENT AND DEVELOPMENT

Instructions: Please indicate any suggestions that you may have for the improvement or development of the Transdisciplinary Hub.

I encourage the researchers to continue with the program and develop the internal and external research opportunities described. I would encourage the researchers to focus on a few, rather than many, high profile/potentially high profile areas where real interdisciplinary projects can be developed that will have high impact.

A Board-type structure could be implemented to oversee the Hub and interface with members. This could include local business leaders, private sector scientists and perhaps local government. Large funding opportunities may arise in the near future and it may be wise to have someone from Bittle’s and/or Bradley’s office on such a Board. Founding of a physical institute at some point in the future may be considered if continued funding can be obtained.

While it appears that Brock University has supported the Hub with special funds until now, I would encourage strong support for this venture within the senior leadership at the University. The members of this Hub are amongst the strongest and highest profile scientific researchers at Brock, and well known nationally and internationally.
EVALUATION OF SPECIFIC SECTIONS OF THE SELF-STUDY

Instructions: Items 1 to 6 below correspond to the first six sections of the Transdisciplinary Hub’s Self-Study. For each section, please evaluate the development of the Transdisciplinary Hub by placing an x above the descriptor in the appropriate box. Please use your home institution as a reference for comparison.

1. Evidence of high-impact and innovative transdisciplinary research, scholarship and innovation.


Comments: The list of papers presented shows clearly the innovative transdisciplinary research that ABC is carrying on, as well as the high quality of the published papers. The research ranges from understanding better the biosynthesis of metabolic routes to the modification of molecules. As well as the application of biocatalysis to the manufacture of chiral silicon-based systems and the application of the copper-based salicylate-carrying proteins enzymatic systems.

2. Evidence of excellence in research and scholarship by Hub members that would not have been achieved in the absence of their membership.


Comments: The elucidation of the pathway of tabersonine biosynthesis is an excellent example of collaborative work. It required the collaboration of chemists, biochemists, and molecular biologists. The same can be saying for the work on silicon biotechnology. What also is very important is the protection of the intellectual property.

3. Evidence of excellent leadership and sound management.


Comments:
4. Evidence of effective and high-profile external partnerships and collaborations.

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<tr>
<td>Comments: Evidence of collaboration and partnerships with Israel, USA, and Austria, as well as with other Canadian universities, not just for meetings, but as well as already papers and patents is presented. The areas of interest include different subjects, from very specific topics, such as lipids to more general areas like food nutrition.</td>
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5. Evidence of economic and social impact on local communities (in this case, Niagara) and beyond.

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<tr>
<td>Comments: The start-up to develop novel chemicals for agriculture as well as the liaison with different pharmaceutical Canadian companies provides the framework for economic and social impact in the community. A good example is the creation of Vindolon to exploit the work carried out for many years at the De Luca laboratory.</td>
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6. Evidence of a plan (and steps taken) to achieve financial sustainability of the Institute/Centre at the end of the five-year funding period.

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<tr>
<td>Comments: There is a plan. However, in general, this is the weakest link in the chain. It depends on the viability of the licensed to the mentioned companies, or the consecution of multi-year grants, such as the study of the incorporation of silicon compounds in plants. It is good to have alternative plans to avoid problems. It is very important that the authorities of the University agree that part of the royalties and licensing revenues, generated by the members of ABC, be ploughed back into ABC to achieve their plants.</td>
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7. Statement and explanation of academic achievements that would not have occurred in the absence of funding.

| Comments: One of the most challenging problems is the costs of the protection of the intellectual property. The initial cost of a granted patent in 10 countries could be as much as more than 300,000 USD. Without help for this subject, the financial sustainability of the Institute cannot reach. The initial funding also let to the hiring of additional researchers which were basic to several of the patented developments. |
8. Statement and explanation of any major deviations from planned activities set out in the TD hub application.

Comments: It appears that not major deviations from the initial activities were presented.

OVERALL EVALUATION

Instructions: Items 9 to 11 below, please evaluate the development/success of the Transdisciplinary Hub by placing an x (e.g., __X__) next to the most appropriate descriptor.

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SUGGESTIONS FOR IMPROVEMENT AND DEVELOPMENT

Instructions: Please indicate any suggestions that you may have for the improvement or development of the Transdisciplinary Hub.

The Transdisciplinary Hub has been very successful. The only suggestion could be the reasonable increment of the researchers. The proposal increment of two researchers seems goods if this addition comes with assistant researchers and post-doctoral.
Vincenzo De Luca Curriculum Vitae since 2012

Graduate Students

<table>
<thead>
<tr>
<th>Student Name (29)</th>
<th>Program Type</th>
<th>Year</th>
<th>Supervisor</th>
<th>Co-Supervisor</th>
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<td>Finish</td>
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<td>Trevor Kidd</td>
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<td>Danielle Williams</td>
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* in progress

Postdoctoral fellows and technicians Supervised

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<td>Sayaka Masada</td>
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<td>Kyung Hee Kim</td>
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<td>Yang Qu</td>
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*in progress
Visiting Scientists

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<td>Jae Kyung Yang</td>
<td>04/2013</td>
<td>12/2013</td>
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Teaching (Yearly from 2011-2017)
- Bio2P94 Plant Growth and Development
- Bio4P08 Plant and Microbial Biotechnology
- Bio5P86 Current Topics in Basic and Applied Plant Biology

Honours
2015-22 Tier 1 Canada Research Chair in Plant Biochemistry and Biotechnology
2008-15 Tier 1 Canada Research Chair in Plant Biochemistry and Biotechnology
2015-17 Past President, Canadian Society of Plant Biologists
2013-15 President, Canadian Society of Plant Biologists
2011-13 Vice President, Canadian Society of Plant Biologists
2010-11 Brock University distinguished research and creativity award

Publications since 2012


**Review and book chapters:**


**Patents**

- March 2, 2017 PCT CA2017050284 Yang Qu and V. De Luca. Compositions and methods for making terpenoid indole alkaloids
- March 4, 2016 : Provisional patent # 62/302,342 Yang Qu and V. De Luca. Compositions and methods for making terpenoid indole alkaloids

**Organization of Meetings and Symposia:**

2017

- July 16-20 Co-organizer with Y. Fang of Symposium on Biosynthesis and Regulation of Alkaloids at the Fourth International Conference on Plant Metabolism in Dalian, China;

2015

- November 2-4, Canada-Israel Workshop for NSERC, Co-Organizer with Prof Hillel Fromm, Ottawa, ON.

2014

- July 12-16, Joint meeting of the Canadian & American Societies of Plant, CSPB President’s Symposium Organizer, Plant Biology 2014, Portland, OR, USA
- July 2-5, Vice Chair, 3rd International Congress on Plant Metabolism, Xiamen, China.

2012
• June 28-July 02, Chair 3rd Banff Conference on Plant Metabolism
• May 14-17, Scientific Program Committee 8th Canadian Plant Biotechnology Conference

Conference invitations:

2017
• August 5-9 56th Annual meeting of the Phytochemical Society of North America, University of Missouri, Columbia Missouri: V. De Luca “Molecular and biochemical characterization of monoterpenoid indole alkaloid biosynthesis pathways and their use in metabolic engineering”

2015
• December 15-20 International Chemical Congress of the Pacific Basin Societies: V. De Luca and Y Qu Discovery and assembly of pathways for medicinal monoterpenoid indole alkaloids in plants and microorganisms.
• June 1-5, 12th International Meeting on Biosynthesis, Functions and Synthetic Biology of Isoprenoids, Vancouver, BC, Canada

2014
• June, 4th Banff Conference on Plant Metabolism, AB, Canada
• July, 3rd International Conference on Plant Metabolism, Xiamen, China
• July, Joint meeting CSPB/ASPB, Portland, Oregon
• August, 53rd annual meeting of the Phytochemical Society of North America; Raleigh, North Carolina.

2013
• July, Discussion leader, Gordon Research Conference Plant Metabolic Engineering, Accessing taxonomically restricted metabolism with genomics, Waterville, NH.
• July, Poster and oral Presentation by Vonny Salim Gordon Research Conference Plant Metabolic Engineering, Accessing taxonomically restricted metabolism with genomics, Waterville, NH.

2012
• October, 10th International Congress on Plant Molecular Biology, Korea, “The highways and byways of biologically active monoterpenoid indole alkaloid biosynthesis in specialized plant cells.”
• May 14-17, 2012, July, 8th Canadian Biotechnology Conference, Guelph, ON F Yu, V De Luca Characterization of CrTPT2, a member of pleiotropic drug resistance family of ATP binding cassette transporters, in alkaloid transport in Catharanthus roseus.
• May 14-17, 2012, 8th Canadian Biotechnology Conference, Guelph, ON S Masada-Atsumi, D Levac, E Edmunds, KH Kim, V De Luca Epidermome enriched biosynthesis of monoterpenoid indole alkaloids and secretion to the plant surface may be common in the Apocynaceae family of plants.
Invited Seminar Speaker:

2017
- August 5-9 56th Annual conference of the Phytochemical Society of North America, University of Missouri.

2014
- June, 4th Banff Conference on Plant Metabolism, AB, Canada
- July, 3rd International Conference on Plant Metabolism, Xiamen, China
- July, Dalian Technical University, Dalian, China

2012
- May, 2012 Noble Foundation, Ardmore, OK, USA

Organization of Meetings and Symposia:

- July 12-16, 2014, CSPB President’s Symposium Organizer, Joint meeting of the Canadian and American Societies of Plant, , Plant Biology 2014, Portland, OR, USA.
- July 12-16, 2014, Canadian participant for organizing the joint meeting: Joint meeting of the Canadian and American Societies of Plant, CSPB President’s Symposium Organizer, Plant Biology 2014, Portland, OR, USA.
- July 2-5, 2014 Organizer and Vice Chair, 3rd International Congress on Plant Metabolism, Xiamen, China
- June 28-July 02, 2012 Chair 3rd Banff Conference on Plant Metabolism, AB
- May 14-17, 2012, Scientific Program Committee 8th Canadian Plant Biotechnology Conference, Guelph, ON

Other Contributions:

- 2017-18, Member of LS9 Grant Panels on " Applied life sciences and non-medical biotechnology” with the European Research Council Executive Agency.
- August 2017, Chair NSERC Site Visit for CRD grant at Laval University
- 2015 to present Editorial Board Molecular Plant
- November 2015, External Reviewer for the Department of Cell and Systems Biology and its undergraduate & tri-campus graduate programs, University of Toronto
- May 25-26, 2015 Member of the University of Guelph External Review Committee for a Proposed Program: “Masters of Biotechnology”
- January 19-20, 2015 Member of the Quality Assurance Cyclical Program Review (PhD Biotechnology) Committee, Lakehead University. 2015, Member of LS9 Grant Panels on " Applied life sciences and non-medical biotechnology” with the European Research Council Executive Agency.
- 2013-14, Member of LS9 Grant Panels on " Applied life sciences and non-medical biotechnology” with the European Research Council Executive Agency.
- 2011-15, Member of the Board, Federation of Canadian Plant Societies.
- 2011-14, Scientific Advisory Board on Genome Canada Team Grant “TUFGEN: Total Utilization of Flax GENomics”.
- 2011-12, Member Brock University Award for Distinguished Research or Creativity.
- 2011-13, Vice President, Canadian Society of Plant Biologists.
- 2010-12 Review Editor, Frontiers in Plant Physiology
- 2010-12, Review Editor; Frontiers in Plant Biotechnology
- 2010-15, Editorial Board, The Plant Cell
- 1993-present, Associate Editor, Phytochemistry

### Research grants obtained

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<tr>
<th>Name &amp; Years</th>
<th>Grant Description</th>
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<tr>
<td>De Luca 2012</td>
<td>NSERC Discovery: Biochemical specialization in <em>Catharanthus roseus</em> and Grapevine for secondary metabolite biosynthesis.</td>
<td>$63,000/yr</td>
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<td>De Luca 2012-15</td>
<td>Tier 1 Canada Research Chair in Plant Biotechnology</td>
<td>$200,000/yr</td>
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<tr>
<td>Facchini, Martin, De Luca &amp; colleagues 2012-13</td>
<td>Genome Canada: Synthetic Biosystems for the Production of High-Value Plant Metabolites.</td>
<td>$13,500,000 (De Luca $40,000/year)</td>
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<tr>
<td>De Luca, Gijzen, Aharoni 2012-13</td>
<td>NSERC-Agriculture Canada BARD (Israel) Grant: Discovery of secondary metabolite transporters for quality trait improvement to produce high value nutraceuticals and pharmaceuticals</td>
<td>$25,000/yr</td>
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<td>De Luca 2012</td>
<td>NSERC RTI: Tissulyser II.</td>
<td>$13,300</td>
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<td>De Luca &amp; colleagues 2012</td>
<td>Leading Edge Fund Advanced methods for synthesis, biosynthesis, and biomanufacturing (CFI and OCE)</td>
<td>$1,897,548</td>
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<td>De Luca 2012-2017</td>
<td>NSERC Discovery: Regulation of MIA biosynthesis in <em>Catharanthus roseus</em>.</td>
<td>$47,000/yr</td>
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<td>De Luca 2015-22</td>
<td>Tier 1 Canada Research Chair in Plant Biotechnology</td>
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<td>De Luca 2016-2017</td>
<td>IRAP- Synthetic biology reconstitution of the Madagascar periwinkle’s vinblastine biosynthesis pathway in bacteria and yeast for commercial scale up, production and sale.</td>
<td>$90,400/yr</td>
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<td>De Luca 2017-22</td>
<td>NSERC Discovery: Regulation of MIA biosynthesis in <em>Catharanthus roseus</em>.</td>
<td>$69,000/yr</td>
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</table>
Charles Després
Cofounder and CEO of Agropeutix, Inc.

Curriculum Vitae
(Up-dated August 2017)

A. FORMAL EDUCATION

09/92 - 08/98  Ph.D. Biochemistry
Université de Montréal
Supervisor: Dr. Normand Brisson

09/90 - 08/92  M.Sc. Molecular Biology
Université de Montréal
Supervisor: Dr. Mario Cappadocia
Codirector: Dr. David Morse

09/87 - 05/90  B.Sc. Biochemistry
Université de Montréal

B. ACADEMIC DISTINCTIONS AND AWARDS

a) Scholarships
1996  Université de Montréal
Value of $3,900

93-95  Natural Science and Engineering Research Council of Canada (NSERC)
Value of $17,400 per annum

93-95  Quebec Ministry of Education (FCAR)
Value of $13,000 per annum

90-92  Quebec Ministry of Education (FCAR)
Value of $8,000 per annum

90-92  Quebec Ministry of Agriculture (MAPAQ)
Value of $8,000 per annum

b) Honors and Awards
2017  Mentorship Award from the Faculty of Graduate Studies
Recognizes the essential role of mentorship in graduate education by faculty supervisors in the category of mentorship of both master’s and PhD students. Value of $1,000
2011  C.D. Nelson Award from the Canadian Society of Plant Biologists
Recognizes Canada’s best plant biologists under 10 years of tenure

02-06  Canada Research Chair – Tier II
Value of $100,000 per annum

05-05  Ontario Distinguished Research Award

2002  Letter of congratulations from Prime Minister Jean Chrétien for
the award of a Canada Research Chair.

2001  Award for Best Research Associate Oral Presentation Plant
Biotechnology Institute Research Symposium

2000  Outstanding Achievement Award - Outstanding Research Team
Category (Plant Biotechnology Institute)

2000  Performance Bonus Award for High Performing Employees
(National Research Council)
Value of $3,457

1996  Canadian Society for Plant Molecular Biology

C.  ACADEMIC POSITIONS HELD

07/06 –  Associate Professor
Brock/Biological Sciences

04/02 – 06/06  Assistant Professor
Brock/Biological Sciences

06/98 – 04/02  Research Associate
National Research Council/Plant Biotechnology Institute

D.  SCHOLARLY ACTIVITIES

1) Publications
a) Chapters Contributed to Books
TGA2 and also Featuring NPR1. Chapter 4 In: Molecular Plant Microbe-Interaction. Bouarab
K, Brisson N, Daayf, F (Eds). CABI, Cambridge, MA.: 75-93. Després is the corresponding
author.

b) Articles in Refereed Journals


c) Refereed Published Abstracts
My work is generally presented ahead of publication in national and international meetings (2-4 abstracts per year).

d) Creative Work in Performing/Visual Arts
not applicable

e) Book Reviews
None

f) Other Non-Refereed Publications
None

g) Research-Based Reports to Government or Comparable Agencies
None

h) Theses


2) Work Submitted for Publication
Information withheld.

3) Patents Applied for or Received


Després, C. and Fobert, P.R. Redox Switch Regulation of Plant Transcription Factors. Provisional patent.

4) Papers Presented at Conferences (Oral Refereed)
Després, C. The NPR1 Salicylic acid receptor: Trailblazing from basic science to commercialization. Botany 2015. Co-hosted by the Canadian Society of Plant Biologists and several other International societies. (Edmonton), July 27, 2015.


Després, C. Possible strategies for engineering disease resistance through manipulation of the NPR1 signal transduction pathway. 6th International Congress of Plant Molecular Biology (ISPMB) (Quebec), June 2000.

Després, C. Involvement of phosphorylation in the expression of the potato pathogenesis-related gene PR-10a. 4th International Congress of Plant Molecular Biology (ISPMB) (Amsterdam), June 1994.

5) Grants Obtained
a) Internal Grants
2013-2017 Brock’s Advanced Biomanufacturing Center $200,000.
2002 Brock University Start-up Fund $40,000.

b) Refereed External Grants
2012 - 2017 NSERC Discovery Grant $26,000/annum. $130,000
2015 – 2016 OGI Pre-Commercialization Development Fund $100,000
2013 – NSERC I2I. Market Study on NPR1. $14,000
2014 – CFI + Partners. Gene/protein discovery. $2,374,470 (34%) $806,823
2012 – OPIC $10,000
2012 - 2015 NSERC Accelerator Grant $40,000/annum. $120,000
2012 - 2017 NSERC Discovery Grant $65,000/annum. $325,000
2008 - CFI + Partners. Small Molecule/RT-PCR $233,315 (50%) $116,658
2007 - 2011 NSERC Discovery Grant $58,000/annum. $290,000
2004 CFI + Partners. MALDI-ToF and Protein Spot Picker $829,601
2003 NSERC Equipment $15,000 $15,000
2003 – 2006 NSERC Strategic Grant $666,500 (33%) $219,945
2002 - 2007 NSERC Discovery Grant $49,961/annum. $249,805
2002 - 2006 NSERC Canada Research Chair Program $100,000/annum. $500,000
2002 CFI + Partners. General Lab equipment. $312,000
2002 NSERC Equipment $42,702 (33%), Growth Cabinet, PI. $14,234

Total External Grants 4,053,066

6) Work in Progress
a) Manuscripts in Preparation (data complete)
Information withheld for IP reasons.

b) Research Projects not yet at the Writing Stage
Information withheld for IP reasons.

7) Other Scholarly Activities
a) Service as a Referee
a.1) Editorial Responsibilities and Peer Review for Scientific Journals
Canadian Journal of Botany.
Cell Host and Microbes.
Molecular Plant-Microbe Interaction.
Nature Communications.
Physiologia Plantarum.
Planta.
Plant Cell.
Plant Journal.
Plant Physiology.
Trends in Plant Science.

a.2) Grant Reviewer (not including service on granting committees)
Brockhouse Canada Prize from NSERC.
FQRNT (Québec’s Granting Agency).
NSERC Discovery Grant.
NSERC Strategic Grant.
NSERC (USA).
Premier’s Research Excellence Award (PREA/ERA).

a.3) Service on Granting Committees
FQRNT (Québec granting agency) 2011.
FQRNT (Québec granting agency) 2002.

d.1) Other Activities - Non-Refereed Invited Oral Communications


Després, C. La protéine NPR1 d’Arabidopsis impliquée dans la réponse de defense agit comme co-activateur de la transcription. Université de Sherbrooke, October 31, 2007.


Després, C. Plant Immunity: Signaling through the NPR1 pathway. McMaster University, November 24, 2005.


Després, C. Redox mechanism controlling the interaction between the Arabidopsis disease resistance gene NPR1 and TGA transcription factors. University of Toronto, December 6, 2002.

Després, C. Deciphering downstream events in the NPR1 signal transduction pathway: A functional genomic approach. NY state Agricultural Experiment Station, October 1, 2001.


d.2) Other Evidence of Impact and Contributions
One of my trainee (Yichen Dai, summer 2016) is a recipient of the very prestigious Rhodes Scholarship to study at the University of Oxford.


The 1995, 2000 (NPR1), and 2003 (NPR1) papers have been singled out and highlighted at the time of publication in a special section of the journal "The Plant Cell" called "In this Issue". The editorial staff of the Plant Cell usually highlights the findings and significance of only one paper per issue.

d.3) Conference Organization
Canadian Society of Plant Biologists, Brock University, December, 2010.

E. TEACHING ACTIVITIES

1) Courses Taught
a) Courses Taught at Brock University

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Course Coordinator

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b) Courses Taught Outside of Brock University
None

c) Mentoring of Students, Post-Doctoral Fellows, Technical Staff and Visiting Scientists

Post-Doctoral Fellows
None

Ph.D. Thesis (7)
Xiahezi (Cherry) Kuai 2013-
Saba Pirna 2013-
Jan Bosak 2010-2015
Nina Slavickova 2011-2015
Yue Wu 2011-2015

M.Sc. Thesis (10)
Colleen Murphy
Xiahezi (Cherry) Kuai 2012-2013
Christine Bigby 2009-2012
Alex (Yue) Wu 2009-2011
Di Zhang 2008-2010
Amanda Rochon (NSERC PGS-A) 2003-2005.
Patrick Boyle (NSERC PGS-A) 2002-2004.

B.Sc. Honors Thesis (5)
Brittany Lucente 2017.
Charles Barraco 2016.
Brandon MacLeod 2015.
Joanna Dion 2004.
Amanda Rochon 2003.

Summer Students (10)
Kin Win (Preston) Lui 2017 (Chinese University of Hong Kong)
Yichen (Serena) Dai 2016 (Chinese University of Hong Kong; Rhodes Scholarship to study at Oxford).
Brandon MacLeod 2014.
Brandon Wickens 2005.
Joanna Dion (USRA) 2004.
Evan Mercier (USRA) 2004.
Joanna Dion (USRA) 2003.
Amanda Rochon (USRA) 2003.
Amanda Rochon (USRA) 2002.
Fiona Menzies 2002.

Other Undergraduate Students (2)
Brandon MacLeod (2013).
Alisa Lacaria 2005.

Technical Staff (3)
Jee Yan Chu 2007-present.
Catherine Chuback April 2004-2005 (Working at the Plant Biotechnology Institute in Saskatoon).

Visiting Scientists (1)
Dr. Pierre Fobert, Plant Biotechnology Institute (Saskatoon, Sk), March 2004.

2) Recognition of Teaching Excellence
I was awarded in 2017 the Mentorship Award from the Faculty of Graduate Studies, which recognizes the essential role of mentorship in graduate education by faculty supervisors in the category of mentorship of both master’s and PhD students. Value of $1,000.

3) Other Contributions Devoted to Pedagogical Interest
I have developed a molecular biology lab course (BCHM/BIOL/BTEC 3P95) entitled Techniques in Biochemistry and Molecular Biology.

I have developed a graduate class (BTEC 5P10) with Vincenzo De Luca entitled: Molecular and chemical control of plant disease processes and development.
I have also developed a graduate class (BTEC 5P86) with Vincenzo De Luca: Current Topics in Basic and Applied Plant Biology.

I have developed a course on signal transduction (BCHM/BIOL/BTEC 4P09) entitled: Current topics in animal and plant signal transduction.

I have developed a theoretical molecular biology course (BCHM/BIOL/BTEC 4P11) entitled Theory of Techniques in Biochemistry and Molecular Biology.

F. University/Community Service:

1) University Service
a) Committees (other than student supervisory committees)
Ad Hoc committee to review NSERC USRA NSERC graduate and OGS scholarships, 2016.
Search committee for the hiring of a new faculty member (2015).
Search committee for the hiring of a new senior demonstrator (2012).
Ad Hoc committee to review NSERC USRA, Brock U level, 2007.
BUSRA Ranking Committee: 2006
Departmental Committee, Dept. of Biological Sciences, 2002-Present.
Graduate Studies Committee 2005-2016.
Chair Ad Hoc committee to review NSERC USRA, Dept. of Biological Sciences, 2003-present.
Ad Hoc committee to review NSERC USRA, Brock U level, 2003.

Graduate Program Director for Biology: 2009-2010.
Preparing the OCGS Graduate Program Appraisal: 2009-2010.

b) Other Administrative Duties
b.1) Student Supervisory Committees, Pre-Doctoral exams, and Thesis Defenses

Ph.D. (26)

M.Sc. (35)
Aditya Joshi, Graham Jones, Vinay Chundi, Zakia Dahi, Charles Barraco, Coleen Murphy, Kimberly Cathline, Emily Bordeleau, Alison Edge, Xiahezi Kuai, Kathryn Woolfson, Kristin Schaven, Christina Bigby, (Alex) Yue Wu, Vonny Salim, Di Zhang, Shiri Sauday, Xiaolu Wang, Ashu Chanana, Esther Tidkte, Errol Su, Mohamed El-Mogy, Derek Kontkanen, Mary Magnotta, Grant Frahm, Cherrie-Lee Small, Patrick Boyle, Amanda Rochon, Catherine Chuback (U of S, co-supervisor), Stephanie Condotta, Grant Frahm, Wes Lowrey, James Lin, Golam Mostafa, Julie Karner

B.Sc. (36)
Brittany Lucente, Charles Barraco, Olga Safonova, Ryan Alt, Zakia Dahi, Shawnnah Staples, Michael Easson, Emily Bordeleau, Alison Edge, Heather Spencer, Derek Pearson, Izabella Sagan, Jonathan Gaiero, Paula Letman, Vladimir Popovic, David Sjaarda, Nahid-Mary Cavalieri, Stephanie Macallister, Mike McGarr, Kristin Foran, Larissa Barelli, Michael Flewelling, Christopher Loewen, Mark Frampton, Terri Richardson, Gavin Paton, Richardson, R., Marshall, K., Steve Durocher, Alicia Karamath, Dalia Abdel Rahim, Amanda Rochon, Joanna Dion, Rabiya Khan, Lydia Tomek, Jillian Marie deMan, Nesreen Qubaja, Patrizio Cassolato, Cara Van Ness, Dawn Eden

b.2) External Examiner M.Sc. and Ph.D. Thesis

Ph.D. (3)
Chen Chen (University of Western Ontario) 2017. Supervisors: Yuhai Cui and Susanne Kohalmi.
Brenden Anthony Hurley (University of Toronto) 2015. Supervisor: Darrell Desveaux.
M.Sc.

none

b.3) External Pre-Doctoral Committee Member

b.4) External Student Supervisory Committees
M.Sc. (1)
Alexandre Maréchal (Université de Montréal). Supervisor: Normand Brisson.

Ph.D. (2)

c) Other University and Community Service
Presentation on June 9th, 2006 to the Ministry of Research and Innovation Deputy Minister Dr. Alastair Glass.
Seminar on July 9th, 2006 to a French Delegation from Picardie Ardenne Champagne. Presentation on November 2nd, 2006 to the Deputy Minister of OMAFRA Dr. Bruce Archibald.
Interview and photo session for the Ontario Innovation Trust’s Annual Report 2005.
Newspaper interview for the Hamilton Spectator 2002.
Interview for the Brock News 2002.
Radio Interview (St Catharines radio station)
Professor Tomas Hudlicky
Correspondence language: English

Contact Information
The primary information is denoted by (*)

Address

Primary Affiliation (*)
Department of Chemistry
Brock University
1812 Sir Isaac Brock Way
St Catharines Ontario L2S 3A1
Canada

Telephone
Fax 1-905-9844841
Work (*) 905-6885550 extension: 4956

Email
Work (*) thudlicky@brocku.ca
Language Skills

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Degrees

- Post-doctorate, Organic Chemistry, University of Geneva
  Supervisors: Oppolzer, Wolfgang, 1977/9 - 1978/8
- 1977/5  Doctorate, Chemistry, Rice University
- 1973/5  Bachelor's, Chemistry, Virginia Polytechnic Institute and State University
  Supervisors: Wolfe, James, 1969/9 - 1973/5

Recognitions

2016/1  Dean's Distinguished Scholar Award
        Brock University
        Prize / Award
        Awarded annually by the Dean of the Faculty of Mathematics and Science

2015/5  Hanuš Memorial Medal
        Czech Chemical Society
        Honor
        The Hanuš Memorial Medal is the highest award of the Czech Chemical Society for scientific achievements.

2014/6  R. U. Lemieux Award - 1,000
        Canadian Society for Chemistry
        Prize / Award
        The Lemieux Award is presented to an organic chemist who has made a distinguished contribution to any area of organic chemistry and who is currently working in Canada.
Professor Tomas Hudlicky

2013/11
Fellow of the Royal Society of Canada
Royal Society of Canada
Honor
The Royal Society of Canada (RSC): The Academies of Arts, Humanities and Sciences of Canada was established in 1882 as the senior Canadian collegium of distinguished scholars, artists and scientists. It is Canada’s National Academy. The primary objective of the Society is to promote learning and research in the arts, the humanities and the natural and social sciences.

2013/4
Innovator of the Year - 5,000
Ontario Partnership for Innovation and Commercialization Prize / Award
The award recognizes an outstanding OPIC faculty member who has advanced academic innovation for one or both outcomes of a better quality of life and economic well-being.

User Profile

Research Specialization Keywords: Amaryllidaceae alkaloids, asymmetric catalysis, asymmetric synthesis, biocatalysis, biotransformations, carbohydrate synthesis, electrochemistry, morphine alkaloids, natural product synthesis, total synthesis

Employment

2003/7
Canada Research Chair and Professor
Chemistry, Mathematics and Science, Brock University
Full-time, Professor
Tenure Status: Tenure

2011/3 - 2023/3
Adjunct Professor
Chemistry, Virginia Polytechnic Institute and State University
Part-time, Adjunct
Tenure Status: Non Tenure Track

1995/1 - 2003/6
Professor
Chemistry, Liberal Arts and Sciences, University of Florida
Full-time, Professor
Tenure Status: Tenure

2000/5 - 2000/6
Guest Professor
Institute of Organic Chemistry, Universität Innsbruck
Full-time, Visiting Professorship
Tenure Status: Non Tenure Track

1997/3 - 1997/6
Guest Professor
Institute of Organic Chemistry, Technische Universität – Graz
Full-time, Visiting Professorship
Tenure Status: Non Tenure Track

1988/9 - 1994/12
Professor
Chemistry, Science, Virginia Polytechnic Institute and State University
Full-time, Professor
Tenure Status: Tenure

1985/9 - 1988/9
Associate Professor
Chemistry, Science, Virginia Polytechnic Institute and State University
Full-time, Associate Professor
Tenure Status: Tenure
1982/8 - 1985/9
Assistant Professor
Chemistry, Science, Virginia Polytechnic Institute and State University
Full-time, Assistant Professor
Tenure Status: Tenure Track

1978/9 - 1982/8
Assistant Professor
Chemistry, Illinois Institute of Technology
Full-time, Assistant Professor
Tenure Status: Tenure Track

Research Funding History

Awarded [n=4]

2013/4 - 2018/3
Principal Investigator
Program in chemoenzymatic synthesis: morphine and Amaryllidaceae alkaloids, chiral building blocks, and design of new asymmetric protocols and reagents, Grant

**Funding Sources:**
Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grants
Total Funding - 345,000
Portion of Funding Received - 345,000
Funding Competitive?: Yes

2013/3 - 2018/3
Co-investigator
Advanced methods for synthesis, biosynthesis, and biomanufacturing, Grant

**Funding Sources:**
Ontario Ministry of Research and Innovation (ON)
Ontario Research Fund – Large Infrastructure
Total Funding - 948,774
Portion of Funding Received - 0
Funding Competitive?: Yes

Canada Foundation for Innovation (CFI)
Leading Edge Fund
Total Funding - 948,774
Portion of Funding Received - 0
Funding Competitive?: Yes

Co-investigator: Atkinson, Jeffrey; Després, Charles; Stuart, Jeffrey; Yan, Hongbin;
Principal Applicant: De Luca, Vincenzo

2013/1 - 2017/12
Principal Investigator
Support for activities related to membership in the Advanced Biomanufacturing Centre, Grant

**Funding Sources:**
Brock University
Total Funding - 200,000
Portion of Funding Received - 200,000
Funding Competitive?: Yes

2010/7 - 2017/6
Principal Applicant
Canada Research Chair in Organic Synthesis and Biocatalysis, Research Chair

**Funding Sources:**
Canada Research Chairs (CRC)
Total Funding - 1,400,000
Portion of Funding Received - 1,400,000
Funding Competitive?: Yes
Completed [n=11]

2016/4 - 2017/3
Co-investigator
Discovery and therapeutic development of antibody-based targets in oncology. Project 2: Antibody–drug conjugate platform development, Grant

**Funding Sources:**
- Terry Fox Research Institute (TFRI)
- New Frontiers Program Project
  - Total Funding - 489,050
  - Portion of Funding Received - 108,700
  - Funding Competitive?: Yes

  Principal Investigator: Babcock, John

2015/1 - 2016/1
Principal Investigator
New methods of O- and N-demethylation, Contract

**Funding Sources:**
- Noramco
  - Total Funding - 60,534
  - Portion of Funding Received - 60,534
  - Funding Competitive?: No

2015/1 - 2015/12
Principal Investigator
Optimization of conversion of thebaine to oripavine and hydromorphone: 2nd-generation synthesis of hydromorphone, Grant

**Funding Sources:**
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Ideas to Innovation (I2I)
  - Total Funding - 120,940
  - Portion of Funding Received - 120,940
  - Funding Competitive?: Yes

2013/6 - 2014/6
Principal Investigator
Novel O-methylation of thebaine, Contract

**Funding Sources:**
- Noramco
  - Total Funding - 30,589
  - Portion of Funding Received - 30,589
  - Funding Competitive?: No

2013/4 - 2014/3
Principal Investigator
Purchase of LC/MS system for analysis of libraries of active compounds, Grant

**Funding Sources:**
- Natural Sciences and Engineering Research Council of Canada (NSERC)
  - Research Tools and Instruments
  - Total Funding - 149,468
  - Portion of Funding Received - 149,468
  - Funding Competitive?: Yes

2011/7 - 2013/6
Principal Applicant
Synthesis and biological evaluation of new antitumor compounds related to pancratistatin [Ontario Posdoctoral Fellowship for Ian Taschner], Fellowship

**Funding Sources:**
- Ontario Ministry of Research and Innovation (ON)
  - Postdoctoral Fellowship Program
  - Total Funding - 50,000
  - Portion of Funding Received - 50,000
  - Funding Competitive?: Yes

2008/4 - 2013/3
Principal Investigator
Program in chemoenzymatic asymmetric synthesis: Amaryllidaceae and morphine alkaloids, chiral synthons, and new reagents for asymmetric synthesis, Grant

**Funding Sources:**
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<td>Development of anti-cancer drugs, Grant</td>
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<td>Applied Research and Commercialization Initiative</td>
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<td>Pulsed pressure chromatography device, Grant</td>
<td>Ontario Partnership for Innovation and Commercialization (OPIC)</td>
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<td>To support developing soluble analogues of pancratistatin, Grant</td>
<td>Brock University</td>
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<td>Research program related to the optimization of MNTX, naltrexone,</td>
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Student/Postdoctoral Supervision

Bachelor’s [n=27]

2017/5 - 2017/7
Goesbier, Quentin, Université Paris-Sud
Principal Supervisor: Undergraduate student, Université Paris-Sud
Thesis/Project Title: Amaryllidaceae alkaloids synthesis. Visiting international undergraduate student (Brock University Mentorship Program)
Present Position: Undergraduate student, Université Paris-Sud

2017/1 - 2018/5
Miskey, Scott (In Progress), Brock University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Synthesis of morphine alkaloids
Present Position: Undergraduate student, Brock University

2016/9 - 2017/3
Lyons, Dale, Cardiff University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Synthetic approach to oxycodone. Visiting international undergraduate student (Brock University Mentorship Program)
Present Position: Undergraduate student, Cardiff University

2015/9 - 2016/8
Mussie, Abiye, Brock University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Narciclasine synthesis. NSERC USRA recipient, summer 2016
Present Position: Undergraduate student, Brock University

2015/9 - 2016/8
Penner, Christopher (Withdrawn), Brock University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Morphine alkaloid synthesis. Chris also worked in the group as a high school student during the summers of 2014 and 2015 before enrolling at Brock in the fall of 2015.
Present Position: Paramedic student, Medicine Hat College

2015/9 - 2016/4
Helmeczi, Wryan, Brock University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Tetrodotoxin and hydromorphone synthesis
Present Position: Unknown

2015/5 - 2015/12
Overbeeke, Cameron (Completed), McMaster University
Principal Supervisor: Undergraduate student, McMaster University
Thesis/Project Title: Synthesis of pleiogenone A. Cameron was NSERC USRA awardee for summer 2015 and had a co-op placement in the group during fall 2015
Present Position: Graduate student, McMaster University

2014/9 - 2015/8
Mueller, Matthew (Completed), Brock University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Morphine alkaloid synthesis
Present Position: Graduate student, Biological Sciences (fall 2017), Brock University

2014/9 - 2015/8
Mayer, Justin, Brock University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Morphine alkaloid synthesis
Present Position: Unknown

2014/1 - 2014/8
Di Santo, Melissa (Completed), Brock University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Project: Amaryllidaceae alkaloid synthesis. NSERC USRA recipient, 2014
Present Position: Unknown

2014/1 - 2014/5
Yousef, Michael, Brock University
Principal Supervisor: Undergraduate student, Brock University
Thesis/Project Title: Amaryllidaceae alkaloids synthesis
Present Position: Unknown
<table>
<thead>
<tr>
<th>Year</th>
<th>Supervisor Name</th>
<th>University</th>
<th>Project Title</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014/1 - 2014/5</td>
<td>Son, Surim (Completed)</td>
<td>Brock University</td>
<td>Thesis: Morphine alkaloid synthesis</td>
<td>Present Position: Teaching assistant, Brock University</td>
</tr>
<tr>
<td>2014/1 - 2014/8</td>
<td>Horakova, Pavlina</td>
<td>Palacky University, Olomouc, Czech Republic</td>
<td>Thesis: Synthesis of chiral auxillary groups. Visiting international undergraduate graduate student.</td>
<td>Present Position: Chemist, Teva Industries, Czech Republic</td>
</tr>
<tr>
<td>2014/1 - 2014/5</td>
<td>Shamshoum, Hesham (Completed)</td>
<td>Brock University</td>
<td>Thesis: Xylosmin synthesis</td>
<td>Present Position: Brock University</td>
</tr>
<tr>
<td>2014/1 - 2014/5</td>
<td>Schenouda, Michael</td>
<td>Brock University</td>
<td>Thesis: Amaryllidaceae alkaloids synthesis</td>
<td>Present Position: Master's student, Brock University</td>
</tr>
<tr>
<td>2013/10 - 2013/12</td>
<td>Kosar, Jan</td>
<td>Palacky University, Olomouc, Czech Republic</td>
<td>Thesis: Synthesis of chiral auxillary groups. Visiting international undergraduate student</td>
<td>Present Position: Unknown</td>
</tr>
<tr>
<td>2013/4 - 2013/8</td>
<td>Weber, Audrey</td>
<td>Université Paris Sud - IUT d'Orsay, France</td>
<td>Thesis: 10-aza-narcilasine synthesis. Visiting international undergraduate student (Brock University Mentorship Participant)</td>
<td>Present Position: Unknown</td>
</tr>
<tr>
<td>2012/9 - 2015/5</td>
<td>Rodriguez, Patrick</td>
<td>Brock University</td>
<td>Thesis: Siloxane chiral polymers</td>
<td>Present Position: Graduate student, McMaster University</td>
</tr>
<tr>
<td>2011/5 - 2011/8</td>
<td>van Kempen, Johannes</td>
<td>Westfälische Wilhelms-Universität Münster, Germany</td>
<td>Thesis: Synthesis of aza-sugars. Visiting international undergraduate student (Brock University Mentorship Participant)</td>
<td>Present Position: Unknown</td>
</tr>
<tr>
<td>2011/5 - 2011/8</td>
<td>Babut, Thomas</td>
<td>Université Paris Sud - IUT d'Orsay, France</td>
<td>Thesis: Biotransformations. Visiting international undergraduate student (Brock University Mentorship Participant)</td>
<td>Present Position: PhD student, Université de Montpellier, France</td>
</tr>
<tr>
<td>Year Range</td>
<td>Student Name</td>
<td>Thesis/Project Title</td>
<td>Position</td>
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<tr>
<td>2009/9 - 2013/8</td>
<td>Ho, Hollich (Completed)</td>
<td>Chiral polymers</td>
<td>Principal Supervisor: Electrical and Mechanical Engineering Officer, Canadian Armed Services</td>
<td></td>
</tr>
<tr>
<td>2009/6 - 2013/8</td>
<td>Hudlicky, Jason R</td>
<td>Synthesis of aza-sugars; [5+2] cycloadditions of vinylcyclopropanes; synthesis of 1,2-amino alcohols; Dauben–Michno oxidations. <em>Visiting undergraduate student, summers (May-August)</em></td>
<td>Principal Supervisor: University of British Columbia</td>
<td></td>
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<tr>
<td>2009/6 - 2013/8</td>
<td>Bedard, Korey</td>
<td>Approach to the conversion of narciclasine to pancratistatin and C-1 analogues of pancratistatin</td>
<td>Present Position: Graduate student (Hudlicky lab), Brock University</td>
<td></td>
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<tr>
<td>2009/1 - 2012/4</td>
<td>Graham, Cameron</td>
<td>Carbon(sp2)-carbon(sp3) decarboxylative coupling mediated by lead tetracarboxylates</td>
<td>Present Position: Graduate student, University of Windsor</td>
<td></td>
</tr>
<tr>
<td>2009/1 - 2012/4</td>
<td>Scattolon, Jon</td>
<td>An alternate route for the synthesis of pancratistatin analogues</td>
<td>Present Position: Graduate student (McNulty lab), McMaster University</td>
<td></td>
</tr>
<tr>
<td>2009/1 - 2012/4</td>
<td>Bissett, Tyler</td>
<td>Investigating the reactivity of the Burgess reagent with N-oxides</td>
<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
<td></td>
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<tr>
<td>2017/9 - 2019/8</td>
<td>Habaz, Lihi</td>
<td>Synthesis of chiral polymers</td>
<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
<td></td>
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<tr>
<td>2017/5 - 2019/5</td>
<td>Bedard, Korey</td>
<td>Synthesis of Amaryllidaceae alkaloids</td>
<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
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<tr>
<td>2017/1 - 2021/12</td>
<td>Baidilov, Daler</td>
<td>Tetrodotoxin synthesis</td>
<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
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<tr>
<td>2014/5 - 2015/4</td>
<td>Rintelmann, Chelsea</td>
<td>Synthesis of Amaryllidaceae alkaloids</td>
<td>Present Position: Graduate student, Indiana University</td>
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<tr>
<td>Year</td>
<td>Supervisor/Student</td>
<td>Degree Type</td>
<td>Project Title</td>
<td>Institution</td>
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<td>2013/5-15/5</td>
<td>Murphy, Brennan</td>
<td>PhD</td>
<td>3-O-Demethylation of thebaine and the synthesis of a Flacourtia aglycone from benzoic acid</td>
<td>Brock University</td>
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<td></td>
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<td>Present Position: PhD student, Indiana University</td>
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<tr>
<td>2012/9-14/12</td>
<td>Naoum, Ravi</td>
<td>PhD</td>
<td>Lipase-mediated enzymatic catalysis for the synthesis of new chiral polymers</td>
<td>Brock University</td>
</tr>
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<td></td>
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<td>Present Position: Chemist, Diteba Research Laboratories</td>
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<tr>
<td>2011/1-13/12</td>
<td>Bissett, Tyler</td>
<td>PhD</td>
<td>Explorations of intramolecular [5+2] cycloadditions of ring-constrained vinylcyclopropanes</td>
<td>Brock University</td>
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<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
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<tr>
<td>2011/1-13/12</td>
<td>Gupta, Setu</td>
<td>PhD</td>
<td>Model studies toward the total synthesis of thebaine by an intramolecular cycloaddition strategy</td>
<td>Brock University</td>
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<td>Present Position: GC/MS Analyst, ALS Environmental</td>
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<tr>
<td>2010/9-11/5</td>
<td>Essel, Augustine</td>
<td>PhD</td>
<td>Electrochemical oxidations</td>
<td>Brock University</td>
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<td>Present Position: Lab supervisor, AGAT Laboratories</td>
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<tr>
<td>2009/9-11/11</td>
<td>Piercy, Timothy</td>
<td>PhD</td>
<td>Chemoenzymatic synthesis of ent-neopinone</td>
<td>Brock University</td>
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<tr>
<td></td>
<td>Graeme</td>
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<td>Present Position: Chemist, Cytec Canada Inc</td>
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<td><strong>Doctorate [n=10]</strong></td>
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<td>2016/9-20/8</td>
<td>Bissett, Tyler</td>
<td>PhD</td>
<td>Synthesis of oxycodone</td>
<td>Brock University</td>
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<td>Student Degree Expected Date: 2020/8</td>
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<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
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<td>2016/5-20/5</td>
<td>Ticli, Vincenzo</td>
<td>PhD</td>
<td>Synthesis of 10-hydroxynarciclasine</td>
<td>Brock University</td>
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<td>Student Degree Expected Date: 2021/5</td>
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<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
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<tr>
<td>2015/5-19/5</td>
<td>Lapinskaite, Ringaile</td>
<td>PhD</td>
<td>Synthesis of Amaryllidaceae alkaloids</td>
<td>Brock University</td>
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<td>Student Degree Expected Date: 2020/5</td>
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<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
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<tr>
<td>2015/3-15/5</td>
<td>Koukal, Petr</td>
<td>PhD</td>
<td>Thebaine synthesis. Visiting graduate student, Brock University</td>
<td>Charles University</td>
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<td>Visiting International Scholar participant</td>
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<tr>
<td>2015/3-15/5</td>
<td>Berenguer Albiñana</td>
<td>PhD</td>
<td>Morphine synthesis. Visiting graduate student, Brock University</td>
<td>Charles University</td>
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<td>Visiting International Scholar participant</td>
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<tr>
<td>2014/1-18/12</td>
<td>Makarova, Maria</td>
<td>PhD</td>
<td>Synthesis of morphine alkaloids</td>
<td>Brock University</td>
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<td></td>
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<td>Student Degree Expected Date: 2018/12</td>
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<td></td>
<td></td>
<td></td>
<td>Present Position: Graduate student (Hudlicky group), Brock University</td>
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</tr>
</tbody>
</table>
2011/9 - 2016/8  Froese, Jordan (Completed), Brock University
Principal Supervisor  Thesis/Project Title: The production and synthetic utility of the dioxygenase-derived metabolites of substituted aromatics
Present Position: Postdoctoral fellow, Vanderbilt University

2010/1 - 2014/5  Varghese, Vimal (Completed), Brock University
Principal Supervisor  Thesis/Project Title: Chemoenzymatic total synthesis of morphine alkaloids: Synthesis of dihydrocodeine and hydrocodone via a double Claisen strategy and ent-hydromorphone via an oxidative dearomatization/intramolecular [4+2] cycloaddition
Present Position: Research Scientist I, Gilead Sciences

2009/9 - 2014/8  Vshyvenko, Sergey (Completed), Brock University
Principal Supervisor  Thesis/Project Title: Synthesis of unnatural analogues of pancratistatin and narciclasine
Present Position: Research Scientist I, Gilead Sciences

2009/5 - 2014/5  Adams, David R (Completed), Brock University
Principal Supervisor  Thesis/Project Title: The use of ipso-dihydrodiols enzymatically derived from benzoic acid in enantioselective synthesis: Idesolide, azasugars, and approaches to total synthesis of Vinca alkaloids
Present Position: Scientist, Cambrex Pharmaceuticals

2017/9 - 2018/8  Prakash, Bhanu, Brock University
Principal Supervisor  Thesis/Project Title: Synthesis of chiral polymers and enzyme mimics
Present Position: Postdoctoral fellow (Hudlicky group), Brock University

2015/11 - 2017/10  Ghavre, Mukund (In Progress), Brock University
Principal Supervisor  Thesis/Project Title: Synthesis of Amaryllidaceae alkaloids
Present Position: Postdoctoral fellow (Hudlicky group), Brock University

2015/6 - 2017/10  Rycek, Lukas, Brock University
Principal Supervisor  Thesis/Project Title: Hydromorphone synthesis
Present Position: Postdoctoral fellow (Hudlicky group), Brock University

2014/9 - 2015/8  Abebe, Zerihum, Brock University
Co-Supervisor  Thesis/Project Title: Transgenic organisms for demethylations
Present Position: Unknown

2014/7 - 2016/7  Hayward, John, Brock University
Principal Supervisor  Thesis/Project Title: Morphine alkaloid synthesis, hydromorphone
Present Position: Lecturer, University of Windsor

2014/1 - 2014/6  Ghavre, Mukund, Charles University, Czech Republic
Principal Supervisor  Thesis/Project Title: Amaryllidaceae alkaloids synthesis. Visiting International Scholar participant
Present Position: Postdoctoral fellow (Hudlicky group), Brock University

2013/8 - 2014/8  Snajdr, Ivan, Brock University
Principal Supervisor  Thesis/Project Title: Transformations of opiate alkaloids
Present Position: Chemist, Apigenex, Inc., Czech Republic

2011/10 - 2012/12  Trant, John F, Brock University
Principal Supervisor  Thesis/Project Title: Synthesis of chiral polymers, tetrodotoxin, enzyme mimics
Present Position: Assistant Professor, University of Windsor

2011/9 - 2013/8  Taschner, Ian, Brock University
Principal Supervisor  Thesis/Project Title: Synthesis of pancratistatin analogues. Recipient of Ontario Postdoctoral Fellowship
Present Position: Assistant Professor, University of Indiana, Northwest
2011/7 - 2012/7  Alatorre-Santamaria, Sergio, Brock University
Principal Supervisor  Thesis/Project Title: [5+2] cycloadditions of vinylcyclopropanes. *Visiting International Scholar participant, recipient of a fellowship from the Canadian Bureau of International Education, Mexico*
Present Position: Faculty member, Universidad Autónoma Metropolitana (Iztapalapa)

2009/8 - 2011/7  Duchek, Jan, Brock University
Principal Supervisor  Thesis/Project Title: Synthesis of neopinone
Present Position: Project Manager, Patheon

2009/1 - 2011/3  Machara, Aleš, Brock University
Principal Supervisor  Thesis/Project Title: Synthesis of novel opiates
Present Position: Assistant Professor, Czech Academy of Sciences

**Research Associate [n=1]**

2010/1 - 2025/12  Endoma-Arias, Mary Ann, Brock University
Principal Supervisor  Thesis/Project Title: Biotransformations; oxycodone synthesis
Present Position: Research Associate, Hudlicky group, Brock University

**Technician [n=1]**

2014/8 - 2018/8  De la Paz, Helen, Brock University
Principal Supervisor  Thesis/Project Title: Biotransformations, microbiology
Present Position: Technician, Hudlicky lab, Brock University

**Event Administration**


**Editorial Activities**

1994/7 - 2011/6  Editorial Advisory Board, Collection of Czechoslovak Chemical Communications, Journal

**International Collaboration Activities**

2017/7 - 2020/12  Collaboration with Brian Bachmann (Vanderbilt University; Nashville, Tennessee) on a project on site-directed mutagenesis of toluene dioxygenase. I am also supplying compounds for synthesis and testing. We anticipate at least one paper resulting from this collaboration.

2016/10 - 2020/12  Collaboration with Gary Sulikowski (Vanderbilt University; Nashville, Tennessee) on the structure–activity relationship of pleiogenone. I am also providing compounds for synthesis and testing. We anticipate at least one paper from this collaboration.
2013/9 - 2019/12 Collaborator, Czech Republic
Collaboration with Aleš Machara (formerly at Charles University, now at the Czech Academy of Sciences, Prague) on several research projects: (a) development of new methods of N-demethylation of morphinans; (b) chemoenzymatic synthesis of oseltamivir analogs; (c) evaluation of bio-compatible polymer links with pancratistatin derivatives for delivery of compounds to cells. The collaboration involves active participation in the projects and provision compounds for synthesis and testing. It has resulted in 6 joint papers since 2015.

2016/1 - 2016/12 Host, Czech Republic
Joseph Hajicek, Zentiva a.s. (Prague, Czech Republic) was a visiting scientist in my lab while collaborating on a project on the synthesis of thebaine. We expect to publish one or more joint papers from this collaboration.

2007/1 - 2016/12 Collaborator, United States
This collaboration with Phil Cox (Noramco Inc.; Athens, Georgia) concerned process development for opiate-derived agents such as naltrexone, naloxone, buprenorphine, and nalbuphine. This collaboration produced a total of 16 joint papers, 12 since 2010.

2015/8 - 2016/10 Collaborator, United States
Collaboration with James Tanko (Virginia Tech, Blacksburg, Virginia) involved projects on electrochemical oxidation and hydromorphone synthesis. There has been one publication and one conference presentation resulting from our collaboration.

2014/7 - 2015/6 Collaborator, Australia
This was a collaborative project with Helmut Hugel (RMIT University, Melbourne) on olfactory properties of dioxepanones derived from chemoenzymatically produced arene cis-diols. I also provided compounds for synthesis and testing. This collaboration resulted in two papers.

2013/1 - 2014/12 Collaborator, United States
Snezna Rogelj, New Mexico Tech, tested narciclasine analogues.

2013/9 - 2013/12 Host, Czech Republic
International visiting scholar (and former postdoc) Ales Machara (Charles University) spent the fall term in my group working on a collaborative project on transformations of opiate alkaloids.

2013/1 - 2013/12 Collaborator, United States
Christopher McCurdy, then at U Mississippi, tested heteroatom analogues of hydrocodone.

2012/1 - 2013/12 Collaborator, United States
I collaborated with John Porco, Boston University, on the synthesis of kibdelone.

2012/1 - 2012/4 Host, Norway
Rolf Carlson (University of Tromsø) spent four months with my group on a sabbatical visit. One publication resulted.

2011/1 - 2011/12 Collaborator, United States
Alex Kornienko, Texas State University, tested Amaryllidaceae alkaloids for us.

Committee Memberships

2015/11 Committee Member, Research Tools and Instruments Grants evaluation committee, Natural Sciences and Engineering Research Council of Canada (NSERC)
Committee Member, R. U. Lemieux Award selection committee, Canadian Society for Chemistry

Committee Member, Alfred Bader Award selection committee, Canadian Society for Chemistry

Presentations

1. (2017). Chemoenzymatic total synthesis of natural products: recent progress in approaches to morphine and other complex targets. Seminar, TEVA Industries, Opava, Czech Republic
   Main Audience: Knowledge User
   Invited?: Yes, Keynote?: No

2. (2017). Recent advances in process development for opiate-derived pharmaceutical agents. Seminar at TEVA Industries, Opava, Czech Republic
   Main Audience: Knowledge User
   Invited?: Yes, Keynote?: No

3. (2017). Chemoenzymatic total synthesis of natural products: Recent progress in approaches to morphine and other complex targets. Organic Reactions Endowed Lectureship, Department of Chemistry, Emory University, Atlanta, Georgia, United States
   Main Audience: Researcher
   Invited?: Yes, Keynote?: Yes

   Main Audience: Researcher
   Invited?: Yes, Keynote?: No

5. (2016). Chemoenzymatic total synthesis of natural products: recent progress in approaches to morphine and other complex targets. Seminar, Vanderbilt Institute of Chemical Biology, Vanderbilt University, Nashville, Tennessee, United States
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No

6. (2016). Chemoenzymatic total synthesis of natural products: Recent progress in approaches to morphine and other complex targets. Seminar, University of Windsor, Windsor, Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No

   Main Audience: Researcher
   Invited?: Yes, Keynote?: Yes

8. (2015). Recent progress in chemoenzymatic synthesis of natural and unnatural products: Amaryllidaceae and morphine alkaloids, opiate-derived pharmaceutical agents, and other targets of interest. Seminar, RWTH Aachen University, Aachen, Germany
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No

9. (2015). Recent progress in chemoenzymatic synthesis of natural and unnatural products: Amaryllidaceae and morphine alkaloids, opiate-derived pharmaceutical agents, and other targets of interest. Hanus Medal Lecture, Charles University, Prague, Czech Republic
   Main Audience: Researcher
   Invited?: Yes, Keynote?: Yes
10. (2015). Recent progress in chemoenzymatic synthesis of natural and unnatural products: Amaryllidaceae and morphine alkaloids, opiate-derived pharmaceutical agents, and other targets of interest. Seminar, Masaryk University, Brno, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

12. (2015). Recent progress in chemoenzymatic synthesis of natural and unnatural products: Amaryllidaceae and morphine alkaloids, opiate-derived pharmaceutical agents, and other targets of interest. Seminar, Technische Universität Wein, Vienna, Austria
Main Audience: Researcher
Invited?: Yes, Keynote?: No

13. (2014). Design for alkaloid synthesis. Short course, Department of Pharmaceutical Chemistry, University of Oslo, Oslo, Norway
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Main Audience: Researcher
Invited?: Yes, Keynote?: No

15. (2014). Recent advances in process development for opiate-derived pharmaceutical agents and progress in total synthesis of morphine. R. U. Lemieux Award Lecture, 97th Canadian Chemistry Conference and Exhibition, Vancouver, Canada
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

16. (2014). Scientific integrity in synthetic organic chemistry. From experimental techniques to reporting of results. A one-day short course, Palacky University, Olomouc, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

18. (2013). Recent progress in the chemoenzymatic synthesis of natural products. How to combine the best of academic and industrial principles to achieve efficiency. Kommpa Symposium, Espoo, Finland
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

19. (2013). Chemoenzymatic synthesis of morphine and Amaryllidaceae alkaloids, and other natural products. Seminar, Zentiva, Prague, Czech Republic
Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

20. (2013). Chemoenzymatic synthesis of morphine and Amaryllidaceae alkaloids and other natural products. Seminar, Karl-Franzen University, Graz, Austria
Main Audience: Researcher
Invited?: Yes, Keynote?: No
Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

22. (2013). How to combine the best of academic and industrial principles to achieve maximum efficiency. Process development for opiate-derived pharmaceutical agents. Seminar, Charles University, Prague, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: No

23. (2013). New chemoenzymatic and cycloaddition approaches to morphine and Amaryllidaceae alkaloids. Blue Danube Symposium on Heterocyclic Chemistry, Olomouc, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

24. (2013). Chemoenzymatic synthesis of morphine and Amaryllidaceae alkaloids, and other natural products. Novartis Lecture, University of Texas Southwestern Medical Center, Dallas, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

25. (2013). Scientific integrity in synthetic organic chemistry, from experimental techniques to reporting of results (A one-day short course). Short course, Zentiva, Prague, Czech Republic
Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

26. (2013). Chemoenzymatic synthesis of morphine and Amaryllidaceae alkaloids, and other natural products. Seminar, Université de Montréal, Montréal, Canada
Main Audience: Researcher
Invited?: Yes, Keynote?: No

27. (2013). Merits of biocatalysis in environmentally benign manufacturing of pharmaceuticals. Seminar, Palacky University, Olomouc, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: No

28. (2013). Chemoenzymatic synthesis of morphine and Amaryllidaceae alkaloids and other natural products. Seminar, Palacky University, Olomouc, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: No

29. (2013). How to combine the best of academic and industrial principles to achieve maximum efficiency. Process development for opiate-derived pharmaceutical agents. Novartis Lecture, University of Texas Southwestern Medical Center, Dallas, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

30. Rinner U (presenter), Hudlicky T. (2013). Merits of biocatalysis in environmentally benign manufacturing of pharmaceuticals. 96th Canadian Chemistry Conference and Exhibition — Symposium on Green Chemistry III: Synthesis and processing methods, Quebec City, Canada
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Main Audience: Researcher
Invited?: Yes, Keynote?: No
32. (2012). Chemoenzymatic synthesis of morphine and Amaryllidaceae alkaloids: Recent progress. 19th International Conference on Organic Synthesis (ICOS-19), Melbourne, Australia
Main Audience: Researcher
Invited?: Yes, Keynote?: No

33. (2012). Total synthesis of morphine and Amaryllidaceae alkaloids, their unnatural derivatives, Tamiflu, and other natural products via enzymatic methods. Seminar, University of Toronto, Toronto, Canada
Main Audience: Researcher
Invited?: Yes, Keynote?: No

34. (2012). Biocatalytic synthesis of alkaloids and explorations of new annulation methods. 95th Canadian Chemistry Conference and Exhibition — Symposium on Advances in Synthetic Methods, Calgary, Canada
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

36. (2012). Recent progress in chemoenzymatic total synthesis: Efficiency aspects in the design of approaches to morphine and Amaryllidaceae alkaloids and other targets. Seminar, Charles University, Prague, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: No

37. (2012). Pattern recognition and efficiency of design in the chemoenzymatic synthesis of natural and unnatural products: Amaryllidaceae alkaloids, codeine, balanol, Tamiflu, and other compounds. Seminar, Florida International University, Miami, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

38. (2012). Recent progress in chemoenzymatic total synthesis: Efficiency aspects in the design of approaches to morphine and Amaryllidaceae alkaloids and other targets. Seminar, University of Hawaii at Manoa, Honolulu, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

40. (2012). Recent progress in chemoenzymatic synthesis of morphine and Amaryllidaceae alkaloids, and other natural products. Seminar, University of Tasmania, Hobart, Australia
Main Audience: Researcher
Invited?: Yes, Keynote?: No

41. (2012). Total synthesis of morphine and Amaryllidaceae alkaloids and their unnatural derivatives via enzymatic methods. Seminar, Indiana University, Bloomington, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

42. (2012). Constraints in total synthesis: How to combine the best of academic and industrial principles to achieve efficiency. Seminar, Australian National University, Canberra, Australia
Main Audience: Researcher
Invited?: Yes, Keynote?: No
43. (2012). Recent progress in chemoenzymatic total synthesis: Efficiency aspects in the design of approaches to morphine and Amaryllidaceae alkaloids and other targets. Seminar, Technical University Dresden, Dresden, Germany
Main Audience: Researcher
Invited?: Yes, Keynote?: No

44. (2012). Recent progress in chemoenzymatic total synthesis: Efficiency aspects in the design of approaches to morphine and Amaryllidaceae alkaloids and other targets. Seminar, Faculty of Pharmacy, Charles University, Hradec Kralove, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: No

45. (2012). Scientific integrity in synthetic organic chemistry: from experimental techniques to reporting of results. A short version of the one-day workshop. Short course, Faculty of Pharmacy, Charles University, Hradec Kralove, Czech Republic
Main Audience: Researcher
Invited?: Yes, Keynote?: No

46. (2012). Chemoenzymatic synthesis of morphine and Amaryllidaceae alkaloids and other natural products. Seminar, University of Victoria, Victoria, Canada
Main Audience: Researcher
Invited?: Yes, Keynote?: No

47. (2012). Total synthesis of morphine and Amaryllidaceae alkaloids and their unnatural derivatives via enzymatic methods. Seminar, Indiana University, Bloomington, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

49. (2011). Chemoenzymatic synthesis of natural and unnatural products: Amaryllidaceae alkaloids, codeine, balanol, Tamiflu, and other compounds. Seminar, Vanderbilt University, Nashville, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

52. (2011). Biocatalytic syntheses of natural products and derivatives in the area of pain control, cancer, and viral infections. COST High-Level Research Conference on Natural Products: Chemistry, Biology, and Medicine IV, Acquafredda di Maratea, Italy
Main Audience: Researcher
Invited?: Yes, Keynote?: No
Publications

Journal Articles

Published
Refereed?: Yes

Published
Refereed?: Yes

Accepted
Refereed?: Yes

Published
Refereed?: Yes

Published
Refereed?: Yes, Open Access?: Yes

Published
Refereed?: Yes

Published
Refereed?: Yes

Published
Refereed?: Yes

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Refereed?: Yes
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Published
Refereed?: Yes

Published
Refereed?: Yes
Published
Refereed?: Yes

Journal Issues

Published
Refereed?: Yes
Editors: Hudlicky T (Guest Editor)

Book Chapters

Published, Italian Society of Chemistry
Refereed?: Yes

Published, Italian Society of Chemistry
Refereed?: Yes

Published, Elsevier
Refereed?: Yes

Published, Wiley-VCH
Refereed?: Yes

Published, Springer-Verlag
Refereed?: Yes

Published, Springer-Verlag
Refereed?: Yes

Conference Publications

Conference Date: 2013/7
Poster
Published
Refereed?: Yes, Invited?: No
Conference Date: 2011/7
Poster
Published
Refereed?: Yes, Invited?: No

Intellectual Property

Patents

   Patent Status: Pending
   Inventors: Hudlicky T; *Froese J
   This application relates to the synthesis of pleiogenone A.

2. Process for preparing morphine compounds. Canada. CA 2882694. 2015/02/23.
   Patent Status: Pending
   Inventors: *Varghese V, Hudlicky T
   The application relates to processes for the preparation of morphine compounds utilizing a novel intramolecular [4+2] cycloaddition reaction.

3. Methods for the preparation of hydromorphone. Canada. CA 2881229. 2015/02/06.
   Patent Status: Pending
   The application relates to methods for the preparation of morphine derivatives from oripavine and oripavine from thebaine.

4. Methods for the preparation of hydromorphone from thebaine via oripavine. Canada. CA 2881229. 2015/02/06.
   Patent Status: Pending
   The invention relates to methods for the preparation of morphine derivatives.

   Patent Status: Pending
   Inventors: Hudlicky T, Brindle ID, *Endoma-Arias MA
   The disclosure relates to methods for the chromatographic separation of two or more sample components using a column while applying a time-pulsed pressure differential to the column.

   Patent Status: Pending
   Inventors: Hudlicky T, Brindle ID, *Endoma-Arias MA
   The disclosure relates to methods for the chromatographic separation of two or more sample components using a column while applying a time-pulsed pressure differential to the column.

   Patent Status: Pending
   Inventors: Hudlicky T, *Endoma-Aria MA
   The oxazolidine derived from the reaction of oxymorphone with the Burgess reagent, temporarily protected at O-3 and C-6, reacts with Grignard or other suitable metallic or organometallic reagents to directly provide, for example, A/-allyl, A/-methylcyclopropyl and /V-methylcyclobutyl derivatives that are further converted into naltrexone, naloxone, nalbuphene and nalbuphine in excellent yields. These morphine analogs can be prepared from the oxazolidine in a one-pot synthesis.
Patent Status: Granted/Issued
Year Issued: 2017
Inventors: Hudlicky T, *Machara A
The invention is directed to an efficient conversion of C-14 hydroxylated morphine alkaloids to various morphine analogs, such as naltrexone, naloxone and nalbuphone.

Patent Status: Granted/Issued
Year Issued: 2017
Inventors: Hudlicky T, *Machara A
The invention is directed to an efficient conversion of C-14 hydroxylated morphine alkaloids to various morphine analogs, such as naltrexone, naloxone and nalbuphone.

Patent Status: Granted/Issued
Year Issued: 2016
The invention relates to methods for the preparation of morphine derivatives.

Patent Status: Granted/Issued
Year Issued: 2016
The invention provides a method for the N-demethylation and N-functionalization of an N-methylated heterocycle such as a morphine alkaloid or tropane alkaloid.

Patent Status: Granted/Issued
Year Issued: 2015

Patent Status: Granted/Issued
Year Issued: 2015
Inventors: *Carroll R, *Leisch H, Hudlicky T

Patent Status: Granted/Issued
Year Issued: 2015
A high-yielding method for the N-demethylation of oxycodone- and oxymorphone-N-oxides by the reaction of these compounds with cyclodehydration reagents has been performed. This method has been utilized to improve the synthesis of various morphine analogs, such as naltrexone, nalbuphone and naloxone.

Patent Status: Granted/Issued
Year Issued: 2015
Inventors: *Varghese V, Hudlicky T
Patent Status: Granted/Issued
Year Issued: 2015
Inventors: Hudlicky T, *Machara A
The invention is directed to an efficient conversion of C-14 hydroxylated morphine alkaloids to various morphine analogs, such as naltrexone, naloxone and nalbuphene. One feature of this process is an intramolecular functional group transfer from the C-14 hydroxyl to the N-17 nitrogen atom following a palladium-catalyzed N-demethylation.

Patent Status: Granted/Issued
Year Issued: 2015
A high-yielding method for the N-demethylation of oxycodone- and oxymorphone-N-oxides by the reaction of these compounds with cyclodehydration reagents has been performed. This method has been utilized to improve the synthesis of various morphine analogs, such as naltrexone, nalbuphene and naloxone.

Patent Status: Granted/Issued
Year Issued: 2015
Inventors: Hudlicky T, *Endoma-Arias MA
The oxazolidine derived from the reaction of oxymorphone with the Burgess reagent, temporarily protected at O-3 and C-6, reacts with Grignard or other suitable metallic or organometallic reagents to directly provide, for example, /V-/allyl, /V/-methylcyclopropyl and /V/-methylcyclobutyl derivatives that are further converted into naltrexone, naloxone, nalbuphene and nalbuphine in excellent yields. These morphine analogs can be prepared from the oxazolidine in a one-pot synthesis.

Patent Status: Granted/Issued
Year Issued: 2015
The present invention provides a method for the N-demethylation and N-functionalization of an N-methylated heterocycle such as a morphine alkaloid or tropane alkaloid.

Patent Status: Granted/Issued
Year Issued: 2014
Inventors: Hudlicky T, *Werner L, *Machara A
The present application relates to processes for the preparation of oseltamivir and the H3PO4 salt of oseltamivir, Tamiflu®. The application further relates to novel intermediate compounds and to pharmaceutical compositions containing said compounds. The application further relates to a method of using the novel intermediates to treat or prevent influenza.
   Patent Status: Granted/Issued
   Year Issued: 2014
   Inventors: Hudlicky T, *Werner L, *Machara A
   The present application relates to processes for the preparation of intermediates useful in the manufacture of oseltamivir and the H3PO4 salt of oseltamivir (Tamiflu®). The application further relates to novel intermediate and compounds and oseltamivir analogs and to pharmaceutical compounds comprising said analog compounds. The application further relates to a method of using the novel analogs of oseltamivir to treat or prevent influenza.

   Patent Status: Granted/Issued
   Year Issued: 2014
   Inventors: Hudlicky T, *Collins J
   The invention relates to novel C-1 substituted analogs of pancratistatin and 7-dexoypancratistatin, pharmaceutical compounds thereof and the use of said compounds in the treatment of cancer. The application also relates to processes for the preparation of the compound and intermediates thereof.

   Patent Status: Granted/Issued
   Year Issued: 2014
   The invention describes processes for the synthesis of morphinane and morphinone compounds, useful as pharmaceutical agents. Also included are novel intermediates useful in the preparation of these compounds.

   Patent Status: Granted/Issued
   Year Issued: 2011
   Inventors: *Carroll R, *Leisch H, Hudlicky T
   The present invention provides a method for the N-demethylation of an N-methylated heterocycle, particularly a morphine or tropane alkaloid or derivative thereof. The method comprises reacting the heterocycle with a metal catalyst and a solvent in the presence of an oxidizing agent.

   Patent Status: Granted/Issued
   Year Issued: 2011
   Inventors: *Carroll RJ, *Leisch H, Hudlicky T, Cox DP
   The present invention provides methods for the conversion of thebaine to a morphine derivative, such as hydrocodone. Novel ketal intermediates of the conversion are provided. A one-pot procedure for the conversion comprises treating thebaine with an acid in the presence of a metal catalyst.

Licenses

1. Unexpected N-demethylation of oxymorphone and oxycodone N-oxides mediated by the Burgess reagent. Direct synthesis of naltrexone, naloxone, and other antagonists from oxymorphone.
   Granted
   Date Issued: 2011/9

2. Palladium-catalyzed synthesis of new N-acyl derivatives of hydrocodone (Amendment 1)
   Granted
   Date Issued: 2011/9
   With Noramco, Inc. (originally licensed June 2007)
3. Direct synthesis of naltrexone by palladium-catalyzed N-demethylation/acylation of oxymorphone. The benefit of C–H activation and the intramolecular acyl transfer from C-14 hydroxyl.  
   Granted  
   Date Issued: 2011/9  
   With Noramco, Inc.

4. Short practical synthesis of both isomers of methylnaltrexone from oripavine (Amendment 1)  
   Granted  
   Date Issued: 2010/5  
   With Noramco, Inc. (originally licensed November 2008)
Paul M. Zelisko, Hons. BSc, PhD

Brock University
Department of Chemistry
1812 Sir Isaac Brock Way
St. Catharines, Ontario
Canada L2S 3A1

Tel: +1-905-688-5550 ext. 4389
Fax: +1-905-984-4864
E-mail: pzelisko@brocku.ca
Web: http://www.brocku.ca/node/9904

Education

PhD - McMaster University, Hamilton, Ontario
September 1999 – December 2004
• enrolled in the Ph.D. programme in the Department of Chemistry under the supervision of Professor Michael A. Brook
• investigating the interaction of proteins and other biomolecules with silicones
• PhD conferred in June 2005

Hons. BSc - McMaster University, Hamilton, Ontario
September 1995 – April 1999
• enrolled in a four year Honours Bachelor of Science programme specializing in anatomy and the life sciences
• Hons. B.Sc. conferred in June 1999

Professional Affiliations

Instructor (Department of Chemistry) – Brock University, St. Catharines, Ontario
August 2004 – present
• Research Interests
  o silicon chemistry;
  o silicon biotechnology;
  o chemistry of silicones and silicone-modified materials
  o silicone/protein interactions;
  o biomaterials;
  o silicon-mediated reactions;
  o bioorganosilicon chemistry;
  o silicon- and silicone-based coatings;
  o chemical education
• Instructor for the second-year organic chemistry courses (CHEM 2P20 and CHEM 2P21) and for fourth-year silicon chemistry (CHEM 4P61) and polymer chemistry (CHEM 4P60) courses
• Teach three, 1-hour lectures per week for a course that includes both chemistry and non-chemistry majors (CHEM 2P20 and CHEM 2P21)
• Responsible for course development both in terms of lecture material and laboratory material where appropriate
• Draft and oversee the administration of course assignments, tests, and exams
• Work with the Senior Laboratory Demonstrator to coordinate, develop, and implement the laboratory portion of the course where appropriate
Instructor/Lecturer – Introductory Organic Chemistry I (CHEM 2OA3), Department of Chemistry – McMaster University, Hamilton, Ontario
May 1-June 18, 2004, May 1-June 20, 2006, May 1-June 20, 2007
• Sessional Lecturer in the Department of Chemistry
• Taught two, 3-hour lectures per week in introductory organic chemistry to non-chemistry majors
• Developed lecture material and oversaw the day to day administration of the course
• Drafted and oversaw the administration of course assignments, tests, midterm examinations, and final examinations
• Worked with the Laboratory Co-ordinator to oversee the labs and teaching assistants for the course

Instructor/Lecturer – Introductory Organic Chemistry II (CHEM 2OB3), Department of Chemistry – McMaster University, Hamilton, Ontario
• Sessional Lecturer in the Department of Chemistry
• Taught two, 3-hour lectures per week in introductory organic chemistry to non-chemistry majors
• Developed lecture material and oversaw the day to day administration of the course
• Drafted and oversaw the administration and implementation of course assignments, tests, midterm examinations, and final examinations
• Worked with the Laboratory Co-ordinator to oversee the labs and teaching assistants for the course

Professional Society Memberships
• Member of the Canadian Institute for Chemistry (2004-present)
• Member of the Canadian Biomaterials Society (2004-2006)
• Member of the American Chemical Society (2001-present)
• Member of the Controlled Release Society (2001-2005)

Research Experience
• Design, organization, implementation, and supervision of research projects and all levels of researchers (post-docs, PhD students, MSc students, undergraduate students, and high school students)
• Experienced in conducting chemical research experiments both at the academic level (independent research and collaborations) and as part of industrial collaborations
• Well versed in the organic synthesis and purification of small molecules and polymers, specializing in organosilicon systems
• Knowledgeable in bioorganic chemistry, specifically in the areas of protein reactivity and manipulation
• Skilled in literature research including a number of electronic formats

Technical Experience
• Versed in the use of a number of analytical instrumentation techniques including:
  o Bruker AV200, AV300, DX500, and AV600 NMR’s
    ▪ 1-D and 2-D spectra with $^1$H, $^{13}$C, and $^{29}$Si
Gas chromatography
- Gel permeation chromatography
- MALDI-TOF mass spectrometry
- Fluorescence and UV/visible spectroscopy
- Confocal microscopy

Reviewer

Regular reviewer for the following journals:

- Polymer Chemistry
- Journal of Materials Chemistry
- Process Biochemistry
- Materials Engineering and Science C
- Dalton Transactions
- Silicon
- Biomacromolecules
- Biomaterials
- European Polymer Journal
- Applied Organometallic Chemistry
- ACS Books
- International Journal of Pharmaceutics
- RSC Advances
- Colloids and Surfaces B: BioInterfaces
- Polymers
- Chemistry – An Asian Journal
- Science
- ACS Applied Materials and Interfaces
- Advances in Colloid and Interface Science
- Chemical Communications
- European Polymer Journal
- Enzyme and Microbial Technology

Editorial Boards

- A member of the Editorial Advisory Board for the journal Silicon
- Guest Editor for the 2010 Issue 2 of Silicon

Collaborations

Prof. Anastasia Elias – University of Alberta, Chemical and Materials Engineering
  - Physicomechanical Properties of Self-Healing and Recyclable Silicone Elastomers

Prof. Georg Pabst – University of Graz, Institute of Molecular Biosciences
  - Biophysical Properties of Silicon-Containing Phospholipid Structures

Dr. Drew Marquardt – Oakridge National Laboratory
  - SANS and SAXS Analyses of Silicon-Containing Phospholipids
Prof. Michael Bidochka – Brock University, Department of Biological Sciences
• Symbiotic Nutrient Exchange Between Plants and Insect Pathogenic Endophytic Fungi

Prof. Travis Dudding – Brock University, Department of Chemistry
• Restricted Rotation of C-C Bonds Alpha to Silicon Atoms

Prof. Tomas Hudlicky – Brock University, Department of Chemistry
• Chemoenzymatic Synthesis of Chiral Siloxane Polymers

Supervision of Post-Doctoral Fellows

*September 2016 – February 2017*
Dr. Laura Zepeda
• Restricted Rotation of C-C Bonds Alpha to Silicon; Siloxane-Containing Phospholipids; Toward the Enzymatic Synthesis of Si-C Bonds

*January 2013 – August 2016, May 2017-Present*
Dr. Mark Frampton
• Enzymatic Routes to Siloxane-Based Macrocycles; Siloxane-Containing Phospholipids

Supervision of Research Associates

*February 1, 2016 – June 1, 2016*
Kassandra Emberson, MSc
• Polymerization Kinetics, Polymer Compositions, and Product Stabilities of Linear Silicone Systems Related to Industrial Products

*May 2016*
Jordan Shorey (Loyalist College, Bellville, ON)
• Analysis of Silicon-Containing Compounds

Supervision of Graduate Students

*January 2018 – Present*
Paria Azadi (*MSc Student*)
• Unique, Self-Healing, Siloxane Structures Employing the Diels-Alder Reaction

*January 2015 – Present*
Patricia Tongkoua (*MSc Student*)
• Siloxane-Phospholipid (SiP) Liposomes as Delivery Vehicles

*September 2015 – August 2017*
Amin Nasresfahani (*MSc Student*)
• Diels-Alder Reactions in Silicone Chemistry for the Creation of Reversible Cross-Links, Self-Healing, and Biodegradation Properties

*September 2012 – December 2012*
Leslie Nash (*MSc Student*)
• Immobilization of Enzymes for Silicon Biotechnology
September 2007 – January 2013
Mark Frampton (PhD Student)
• Organosilicon Biotechnology: A Bio-Inspired Approach to the Hydrolysis of Alkoxydsilanes and the Lipase-Catalyzed Synthesis of Siloxane-Containing Polyesters and Polyamides

January 2011 – May 2011
Zakiah Mohammedsaleh (MSc Student)
• The Directed Evolution of Enzymes to Process Silicon-Based Substrates

Supervision of Undergraduate Students

January 1, 2018 – Present
Kelly Duggan (CHEM 3P98 Student)
• Silanolate Neutralization in Silicone Polymers and Anti-Condensation Coatings for Glass

September 1, 2017 – Present
Bianca Marcella (Mentorship Student)
• Zinc Prolinate Addition to Silicon

September 1, 2017 – November 2017
Caroline Promnitz (4th Year Thesis Student)
• Stork Enamine Addition to Silicon

September 1, 2017 – Present
Jaaziel Cruz (4th Year Thesis Student)
• Self-Healing, Recyclable Silicone Elastomers Using the Diels-Alder Reaction

September 1, 2017 – Present
Kelli McCord (4th Year Thesis Student)
• Evaluating Immobilized Lipases for the Synthesis of Siloxane-Phospholipids

May 1, 2017 – August 31, 2017
Alexandria Albano (Undergraduate Research Associate)
• Sila-Aromatic Compounds for Foundry Resins

January 1, 2017 – August 31, 2017
Caroline Promnitz (Undergraduate Research Associate)
• Proline-Mediated Enamine Addition to Silicon

September 2015 – May 2016
Rebekah Vince (Undergraduate Research Associate)
• Immobilization of Pyrazine Binding Protein on Silica

September 2015 – May 2016
Kevin Lavelllee (4th Year Thesis Student)
• Synthesis and Functionalization of Aromatic Janus Siloxanes

September 2015 – May 2016
Cassy Carpino (4th Year Thesis Student)
• Synthesis and Functionalization of Janus Siloxanes

May 2015 – August 2015
Daniel Izzo (Undergraduate Research Associate)
• Lanthanides in the Formation of Siloxane-Based Macroyclic Structures

January 2015 – May 2015
Rebekah Vince (Undergraduate Research Associate)
• Siloxane-Containing Phospholipids

January 2015 – May 2015
Jesse Lam (Undergraduate Research Associate)
• Toward the Enzymatic Synthesis of a Si-C Bond

May 2014 – December 2014
Ela Zasowski (4th Year Thesis Student)
• Janus Cyclic Siloxanes

May 2014 – December 2014
Nathan Hann (4th Year Thesis Student)
• Evaluating the Stability of Phycobilisomes in Functionalized Sol-Gel Matrices

May 2014 - August 2014
Victor Ferrao (Undergraduate Research Associate)
• Aromatic Siloxane-Based Polymers

May 2014 - August 2014
Caroline Lombardi (Undergraduate Research Associate)
• Silicone-Based Interface Devices for Prosthetics

September 2013 – February 2014
Avril Metcalf-Roach (Mentorship Student)
• Silicone-Based Coatings for Poly(Lactic Acid)

May 2013 – September 2014
Bruce Racey (Undergraduate Research Associate)
• Silicon-Based Anti-Corrosion Coatings

May 2013 – May 2014
Shawnnah Staples (Undergraduate Research Associate)
• Immobilization of Methoxypyrazine Binding Protein (MBP) onto Silica

May 2013 – August 2013
Ramon Vieira (Undergraduate Research Associate)
• Siloxane-Based Coatings for Poly(Lactic Acid)

May 2013 – August 2013
Werik Renato Zanetti Lopes (Undergraduate Research Associate)
• Siloxane-Based Coatings for Poly(Lactic Acid)
September 2012 – February 2013  
Biran Falk-Dotan (Mentorship Student)  
- Exploring Terrestrial and Aquatic Microorganisms as Tools in Silicon Biotechnology

September 2012 – May 2013  
Jacqueline Séguin (4th Year Thesis Student)  
- Synthesis of Chiral Silicon-Based Polymers

September 2012 – May 2013  
Jocelyn DeJong (4th Year Thesis Student)  
- Exploring the Tolerance of Diatoms for Silicon-Based Substrates

September 2011 – May 2013  
Shelby Burattini (4th Year Thesis Student)  
- Kinetics Associated with the Enzymatic Synthesis of Silicone Polyamides

September 2011 – February 2012  
Amy Lin (Mentorship Student)  
- The Immobilization of Enzymes onto Duolite A7

September 2011 – February 2012  
Taylor Laekeman (Mentorship Student)  
- The Immobilization of Enzymes onto Kaolinite

September 2011 – August 2012  
Leslie Nash (4th Year Thesis Student)  
- The Directed Mutagenesis of Enzymes to Process Silicon-Based Substrates

January 2011 – August 2012  
Jacqueline Séguin (Undergraduate Research Associate)  
- The Synthesis of Silicone Polyesters Using Lipase

September 2010 – February 2011  
Annuschka Bork (Mentorship Student)  
- The Controlled Release of Resveratrol and Other Estrogen Receptor β Agonists from Silicone Suspensions

September 2010 – May 2011  
Scott Behie (4th Year Thesis Student – Co-Supervised with Prof. Michael Bidochka (Department of Biological Sciences))  
- Tracking Nitrogen Transfer from Fungi to Plants

September 2010 – May 2012  
Shawn Daley (Undergraduate Research Associate)  
- The Immobilization of Enzymes for the Synthesis of Silicone-Based Polymers

May 2010 – May 2011  
Leslie Nash (Undergraduate Research Associate)  
- The Immobilization of Enzymes for Catalytic Reactions with Silicon-Based Systems
Kim May (Undergraduate Research Associate)
- Immobilized Silicone Emulsions as Release Vehicles for Canadian Medicinal Honey

Izabela T. Subczynska (Undergraduate Research Associate)
- Enzyme-Mediated Synthesis of Silicone Polyesters and Polyamides

Jeff Smith (4th Year Thesis Student)
- The Release Kinetics of Resveratrol from Alkylenoxide-Functionalized Silicone Suspensions

Amanda Antaya (4th Year Thesis Student)
- Silicone Elastomers as Controlled Release Vehicles for Medical-Grade Canadian Honey

Shawn Daley (Mentorship Student)
- The Development of Topical Delivery Methodologies for Medical-Grade Honey from Water-in-Silicone Oil Emulsions

Kayleigh Hagerman (Undergraduate Research Associate)
- Controlled Release of Honey and Resveratrol from Water-in-Silicone Oil Emulsion and Suspension Systems

Ivan Bartakovic (4th Year Thesis Student)
- Silicon-Based Coatings for the Inhibition of Cork Taint in Wine

Helen Tran (Mentorship Student)
- Green, Fruit-Based Systems for the Synthesis of Silica

Chelsea Pretty (Undergraduate Research Associate)
- Silyl Ethers as Directing Groups for Nucleophiles

Ann Dion (CHEM 2P98 Student)
- Green Routes For the Immobilization of Proteins on Silicon(e) Surfaces

Tamara Foster (Undergraduate Research Associate)
- Silicone-Based Drug Delivery Vehicles
September 2007 – June 2008  
Ildiko Szolosi (Undergraduate Research Associate)  
• Silicone-Modified Corks for the Wine Industry

September 2007-February 2008  
Ateeya Vawda (Mentorship Student)  
• Utilization of Fruit-Derived Enzymes in Silicon Chemistry

March 2007-August 2007  
Wai-Ting Kwong (Undergraduate Research Associate)  
• Enzyme-Mediated Cross-Linking of Silicons

May 2006-June 2006  
Heidi Stanisic (Undergraduate Research Associate)  
• Trypsin-Catalyzed Cross-Linking of α,ω-Triethoxysilyl-Terminated Polydimethylsiloxane: An Experimental and Computational Approach

January 2006-May 2007  
Karen Arnelien (Undergraduate Research Associate)  
• Enzyme-Mediated Silicone Chemistry

September 2005-February 2006  
Zobia Chaudhry (Mentorship Student)  
• The Binding of TES-PDMS to HSA.

May 2005-August 2005  
Aimé Lopez Aguilar (Undergraduate Research Associate)  
• The Development of Novel Silicon-Based Detergent Systems Containing Enzyme and Bleach Components

Di Hu (Undergraduate Research Associate)  
• The Entrapment of Proline in Stöber Silica for Catalyzed Aldol Reactions

Layla Mofid (Undergraduate Research Associate)  
• Using Enzymes to Link Silicone Polymers

September 2003 – August 2004  
Jill Ranger (Undergraduate Research Associate with Prof. Michael A. Brook)  
• The Physical Interactions Between Proteins and Silicons and the Subsequent Effect(s) on Protein Stability

Lauren Scott (4th Year Thesis Student with Prof. Michael A. Brook)  
• The Entrapment and Subsequent Release of Heparin from Water-in-Silicone Oil Emulsions for Anti-Thrombosis Applications

Debbie Du Quesnay (4th Year Thesis Student with Dr. Graham McGibbon)  
• The Modification of Cytochrome P450 with Silicon-Based Compounds
May 2003-August 2003
Stefanie Mortimer (Undergraduate Research Associate with Prof. Michael A. Brook)
  • The Formation of Covalent Bonds Between Proteins and Silicones, and the Subsequent
    Effect(s) on Protein Stability

Jill Ranger (Undergraduate Research Associate with Prof. Michael A. Brook)
  • The Physical Interactions Between Proteins and Silicones and the Subsequent
    Effect(s) on Protein Stability

May 2002-August 2002
Stefanie Mortimer (Undergraduate Research Associate with Prof. Michael A. Brook)
  • Protein Deposition on Modified Stöber Silica, Glass, Quartz, and Silicon Wafer Surfaces

Michele Riordon (Undergraduate Research Associate with Prof. Michael A. Brook)
  • The Synthesis of Amino Acid-Modified Silicones and Their Interaction With Proteins
    and Enzymes

May 2001-August 2001
Janinne Crowley (Undergraduate Research Associate with Prof. Michael A. Brook)
  • The Development of a Novel Method for Formulating Small Volume Water-in-Silicone
    Oil Emulsions

Maeghan Walsh (Undergraduate Research Associate with Prof. Michael A. Brook)
  • The Permeability of the Water-in-Silicone Oil Emulsion Interface to Charged Species
    Including Biomolecules

Contributions to Science – Publications

Corresponding author is underlined. HQP affiliated with Zelisko are in bold.

42. Frampton, MB; Marquardt, D; Letofsky-Papst, I; Pabst, G; Zelisko, PM. Analysis of

41. Nasresfahani, A; Zelisko, PM. Synthesis of a Self-Healing Siloxane-Based Elastomer Cross-
    Linked via a Furan-Modified Polyhedral Oligomeric Silsesquioxane: Investigation of a
    Thermally Reversible Silicon-Based Cross-Link. Polymer Chemistry, 2017, 8, 2942-2952.

40. Frampton, MB; Zelisko, PM. Biocatalysis in Silicon Chemistry. Chemistry – An Asian

39. Behie, SW; Moreira, CC; Sementchoukova, I; Barelli, L; Zelisko, PM; Bidochka, MJ.
    Trading Insect Nitrogen for Photosynthate: Carbon Translocation from a Plant to an
    Insect Pathogenic, Endophytic Fungus. Nature Communications, 2017, 8, 14245
    DOI: 10.1038/ncomms14245.

38. Frampton, MB; Zelisko, PM. A Short Synthesis of Siloxane Phosphocholines. European

37. Naoum, R; Séguin, JP; Trant, JF; Frampton, MB; Hudlický, T; Zelisko, PM. A
    Chemoenzymatic Route to Chiral Siloxanes. Tetrahedron, 2016, 72, 4027-4031.


18. Zelisko, PM; Flora, KK; Brennan, JD; Brook, MA. Water-in-Silicone Oil Emulsion Stabilizing Surfactants Formed From Native Albumin and α,ω-Triethoxysilylpropyl-Polydimethylsiloxane. *Biomacromolecules*, 2008, 9, 2153-2161.


14. Zelisko, PM; Ragheb, AM; Hrynyk, M; Brook, MA. Proteins at Silicone Interfaces, in *The Science and Technology of Silicones and Silicone-Modified Materials*. Clarson, SJ; Fitzgerald, JJ; Owen, MJ; Smith, SD; Van Dyke, ME., Eds. 2007, 964, 256-266.

13. Liu, M; Pacard, E; Ragheb, AM; Zelisko, PM; Brook, MA. Stabilisation of Protein-Containing Water-in-Oil Emulsions, *Cahiers de Formulation*, 2004, 11, 1542-162 (Developed from the conference, “Formulation des composés silicones et fluorés” presented at the Journées de formulation: Formulation des composés silicones et fluorés: Concurrence ou complémentarité Lyon, France 9, 10 décembre 2002), Lanteri, P.; Bordes, C., Eds., invited manuscript.


Contributions to Science – Publications (In Preparation & In Review)

Corresponding author is underlined. HQP affiliated with Zelisko are in bold.


3. Hagerman, K; Smith, J; Zelisko, PM. The Controlled Release of Resveratrol from Silicone Oil Suspensions. Journal of Controlled Release. (In Preparation)

Page 13 of 28
2. **Bartakovic, I; Moniz, M; Lesschevre, I; Zelisko, PM.** The Sensory Implications of Biogenic Silica Coatings on Wine Taint and Wine Flavours. *American Journal of Enology and Viticulture.* (In Preparation)

1. **Bartakovic, I; Frampton, MB; Lesschevre, I; Zelisko, PM.** Biogenic Silica Coatings for the Inhibition of Wine Taint. *Journal of Agricultural and Food Chemistry.* (In Preparation)

**Contributions to Science – Patents**

Corresponding author is underlined. HQP affiliated with Zelisko are in bold.


5. **Zelisko, PM; Frampton, MB.** *Siloxane-Containing Hybrid Materials,* US Patent 9,481,766 to Brock University. Issued November 1, 2016.


2. **Zelisko, PM; Séguin, JP.** *Silane Containing Anti-Corrosion Coatings for Steel Articles,* U.S. Patent 9,403,993 to Vanchem Performance Chemicals. Issued August 2, 2016.


**Contributions to Science – Presentations (Oral)**

Presenting author is underlined. HQP are in bold.


43. **Leslie A. Nash** and Paul M. Zelisko. Enzyme Hydrolysis of Tetraethoxysilane: The Directed Evolution of Trypsin for the Mediated Sol-Gel Processing of TEOS, *Western New York American Chemical Society (ACS) Undergraduate Research Symposium*, Buffalo, NY, April 2012. *(This presentation was awarded first prize).*

42. **Leslie A. Nash** and Paul M. Zelisko. Enzyme Hydrolysis of Tetraethoxysilane: The Directed Evolution of Trypsin for the Mediated Sol-Gel Processing of TEOS, *40th Southern Ontario Undergraduate Student Chemistry Conference (SOUSCC)*, Guelph, Ontario, March 2012. *(This presentation was awarded second prize in the Biological Chemistry Division).*


21. Zelisko, PM; Lopez Aguilar, A.; Brook, MA. Delivery of Both Active Enzyme and Bleach from Water-in-Silicone Oil (D₄) Emulsions. Mapping the New Knowledges Graduate Student and Faculty Conference, Brock University, April 10-11, 2007.


Contributions to Science – Presentations (Posters)

Presenting author is underlined. HQP are in bold.


10. Stefanie A.W. Mortimer, Paul M. Zelisko, and Michael A. Brook. Protein Deposition on Modified Silica Surfaces. 36th Organosilicon Symposium, Akron, OH, May 29-31, 2003. Abstract P-46. This poster was awarded the top prize at the Symposium.


**Awards**

**Academic and Community Awards**

**July 2012**

- Nominated for 2013 Clean 50 Award as a result of my research into environmentally-benign methodologies in silicon chemistry

**June 2003**

- Nominated for the Mary Keyes Award for Outstanding Leadership and Service to McMaster University

**May 2002**

- Manske-MacLean Bursary in Chemistry

**February 2002**

- Nominated for the McMaster-wide President’s Award for Excellence for establishing the Departmental Orientation for the Department of Chemistry
Teaching Awards

January 2018
• 2017 Faculty of Mathematics and Science Distinguished Teaching Award

September 2001
• Dow Chemical Award for Excellence in Teaching
  o Approximately 20 nominees from 1500 graduate students
  o One of two awards presented to the 76 graduate students in the Department of Chemistry

Research Funding

20. Removal of Residual Initiator Species from Polydiorganosiloxane Polymer Formulations

• Ontario Centres of Excellence (OCE) VIP II – September 27, 2017-September 27, 2019 ($328,200)

19. Silicone Coatings to Inhibit the Development of Condensation on Chilled Food Display Cases

• Ontario Centres of Excellence (OCE) VIP I and Natural Sciences and Engineering Research Council (NSERC) of Canada Engage – October 3, 2017-October 3, 2018 ($78,004)

18. Structural Determination of Membranes Containing Siloxane Fatty Acids

• Oakridge National Laboratory Small-Angle Neutron Scattering (SANS) time at the BioSANS instrument at the High Flux Isotope Reactor (Oak Ridge, TN), Grant 17302 – September 2017 (instrument time valued at $300,000)

17. Sila-Aromatic Polymers for Foundry Resins

• Ontario Centres of Excellence (OCE) VIP I Grant and Natural Sciences and Engineering Research Council (NSERC) of Canada Engage – September 1, 2016-August 31, 2017 ($49,980)

16. Polymerization Kinetics, Polymer Compositions, and Product Stabilities of Linear Silicone Systems

• Ontario Centres of Excellence VIP I Grant – February 1, 2016-December 31, 2016 ($25,000)

15. Polymerization Kinetics, Polymer Compositions, and Product Stabilities for the Ring-Opening Polymerization of Cyclosiloxane Species

• Natural Sciences and Engineering Research Council (NSERC) Engage Grant – August 1, 2014-January 31, 2015 ($24,923)
14. *Surface Characterization of Siloxane Hybrid Films*
   - Canadian Neutron Beam Centre – June 2014 (instrument time valued at $257,000)

13. *Silicone-Based Interface Layers For Limb Prostheses*
   - Natural Sciences and Engineering Research Council (NSERC) Engage Grant – May 1, 2014-October 31, 2014 ($24,903)

12. *Silicon Biotechnology*
   - Natural Sciences and Engineering Research Council (NSERC) Discovery Grant – 2013-2018 ($170,000)

11. *Advanced Biomanufacturing Centre*
   - Brock University – January 1, 2013-December 31, 2018 ($200,000)

10. *Biodegradable Coatings for Poly(lactic acid)-Based Containers*
   - Ontario Centres of Excellence (OCE) – April 1, 2013-August 31, 2013 ($25,000)

9. *Green Anti-Corrosion Coating for Metal Surfaces*
   - Ontario Centres of Excellence (OCE) – April 1, 2012-March 31, 2014 ($146,880)

8. *SANS Analysis of Emulsions Containing Candida antarctica Lipase B*
   - Oak Ridge National Laboratory – February 2013 (Grant 9776) (instrument time valued at $150,000)

7. *Development of Silane-Based Anti-Corrosion Coatings*

6. *Silicon-Based Anti-Corrosion Coatings*
   - Natural Sciences and Engineering Research Council (NSERC) Engage – 2010 ($22,000)

5. *Directed Evolution of Trypsin to Efficiently Process Silicone and Silicone-Modified Materials*
   - Green Centre Canada – 2009-2011 ($30,000)

4. *Silicon-Based Coating for Cork for the Inhibition of Wine Taint*
   - Ontario Partnership for Innovation and Commercialization (OPIC) – Stage II 2008-2009 ($25,000)
3. Formulation and Development of a Novel, “Active”, Wound Dressing Based on Canadian Active Honey

- Ontario Centres of Excellence (OCE) – Materials and Manufacturing Ontario (MMO) 2008-2010 ($111,914)

2. Enzyme-Mediated Silicone Chemistry

- Ontario Partnership for Innovation and Commercialization (OPIC) – Stage I 2007-2008 ($13,000)

1. Enzyme-Mediated Silicon Chemistry

- Brock University – Faculty of Mathematics and Science 2006-2007 ($6,000)

Community Service

This section outlines the various services contributed to both the University community and the greater community.

49th Silicon Symposium Celebrating the Chemistry of Bob West in Conjunction with the 101st Canadian Chemistry Conference and Exhibition, Edmonton, Alberta
May 29-31, 2018

- Co-Chair (along with Prof. Kim Baines – University of Western Ontario and Dr. Kennrick Lewis – Momentive Performance Materials) of the Silicon Symposium

251st American Chemical Society National Meeting and Exposition, San Diego, California, USA
March 12-17, 2016

- Organizer and Chair of the Frederic Stanley Kipping Award in Silicon Chemistry Symposium in Honour of Michael A. Brook

44th Silicon Symposium, St. Catharines, Ontario, Canada
June 15-17, 2012

- Chair, symposium organizing committee
- Agreed to organize the symposium on short notice (4 months) in order to maintain the continuity of the symposium and to continue servicing the silicon community

Faculty of Mathematics Recruitment Committee
September 2010 – Present

- Develop recruitment initiatives for attracting undergraduate students to Brock
- Participate in recruitment initiatives
Science Teachers Association of Ontario (STAO) 2011 Conference: *Inclusive Science: Difference, Diversity and Equity*, Toronto, Ontario, Canada
November 11-13, 2011
• Panellist for “Student Success at University”
• Discussion between teachers and university instructors focused on student success at/transition to university
• Discussed strategies to help students succeed

16th International Symposium on Silicon Chemistry (ISOS XVI), Hamilton, Ontario, Canada
August 14-18, 2011
• Organizer of the “Bioinspired Silicon” Symposium
• Responsible for soliciting speakers and presenters
• Setting of symposium timetable

Science Teachers Association of Ontario (STAO) 2010 Conference: *Inclusive Science: Difference, Diversity and Equity*, Toronto, Ontario, Canada
November 11-13, 2010
• Panellist for “Student Success at University”
• Discussion between teachers and university instructors focused on student success at/transition to university
• Discussed strategies to help students succeed

21st Quebec and Ontario Mini-Symposium on Biological and Organic Chemistry (QOMSBOC), St. Catharines, Ontario, Canada
November 12-14, 2010
• Member of the QOMSBOC 2010 organizing committee
• Responsible for assisting with programme development and web page design

Science Teachers Association of Ontario (STAO) 2009 Conference: *Inquiry to Innovation*, Toronto, Ontario, Canada
November 12-14, 2009
• Panellist for “Student Success at University”
• Discussion between teachers and university instructors focused on student success at/transition to university
• Discussed strategies to help students succeed

92nd Canadian Chemistry Conference and Exhibition, Hamilton, Ontario, Canada
May 30-June 3, 2009
• Organizer of the “Strategies and Best Practices for Teaching Organic Chemistry” Symposium
• Responsible for soliciting speakers and presenters
• Setting of symposium timetable

Martial Arts Instructor, Brock University (2005-2013) & Brock-Niagara Centre for Health and Well-Being
2005-Present
• Along with Senior Instructor, Prof. Tomas Hudlicky, provide martial arts and self-defence instruction to members of the Brock and greater St. Catharines community
• Teach Hsing-I as a means for older members of the St. Catharines community to increase their balance and flexibility for a healthier, more active lifestyle
37th Southern Ontario Undergraduate Student Chemistry Conference (SOUSCC), Brock University

*October 2008-March 2009*
- Member of the 37th SOUSCC organizing committee
- Responsible for programme development, registration, and web page design

University Senate, Brock University

*June 2006-May 2011*
- Chair of the Senate Teaching and Learning Policy Committee
- Member of the Senate Budget Advisory Committee
- Attend regular meetings of the Senate and the Teaching and Learning Policy Committee
  - Offer input as necessary

Undergraduate Curriculum Review Committee – Department of Chemistry, Brock University

*September 2006-Present*
- Review the undergraduate programmes administered by the Department of Chemistry and their associated courses
- Update the Undergraduate Calendar as necessary with respect to the programmes and courses offered by the Department

Graduate Student Recruitment Committee – Department of Chemistry, Brock University

*June 2006-Present*
- Develop resources, both print- and internet-based, for the recruitment of graduate students into the Department of Chemistry
- Visit undergraduate chemistry departments at other universities as a means of recruiting students
- Participate in the annual Graduate Information Session (GIS) Day

Chair – Brock Undergraduate Chemistry Research Day

*June 2005 – Present*
- Organize a conference showcasing the research conducted by Undergraduate Research Associates within the Department of chemistry

Academic Safety Committee, Brock University

*May 2016 – Present*
- Work with stakeholders from across the University to foster a community of safety at Brock
- Make recommendations to the Associate Vice-President Research and Associate Vice-President Academic on issues of safety at Brock

Chair – Science Safety Committee, Brock University

*September 2005-May 2016*
- Examine the safety policies for the Department of Chemistry and the Faculty of Mathematics and Science
- Make recommendations to the Dean and the Joint Health and Safety Committee
- Arrange agendas and organize meetings of the Faculty Safety Officers
Safety Officer – Department of Chemistry, Brock University  
*September 2005-Present*

- Examine and develop the safety policies for the Department of Chemistry
- Represent the Department at meetings of the Science Safety Committee
- Act as a point of reference to the Department and to the Science Safety Committee on points of chemical safety

Student Risk Management and Assessment Committee, Brock University  
*September 2005-May 2016*

- Examine and discuss the University’s risk management policies on a campus-wide level

Search Committee, 1st Year Laboratory Coordinator, Brock University  
*April 2006*

- Charged with interviewing and hiring candidates for the 1st Year Lab Coordinator position
- Reviewed applications and recommended candidates for interviews
- Took an active role in the interview process
  - Interview panel consisted of three other representatives from the Department of Chemistry
- Worked with the search committee to develop interview questions and to evaluate each candidate
- Reviewed each candidate based on their application and interview and recommended a candidate to the Department of Chemistry

Wonders of Chemistry Show, Brock University  
*September 2004-Present*

- Visit various elementary and secondary schools in southern Ontario promoting science, specifically chemistry, through lectures and chemistry demonstrations
As President and Vice-Chancellor, over the period of February 5 - March 7, I engaged in numerous activities on campus and within the Niagara Region.

The following key activities have been conducted:

1. Engaged with regional Mayors and Niagara Regional Police in discussions on off-campus university student community relations and initiatives for advancing positive community relations and student activities. Brian Hutchings, Anna Lathrop and Brad Clarke attended these meetings. BUSU President, Faisal Hejazi has been partners throughout these discussions. University Security Services will be also moving forward with a number of initiatives in support of university-community relations and engagement along with additional communication and promotion campaign to inform students of the university values and expectations, including the Student Code of Conduct principles, in relations to on-campus and off-campus activities;

2. Met with faculty and staff representatives in relations to the Human Rights Task Force report and actions being taken in relations to the recommendations. Recently, it was announced that the University will be moving forward with the establishment of a Vice-Provost position dedicated to supporting Indigenous Education and Community Engagement initiatives, the updating of the Human Rights and Equity Office and protocols, and the establishment of a President’s Advisory Committee on Human Rights and Equity. These initiatives will be reported at Senate as further steps are taken;

3. Met with Anna Lathrop and Pam Shanks on the establishment of a committee for reviewing and drafting a report on the University’s community engagement and continuing education initiatives;

4. Working with Tom Dunk, Brain Hutchings, and Tim Kenyon on the establishment of a team for the completion of Brock economic and community impact study. For instance, a recent study revealed that the grape and wine industry benefits from research done through COVVI contributed about $91 million and assisted in creating 300 jobs in 2016. The economic and community impact of the University is to be communicated to a range of stakeholders, including institutional partners, government, alumni, and donors;
5. Met with a number of stakeholders regarding support of University initiatives in coordination with Development & Alumni Relations;
6. Met with Niagara College’s President, Vice-President (Academic) and other representatives along with Brock University counter-parts on the renewal of the joint institutional Memorandum of Understanding (MOU) including the initial identification of potential areas for further collaboration (e.g., digital gaming program and student mobility);
7. Spoke and extended welcoming remarks at several regional events, including the Leadership Niagara’s Learning Day, Brock Leaders Citizenship Society’s Denim Diamonds and Diploma Gala, and Black Excellence Awards Dinner;
8. Represented the University at RBC Black History Month (panelists), Universities Canada (panelist), and Niagara Leaders Forum meetings (committee member);
9. Met with the Minister of Advanced Education and Skills Development on current and future directions of the University along with its role in supporting regional community and economic development;
10. Along with Gary Comerford (Board Chair) and Brian Hutchings, met with representatives from Canada Summer Games on the key priorities as well as meeting the new CEO (Wayne Parrish) for Niagara 2021 Canada Games Host Society along with Doug Hamilton;
11. Attended the Badger’s OUAA Basketball Quarter Final game and enthusiastically saw and supported our outstanding student-athletes;
12. Attended the Ottawa Alumni Chapter event and presented the inaugural Alumni Co-op Employer Award. Alumnus Fred Barzyk, with Statistics Canada was the recipient of the award in recognition of his strong support of Brock’s co-op and experiential education program;
13. Continued engagement activities across the University and community, including touring the chemistry labs with Canada Research Chair, Tomas Hudlicky, along with having the opportunity to meet the outstanding graduate and undergraduate students associated with leading edge research and scholarship activities.
14. Developed a revised strategic planning process plan (attached to this report). Plan was presented to the Strategic Planning Committee of the Board on March 7, 2018 for feedback and will be presented to PPBAC for feedback on March 28, 2018.

Sincerely,

Dr. Gervan Fearon, President and Vice-Chancellor
Report to the Strategic Planning Committee

INFORMATION ITEM

TOPIC: Institutional Strategic Plan update

March 7, 2018
Dr. Gervan Fearon, President & Vice-Chancellor

EXECUTIVE SUMMARY

The Institutional Strategic Plan will be discussed with PPBAC on March 28, and thereafter at Senate on April 11.

Institutional Strategic Plan Update

Defining the Strategic Planning Process

On September 20, 2017, the framework for establishing the Institutional Strategic Plan was presented to Senate. A similar presentation was delivered to the Board of Trustees on September 28, 2017. The framework envisaged an institutional consultation process that engaged the university community in a review of an environmental scan as well as institutional review and self-study towards the establishment of core priorities to guide the strategic direction, choices and action of the university over the next five to ten years. It was intended that the priorities established through the consultation process would be developed while acknowledging the priorities and direction already established under the 2010 Strategic Plan, SMA1 and SMA2 process, and the Tom Traves Draft Strategic Planning document. Additionally, it was emphasized that the university would need to establish clarity around the strategic profile and position it wanted to achieve over time.

The strategic profile of the university was defined in terms of the mix of liberal arts/science and professional programs as well as pedagogy, including experiential, co-op, and entrepreneurial learning, programs, to be offered noting the university has a strong existing commitment to transdisciplinary studies and research. The strategic profile of the university also included consideration of the mix between teaching/learning and research activities. On the other hand, the strategic positioning of the university can be defined by factors such as its enrolment both through considerations of undergraduate, graduate, and continuing-adult-professional education. Both the strategic profile and strategic position of the university have implications to the university’s meeting student and societal needs as well as the financial sustainability of the institution.

The framework anticipated the establishment of a Steering Committee comprised of representatives from across the university community to support the consultation process and
to assist in providing interpretation to the findings in an effort to establish the draft priorities for the Institutional Strategic Plan.

Following the presentation to Senate in September, discussion ensued with the Chair of Senate and the Chair of the Board of Trustees regarding an approval process for the final strategic planning document. The result of these consultations was motions passed by Senate and the Board. On November 8, 2017, Senate passed motion outlining the role Senate would take towards the completion and approval of the Strategic Plan.

This motion approved and as follows:

THAT Senate endorse an approval process for the Brock University Institutional Strategic Plan 2018 that will culminate in the following motions being considered by the Senate and the Board of Trustees:

Whereas « The Senate is responsible for the educational policy of the University » as set out in the Brock Act; and

Whereas « Except as to such matters specifically assigned by this Act to the Senate, the government, conduct, management and control of the University and of its property, revenues, expenditures, business and affairs are vested in the Board » as set out in the Brock Act; and

Whereas the Brock University Institutional Strategic Plan 2018 contains provisions that deal with and relate to the educational policy of the University; and

Whereas the Brock University Institutional Strategic Plan 2018 contains provisions that deal with and relate to University matters other than those specifically assigned by the Brock University Act to the Senate;

For the Senate:

Now therefore

Moved that The Senate approves those provisions of the Brock University Institutional Strategic Plan 2018 that deal with and relate to the educational policy of the University; and

Moved that The Senate endorses all the other provisions of the Brock University Institutional Strategic Plan that deal with University matters other than those specifically assigned by the Brock University Act to the Senate.

For the Board:

Now therefore
Moved that The Board endorses those provisions of the Brock University Institutional Strategic Plan 2018 that deal with and relate to the educational policy of the University that have been approved by the Senate; and

Moved that The Board approves all the provisions of the Brock University Institutional Strategic Plan 2018 that deal with and relate to all University matters other than those specifically assigned by the Brock University Act to the Senate.

On November 30, 2017, the Board of Trustees passed an analogue motion which was as follows:

RESOLVED that the Board support the approval process for the University's strategic plan endorsed by the Senate to the President and Vice-Chancellor, as set out in the Senate motion attached as Appendix 1 to the Report, advancing and promoting Senate and Board collaboration and cooperation on institutional strategic planning at the University. (Appendix 1, referred to in the Board motion, was the Senate motion excerpted above.)

Efforts to date

The President asked the Provost to engage directly with the Deans through the Council of Academic Deans (CAD) to initiate the development of Faculty/School level processes and input into the Strategic Planning process. This work has been proceeding and the Provost and Deans have begun their efforts for establishing the underlying environmental scan and academic priorities to be reflected in the Strategic Plan. Tim Kenyon, Vice-President, Research joined Brock in early January 2018 and has already started his consultation with the Deans on research direction and priorities. Tim Kenyon, joined the Deans and the Vice-Provosts at a retreat on January 5, 2018 to review the 2010 Strategic Plan, SMA 1 and SMA 2, and to discuss environmental factors that need to be considered in developing future directions for Brock University. They also discussed processes for consultation with Faculties, students, and the wider Brock community.

On January 11, 2018, a Strategic Session was held with members from the Board, Senate and leaders from the community, who were engaged through a process aimed at getting external views on post-secondary education; Brock University within the region; and future challenges facing Ontario and Canadian society. Bonnie Rose, the facilitator and a strategic planning consultant in the post-secondary education sector provided a summary and discussion notes of the session. Appendix 1, Appendix 2

Brian Hutchings, Vice-President - Administration, will be working with Tom Dunk and Tim Kenyon to link their components to the Budget planning framework as well as to support Responsibility Based Budgeting at the Faculty/School levels.

The Provost, with the assistance of the Deans and Vice-Provosts, is currently developing an environmental scan that present challenges and opportunities going forward. This information will form a background document for the consultations with Faculty, Staff and Students, along with SMA 2, and the Tom Traves Draft Strategic Plan.
Components of the Draft Strategic Plan

Based on all the input provided above and discussions between the Presidential team, the components of the Institutional Strategic Plan currently being considered are as follows along with the key leads for each section:

1. **Academic Plan** - Tom Dunk
   - Academic Curriculum and Programming Plan
   - Teaching & Learning Plan
   - Research Plan - Tim Kenyon
   - Internationalization and Institutional Partnership
   - Enrolment Plan

2. **Community-University Engagement Plan** - Anna Lathrop/Pamela Shanks

3. **Integrated Enrolment, Faculty, Staffing & Budget Planning** - Tom Dunk/Brian Hutchings

**Workplan**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Expected Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>February/March 2018</td>
<td>Consultation at Faculty/School level; university and community level; public and business sectors;</td>
<td>Clarify environment scan and establish basis for priorities and strategic direction to support initial draft Strategic Plan, including reference to 2011 Strategic Plan, SMA1 and SMA2 and Tom Traves Draft document.</td>
</tr>
<tr>
<td>May 2018</td>
<td>Presentation of discussion document on environment scan, strategic priorities, and action items to Joint Section of Senate, Board, BUSU, GSA, and university community</td>
<td>Consultation and feedback on the draft priorities as well as clarification/suggestions on the strategic actions to be taken in support of the strategic priorities.</td>
</tr>
<tr>
<td>May/July 2018</td>
<td>Further consultation and refinement of draft Strategic Plan including clarification of institutional metrics including reference to the SMA2 metrics and commitments and other metrics (e.g., possible some considered in NSSE, MacLean’s and other sources)</td>
<td>Situation Analysis defining the current situation (e.g., 2017/18 base-year) and future state (e.g., 2022/23 - 2027/28) using the established metrics and based on the strategic actions inferred and to be taken in support of the strategic priorities.</td>
</tr>
<tr>
<td>Early September 2018</td>
<td>Presentation of the draft of the Institutional Strategic Plan to a Joint Section of Senate and the Board.</td>
<td>Refinement draft of the Institutional Strategic Plan and efforts towards a consensus on the priorities,</td>
</tr>
</tbody>
</table>


Several activities are simultaneously taking place with the development of the Institutional Strategic Plan.

These include the following:

- University-Community Engagement Plan (Anna Lathrop/Pam Shanks);
- Human Resources Plan (Tom Dunk, Tim Kenyon/Brian Hutchings);
- Fundraising and Advancement Plan (Gervan Fearon/Pam Shanks);
- Marketing and Promotions Plan (Gervan Fearon/Kevin Cavanagh);
- University Information Technology Plan (Brian Hutchings);
- Infrastructure Plan (Brian Hutchings);
- University Economic Impact Analysis and Report (Tom Dunk/ Brian Hutchings).

Each of these reports will be supported by institutional leads and, as needed, committees. Additionally, work is continuing on the Human Rights Task Force report and the University’s commitment to Indigenous Education.

Considerations

There is a number of considerations that are implied by the background and workplan outlined. These considerations are as follows:

1. The Institutional Strategic Plan once completed will be followed by unit level strategic plans at the Academic Faculty/School and Administrative Departmental levels. However, it is to be acknowledged that work may still have to be done on operational plans to fully cascade and integrate the Strategic Plan throughout all units and levels of the University;
2. The consultation and engagement through the Joint Senate-Board sessions outlined in the workplan may negate the need for the Steering Committee originally contemplated in the Framework document. Feedback on the direction from Senate and the Board on the Joint Senate-Board sessions superseding the need for a Steering Committee.

3. Feedback on the direction and workplan from both Senate and the Board.

Appendix 1 - Facilitator’s Summary - Strategic Issues Session - January 11, 2018 (6 pages)
Appendix 2 - Discussion Notes - Strategic Issues Session - January 11, 2018 (6 pages)
Facilitator’s Summary
BROCK UNIVERSITY
STRATEGIC ISSUES SESSION
January 11, 2018

It was a privilege for me to facilitate the Strategic Issues session convened at Brock University on January 11, 2018. The purpose of the meeting was threefold:

• To develop shared perspective on the current environment of higher education and its implications for Brock University in particular
• To give participants an opportunity to share their perspectives on the key tangible characteristics of Brock University today that must be sustained/developed into the future
• To articulate the areas where change is needed.

Participants at the session were a cross-sampling of members of the Board of Trustees, senior administration, faculty members of the University Senate, and student leaders.

OBSERVATIONS ON THE FACILITATED DISCUSSION

Following the panel presentations and Q and A, the group was led through two rounds of facilitated discussion. Individuals and table groups were asked to answer the following questions, taking into account the morning’s presentations and participants’ own experience of Brock:

1. What would you say are the key tangible characteristics of Brock University today that must be sustained/developed into the future?

2. What would you say are the key areas where change is needed?

Information from each round has been summarized in three ways:

• Photo records of flip charts that were presented by tables, along with “Dot democracy” colored dots attached to selected points on flip charts by participants (Key – blue = most important, red = second-most important, green = third-most important)
• Individual notes submitted by 23 of the participants

Based on a review of all the above, I offer the following observations.

FACILITATED DISCUSSION QUESTION #1
Question: What would you say are the key tangible characteristics of Brock University today that must be sustained/developed into the future?

Comments coalesced around several identifiable themes (not in any particular order of priority).

Brock as “Niagara’s University”
Participants expressed that Brock is strongly rooted in the Niagara Region, with a general theme of moving into a leadership role in community and economic development. There clearly is a close connection of Brock to the Niagara region, and a desire to make an even closer connection. Examples included:
- Role in providing leadership in development of the region
- Helping to create a healthy community
- Strong ties to the community through service learning, co-op
- Showcasing abilities of students to employers and others.
- Anchored in small town, good quality of life for faculty, staff, students, community members

Brock’s Identity as a Comprehensive University
- A comprehensive university with sense of purpose and direction (without meaning that everyone must do the same thing)
- Commitment to students – graduate and undergraduate
- Betterment of the broader and global community through volunteering academics, research, athletics
- Remaining a transformative institution to students, communities and the country

Student Focus and Student Relationships: A Strength To Enhance
Care for students, their well-being and success was the most frequently mentioned characteristic that must be sustained/developed for the future. Comments spoke to:
- The positive student experience at Brock, including support for the success of students, opportunities for inter-disciplinary, cross-disciplinary studies
- Focus on small group learning as a signature pedagogy for Brock
- Experiential learning both on and off campus, opportunities offered to students across various faculties (e.g., co-ops, internships)
- Holistic approach to education (mind, body, spirit) and nurturing environment for students at Brock
• Curriculum that keeps a multidisciplinary approach but infusing data analytics, problem-solving, critical thinking as a core competency of all graduates
• “The Brock Experience” - A sense of community and unity, of purpose and service
• Indigenous engagement

Relevant Programs Meeting Student and Community Needs
• Traditional degrees in science, society, applied health
• Programs with local relevance/renewal (e.g., C O O V I)

Collegial Culture
The expressed commitment to maintaining and enhancing a collegial culture at Brock was remarkable. It was referenced with nods to:
• Collaborative/collegial governance
• Collegiality in delivering experiential education and Brock’s student focus
• Good jobs and good workplace

Skilled and Dedicated Personnel
There was recognition that human capital is the most important asset of all. Brock’s small university feel and ability to avoid bureaucracy was noted as a strength for the institution, while there also was recognition that support and training are vital.

Teaching Matters – inside and Outside the Classroom
• Faculty /senate commitment to progressivism, social justice in research and teaching
• Maintain balance of teaching/research/community service
• Strong sense of team (instructional team) – supported
• Strong support for team (instructional team) - supported

Research
• Accelerate community-driven research
• Support the energy of young scholars, renewal, full-time
• Research leadership - integrated

Campus
• Environmentally sensitive
• Healthy environment
• Location in Niagara region, which is turning the corner
• Beautiful building, physicality, pleasing infrastructure

Financial Sustainability
There were several comments about Brock’s financial situation, and a recognition that even if things are relatively stable now, financial sustainability is not a given for any institution of higher education in today’s world. Brock will need a model for a comprehensive university while maintaining/strengthening its financial status.

FACILITATED DISCUSSION QUESTION #2

Question: What would you say are the key areas where change is needed?

Enhance Services for Students
• Ensure student success post-Brock – Life ready
• Greater international opportunities for domestic students (semester abroad, practicum, exchange)
• Mental health support for all student groups (including indigenous and international)
• Address student cynicism and class attendance
• Grow experiential education capacity

Emphasize Research as a Priority
• More support for research, including funds
• Broaden perspective on scholarship and enhanced resourcing for research (beyond Tri-Council funding)
• Research infrastructure to support knowledge production and mobilization, e.g., library, digital information
• Graduate studies
• More support for International grad students to attract the best and brightest

Address Needs for Cultural/Organizational Change
• Faster speed to adapt to change – educated change, agility where necessary
• Get better at leading and responding to change in the environment – focus on velocity, speed and direction
• Quicker moving from ideas to actualization
• Get better at co-creation and co-destruction
• Internally fewer silos
• Willingness to take risks
• More entrepreneurial (administration, staff, faculty, incubators)
• More competitive mentality
• More diversity in leadership
• Knowing limited resources, allocate appropriately
• Seek new sources of revenue
• Invest in training and support for chairs and directors

Foster a More Inclusive Campus Community
• Ensure that we are improving the indigenization of the institution (through the guidance of our Indigenous Elders and academic scholars)
• Better reflection of diversity on the student population (in faculty, staff, senior management, Senate, Board)
• Human rights culture – addressing issues such as decolonization, mental health, sexual harassment)

Further Curriculum and Program Design
• Review why 80% of students take 20% of programs
• Supplement traditional degrees with skill development
• More focus on expanding professional degrees (e.g. engineering)
• Program modernization to ensure tangible connections to needs/opportunities
• New and unique programs (e.g., engineering)

Better/Enhanced Partnerships/Collaboration
• Greater collaboration with Niagara College and other community partners (including trans-border), with real deliverables
• Stronger focus and tie to Niagara’s growing economy and regional needs (post-grad, lifelong learning, continuing education – mental health, health, aging, poverty, tourism)
• Canada 2021 as a catalyst, research hub (BRIC), commercialize innovation, keep youth in region
• Build on engagement with community; thinking about full region (e.g., South end)

Improving Campus Resources
• Improve outdated structures
• Access to all digital knowledge and make all knowledge digital (e.g., books and journals)
• Better transportation to and from GTA, and within Niagara region

Strategic Plan
There were a number of suggestions that seem most pertinent to the strategic planning process:
• Effective integration and follow-up
• Think big, be #1
• Use data in decision-making
• Clearly identify areas of expertise (having ALL divisions towards those goals, and the community as well)
• Need to attract students from across the nation
• Align financial sustainability with institutional mission
• Quote from individual participant on strong consultation with faculty – “Basically a university rises or falls depending on the labours of faculty members. We do the teaching and research that are the reason for existence of the campus – more consultation with faculty is needed to ensure we continue to bring our best to this job”

Clarify/ Strengthen Brock’s Identity and Enhance Reputation
There was considerable discussion regarding Brock’s identity and reputation. It will be important to dovetail any brand research/development with the strategic planning process, to the extent possible:
• Need a clear, simple identity of Brock – a “brand” identity that resonates
• Brock University @ Niagara, become seen as Niagara’s university
• Need to grow our profile, become recognized for something, e.g., signature areas of inquiry, distinctive programs
• Must decide academic strengths that will build reputation and can be showcased at a national level
1. **Welcome and Introductions**

   Gary Comerford, Chair of the Board followed by Gervan Fearon, President and Vice-Chancellor each provided opening remarks to the session and welcomed all those present including panelists, speakers and guests.

2. **Panel Discussion: Future of Post-Secondary Education, the Niagara Region and Brock**

   **Session Facilitator: Bonnie Rose**

   **Session Panelists: Paul Davidson, Bob Seguin, Mishka Balsom and Tom Peters**

   Bonnie Rose provided introductory remarks to the session noting the importance of convening and engaging in dialogue with the various constituencies present at today’s session.

   In advance of the session, panelists were asked to consider the following four questions preparing opening remarks. The questions were shown onscreen throughout the panel presentations and discussions.

   - **What do you see as the future role and direction for regional comprehensive universities?**
   - **What role can Brock play in this setting, what are the challenges and opportunities, and what are the forces shaping the choices?**
   - **What are some of the big items, issues and opportunities that most universities are missing that will be material in shaping the future of Canada, Ontario and the Niagara Region?**
   - **Through your eyes, what does success look like for Brock University over the next 5-10 years?**

   The panelists were invited to provide their remarks in relation to the questions for consideration. Perspectives were heard first from a national view followed by the regional, business and external/independent views.

   **National view**

   Paul Davidson provided insights from a national view, which included following:

   - Universities facing challenges in funding, government support, board turnover
• Universities no longer having monopoly on education, but noted the importance of knowledge generation to society
• Research, governance and decision-making of heightened significance due to higher stakes
• Fast pace of change means institutions require ability to adapt quickly and interpret signals
• Changing nature of research:
  o research at universities is essential; no longer optional
  o Interdisciplinary and collaborative research key; challenge of how to build platforms of excellence?
• Changing nature of education and learning:
  o Using technology for learning; challenge of how to use technology to enable and harness learning?
  o New understandings of how students learn, all undergraduates should have experiential, international and entrepreneurial experiences.
• Changing nature of relationships between universities and communities:
  o no longer “ivory tower” institutions; universities are anchor institutions in communities, doing work in and for those communities
• Challenge to rearticulate value of universities and build trust in age of disruption, anti-evidence, anti-elite, anti-institution
• Importance of taking a longer-term, 50-year horizon

Regional view

Bob Seguin provided perspectives from a regional view, which included following:

• Adapting to aging population in fast growing cities, increased competition, digitization
• Challenge of provincial fiscal restraints
• Importance of finding the right niche and developing talent
• Businesses calling for development of STEM talent: challenge of balancing STEM talent development and maintaining comprehensiveness of university without overriding other positive aspects of the university; developing soft skills while also focusing on technology
• Government policies affecting Niagara: wetlands and land use restrictions – how to generate growth under restrictions and constraints
• Sustained excellence and recognition in various areas important, i.e. sciences, arts and sports
• Taking managed risks, both challenge and respect viewpoints, have the right discussions
• Challenge of how develop the next generation in the community; referenced and cautioned against experiences of communities that don’t grow
• Focus on development of next generation

Business view

Mishka Balsom provided perspectives from a business view, which included following:

• Niagara community positive view of Brock, general community trust and support of universities, knowledge translation to community in skilled workforce
• Business climate in southern Ontario: businesses are being stretched and challenged due to the speed of change; face challenges of staying relevant in a crowded market
• There are gaps in talent development and in research and development; industries will continue to look towards universities for support in filling those gaps
• Emphasis will be on collaboration and diversifying economic clusters
• Immigration growth needed in the region; will translate to growth for the University
• Increased responsiveness and speed required in facilitating change
• Success would include a profit/commercialization arm to the University
• Fill in data gaps – university needs to be a source of data and analysis for the community – presents an opportunity for thought leadership
• Strong institutional identity, but need to determine what Brock would like to be known for

External/Independent view

Tom Peters provided an external/independent view, which included following:

• Traditionally, the needs of employers have not been paramount to universities – employers should be thought of as one of the ‘customers’ of the university, are looking to the university to supply talent.
• Workforce needs specific skills but also soft skills
• Multidisciplinary approach is required in skill development; combining disciplines for success (ie. business, engineering, physics, marketing, communications)
• Businesses are looking for multi-disciplinary teams; experiential education factors in development of different skills
• Future of work is also being disrupted, automation will disrupt many industries, people will participate in work differently, but will need talent to effectively deal with the disruption; invest in access to talent
• ensure students develop the skills needed to perform duties; provide opportunity to gain quick skills (not necessarily full degrees) required to meet needs of business

Question and Answer Session

A brief question and answer session was held during which the following topics were discussed:

• many soft skills are gained in traditional degree programs, however deep technical skills are also required in work settings; multidisciplinary experiences are required for graduates today
• while artificial intelligence is replacing certain sectors, it is also enabling many applications in business, customer service and research investigators to develop technologies to solve social issues
• how to address misconceptions/negative attitudes towards location of a university - focus on student experience and make it worthwhile to come to Brock, leverage benefits of region as assets

3. Facilitated Discussion: What does this mean for Brock? Implications for Brock’s future and strategic planning
Following a brief break, attendees were asked to complete fill out a form with the following two questions, taking into account all that participants have heard from today’s presenters and individual experiences of Brock:

1. What would you say are they key tangible characteristics of Brock University today that must be sustained/developed into the future?

2. What would you say are the key areas where change is needed?

Participants were also asked to assign a recorder for their table and respond to the questions on two different charts as a group. Each group presented their responses to the questions followed by an interactive exercise where participants used a colour-coded system to choose their top three priorities for each question. [Note: the results of the exercise and individual responses will be tabulated separately]

4. Board Governance: Overview of Governance Models

Chabriol Colebatch introduced Harriet Lewis who provided insights on best practices in Board Governance, discussion topics included:

- Precarious time for governance; many challenges facing university boards due to changing environments
- Longstanding institutions survive because of the value they offer to society; focus on core mission of university: creation and dissemination of knowledge for societal betterment; teaching and research
- Changing expectations:
  - today experiential education, accessibility and experience of part time students essential
  - importance of universities to communities through engagement and satellite campuses
  - expectations of businesses – shift from on-the-job training to being job ready and having universities undertaking the training
  - fear and distrust regarding corporatization of universities
  - increasing accountability and expectations through SMA and accountability directives
  - student experiences on campus are of utmost importance – shift from “school of hard knocks” to increased essential efforts in campus safety, cultural sensitivity, mental health initiatives
  - increasing competition – more pressure for revenue generation, demand for better facilities, better technology – greater need for marketing
- As universities become more complex, less individuals interested in university administration, more pressure on collegial governance, university boards are in the spotlight receiving media attention
- Generally, honesty of institutions and integrity of Boards and Administrators no longer assumed
- Referenced Deloitte’s paper, *The Effective NFP Board* as a useful resource
- University Act sets out the Board and Senate, and enshrines the role of President
Brock, York and Trent have most autonomous Acts – no government appointees
All universities share NFP, charitable status and commitment to education
Charitable status sets out high level of responsibility for Board members; Trustee duties: fiduciary duty, duty of loyalty to the institution, duty to avoid conflict of interest, duty of accountability
Three key responsibilities: (1) appoint President, support and oversee performance, (2) ensure university has robust framework of policies, procedures and guidelines, (3) demonstrate to community that Board operates within those policies through transparency
Relationship between Board and President is key
  o manage expectations, create two-way conversation, Secretary liaison
  o mentorship by Executive Committee and Board Chair
  o President relies on Board Chair for advice
Policies: need to be high-level and based on key values; not overly prescriptive, policy must allow ability to exercise discretion
Board-level:
  o Bylaws, Charters, Code of Conduct – Board must satisfy itself that Board has guidelines in place and proper controls
  o Identify gaps in framework and committee structure, responsible for ensuring own operating guidelines, clarify Trustee responsibilities, processes for conflicts of interest, code of conduct
  o Meetings in general should be open unless confidentiality required
Accountability: demonstrate accountability and engagement through practices and procedures – when Board trusted to the right thing, culture will change – questions to consider: are you exclusive or collegial? Are you intimidating or welcoming?
  o Ensure nomination and election process is fair, consider recruitment strategy and diversity initiatives, once recruited each member should feel secure to fully engage
Board must also make effort to understand difficulty and complexities of university administration, expectations on and workloads of faculty, and ensure communication with Senate

5. Implications for Brock’s Board and Board Practices

Harriet Lewis facilitated a discussion on implications for Brock’s Board and its practices. Topics discussed included:

  • Time commitment to review materials provided to Trustees
    o need to determine what information the Board needs to make decisions,
    o balance information with volume; confusion of volume with transparency
    o strategic plan will reinforce what the information needs of the Board are
    o one-page high level summary is often sufficient, move towards use of links to reference documents rather than including in package
    o materials need to be clear on what asking Board to do
• Meeting frequency and cycle schedule
  o difficulty of processing information to make decisions under condensed meeting structure expressed
  o increasing threshold of items that go to the Board for decision (ie. at York $2M); need to determine threshold Brock comfortable with
  o provide Trustees who cannot attend every meeting with other opportunities to support the Board and institution; balance meeting attendance with other work Trustees do in the community and for Brock

• Meeting processes
  o Balancing transparency with confidentiality
  o Desire for less closed meetings and meetings that have all required constituencies present
  o Board needs to determine practices for confidentiality measures and necessity of in camera sessions with various constituencies

• Community engagement and issues briefings
  o Suggestion to provide the Board a one-page summary of issues or speaking points so they may be able to address or provide the correct information externally if needed
  o Determination of the overall framework for Trustees to participate and their role in external events would be needed
  o Give Trustees opportunity to partake community engagement responsibilities,
  o Importance of Trustees to act as ambassadors and support President

• Highly effective Boards
  o Ability to make a decision
  o Create sense of openness and welcome perspectives from all members
  o Ability to manage difficult situations and acknowledge range of options available
  o Understand institutional priorities deeply
  o Tenure and term – consider where capabilities of each member are best spent to serve institution – work as a team and value each member

6. Closing Remarks

Gary Comerford thanked all for participating in today’s session and provided brief closing remarks.
To: Chabriol Colebatch, Secretary to the University and General Council Brock University

From: Thomas Dunk, Interim Provost and Vice-President, Academic

Date: March 7, 2018

Subject: Report to Senate for March 14th, 2018

We are now in the last stretch of winter term. I wish everyone the good health and energy for a successful completion of the 2017-18 academic year.

The three weeks since the last Senate meeting have passed quickly. The following are a few updates on items included in my February report and information from or related to the Ontario Council of Academic Vice-President’s meeting held on February 27th.

The Ontario Government’s Sexual Violence Student Voices Climate Survey is now underway.

The engineering task force is continuing with its work and waiting for word of the Senate appointments to the task force.

**Applied Masters in Artificial Intelligence:** The Vector Institute is setting up a working group to develop minimum specification requirements that must be met for programs to be included as eligible for student scholarship support. The working group will include representatives from universities, industries, the health sector and government. To that end OCAV put out a call for five university representatives. Brock’s nominee was not among those chosen. As reported in February, of the 30 million dollars allocated to the Vector Institute for this initiative, the majority will be allocated to scholarships for students in AI and AI related programs that the Vector Institute deems eligible. Some of the money will also be used to support internships with employers. There is also interest in funding for “enhanced” existing masters’ programs, new AI full-cost recovery programs, and to support distributed delivery of programs so that institutions that cannot deliver an entire program can contribute through partnerships with other programs.

**STEM Expansion:** In October 2017 the provincial government announced its plans to increase the number of post-secondary students graduating in STEM disciplines by over 25 percent over the next five years. This includes both undergraduate and graduate programs. It is likely that this will be an explicit initiative in the SMA 3 round and allocated or reallocated spaces will be starting 2020-21. This will be a competitive process. The Council of Ontario Universities will urge the Ministry of Advanced Education and Skills Development to include a wider range of programs in their consideration than the definition of STEM used by Statistics Canada.

**Council of Ontario Universities Task Force on Quality Indicators for Undergraduate Learning for SMA 3:** Through the Office of the Provost, Brock University is participating in
three COU SMA 3 Pilot Projects on Quality Indicators for Undergraduate Learning. These include: Tagging Undergraduate Courses for Experiential Learning; Tagging Courses for High Impact Practices, and Experiential Learning on the Co-Curricular Record. Brock University is the lead institution on the first pilot project.

**Review of Program Requirements:** I have been in communication with the Chair of the Senate Undergraduate Program committee and she has informed me that she will be taking this forward to UPC for discussion.

**Vice-Provost Indigenous Engagement:** The process to appoint a Vice-Provost Indigenous Engagement is underway. A position profile is being developed with the assistance and advice of the Two-Row/ One Dish One Spoon council and the Aboriginal Education Council. Senate Governance has passed a motion recommending that Senate endorse modifications to the Faculty Handbook process for the appointment of Vice-Provosts to assure that there is Indigenous representation on the hiring Advisory Committee.

**Budget:** Faculties and Student Support Units have been busy submitting their respective budgets. PPBAC was informed in February that the budget is approximately $3 million dollars over budget. Reviews of estimates of expenditures and revenues are being completed. It is expected at the March PPBAC meeting a balanced budget will be presented and a discussion on the elements of the budget that support the academic priorities of the university will occur.
Report to Senate of the Vice President, Research

1. Research Grants and Awards Update

Exciting days are coming for grant and award announcements; unfortunately, some of the best news remains embargoed until formally announced by the awarding authority. What I can announce is that, in addition to a range of confidential awards and honours nominations, ORS has submitted a substantial number of grant applications, including:

- 5 Connections Grants ($102,778 requested)
- 10 Insight Development Grants ($1,243,374 requested)
- 2 Partnership Grants (as co-applicants)

Internal competitions that have recently closed include the Match of Minds program, the Chancellor’s Chair for Research Excellence, and the Distinguished Research & Creative Activity Award. Adjudication for all of these programs will begin shortly.

2. Office of Research Services Staffing

Ryan McCarthy, Director of the Office of Research Services, is leaving Brock to pursue another opportunity. His last day is Friday, March 9th.

On behalf of Brock’s researchers, and the entire research support team, I would like to thank Ryan for the many contributions he has made during his time at Brock. Under his capable leadership, the Office of Research Services has served the university admirably in a time of sustained change. His insight, administrative gifts, and collegiality will be greatly missed.

I am grateful to Philip Thomas, Accounting Research Manager, for assuming the role of Acting Director of Research Services until the ORS Directorship is filled, and to the entire ORS team for working together for a seamless transition.

Finally, I expect that recruitment will begin soon for the position of Business Development Officer, based in the Office of Innovation and Commercialization. This is a replacement position, bringing the Office back up to its nominal personnel strength.
3. Federal budget

The federal budget, released on February 27, had considerable implications for research support at Canadian universities. Notable among its provisions are increased funding for all three of the Tri-Agencies, including an incremental bump for SSHRC that partially mitigates the relatively greater ground lost by the agency over the previous decade, which had left it closer to 15% of overall funding when the standing assumption was a 40-40-20 split between CIHR, NSERC, and SSHRC. The total funding for the Tri-Council increases from roughly $3.5 billion to about $4.8 billion, with proportionally less of that increment being dedicated to topic-specific research programs than had become the norm in recent years. Some thematic support was committed, however, including for issues involving diversity and equity, indigeneity, and big data/analytics. NSERC is committed to consolidating a wide range of industry partnership grant streams, including Engage and CRD. And there will be some increase to the Research Support Fund for universities, administered by SSHRC. While the full impact of these changes will not be clear for at least a year, the overall theme is one of greater investment in research, and more support for curiosity-driven, grassroots research projects. This will be good time for researchers and institutions to bring winning ideas forward to the Councils.

4. AVPR

An appointment process for the Associate Vice President, Research position was initially launched through an internal call in late 2016. In spite of considerable efforts to complete this search, it was slowed by personnel changes - including my own appointment - and by campus feedback aimed at ensuring a collegial process.

In light of both this feedback and the delay, I have determined that the best course of action is to formally close this search process until language specifying an AVPR appointment process has been specified, which I expect will happen as soon as is practicable. The process will begin de novo at that time. I am reviewing options for shorter-term options to cover existing research administration needs in the meantime.

5. Research information: Pivot

One piece of feedback I have encountered occasionally in my time at Brock, including in the faculty input summarized in the Research Management Services report, is that researchers would appreciate more information about research funding opportunities outside the Tri-Council ecosystem. Many grant opportunities are highly specific to research areas or sub-areas, including smaller dollar value awards that can nevertheless be extremely useful resources for research. Researchers can benefit greatly from access to information about these programs.

This is an important point that I and my colleagues in the Office of Research Services take seriously. It does, however, lead me to think that perhaps the Brock research community has not yet become fully aware of the functionality of Pivot, a research information software system to which Brock University maintains a subscription.
Pivot covers a considerable range of discipline-specific funding opportunities; I encourage colleagues to explore it, if they have not yet or not recently done so. A link to the site will be (re-)posted to the ORS webpage, but I provide it here as well:

https://pivot.cos.com/funding_main

6. BrockLINC

The BrockLINC Working Group met on February 27, to discuss, inter alia, the development of an integrated operational plan for BrockLINC. It was determined that a sub-group of the Working Group would advise the VPR on the creation of an integrated operations group to draft elements of an operations plan, to be brought back to the Working Group for further input.

T. Kenyon, PhD  
Vice-President, Research
TO: Chabriol Colebatch, Secretary to the University and General Counsel  
Brock University

FROM: Professor Lynn McCleary  
Chair, Senate Graduate Studies Committee

DATE: March 5, 2018

REPORT TO SENATE 658, March 14, 2018

ACTION ITEMS

None

DISCUSSION ITEMS

The Committee continues to discuss the impact of graduate student poverty, an issue raised by graduate students at the Committee and in Senate. The Chair met with Senator Emily Guertin (Graduate Student Association representative) for more information and reported back to the Committee. We reviewed Brock results of the 2016 Canadian Graduate and Professional Student Survey (see: https://brocku.ca/institutional-analysis/wp-content/uploads/sites/90/BROCK_CGPSS_2016_REPORT_ALL_v2.pdf) and noted indicators that graduate student poverty has an impact on the academic success of students. One third of respondents (31.7%) indicated that work/financial commitments were a major obstacle to their academic success. Almost half of the respondents (45.2%) indicated that financial support in the form of admissions funding packages was greatly important to their ability to complete their program. The Committee looks forward to hearing the results of a forthcoming GSA survey of graduate students.

CONSENT ITEMS - FOR APPROVAL

Changes to the Graduate Calendar.

1. Professional Accounting

MOVED (McCleary/ )

THAT Approval be granted for changes in the 2018-2019 Graduate Calendar (Professional Accounting) to core faculty and staff listings, change to TOEFL iBT requirement for admission requirements, updating list of required courses, updating description of MPAC 5N90. All detailed in the Appendix.

Rationale: Updating information. Making co-op preparation course description consistent with other identical courses in the Calendar.
2. **Accounting**

MOVED (McCleary/)
THAT Approval be granted for changes in the 2018-2019 Graduate Calendar (Accounting) to list of fields of specialization, core faculty and staff listings, revision of program description, updating list of required courses and admission requirements. All detailed in the Appendix.
Rationale: Updating information.

3. **Applied Linguistics**

MOVED (McCleary/)
THAT Approval be granted for changes in the 2018-2019 Graduate Calendar (Applied Linguistics) to core faculty and staff listings, updating list of core courses, and name change LING 5P08 Vocabulary: Theory, Research and Practice. All detailed in the Appendix.
Rationale: Updating information and specifying course name.

4. **Faculty Structure**

MOVED (McCleary/)
THAT Approval be granted for changes in the 2018-2019 Graduate Calendar Faculty Structure Section to update list of faculty and staff. All detailed in the Appendix.
Rationale: Correcting and updating faculty and staff list.

5. **Academic Regulations**

MOVED (McCleary/)
THAT Approval be granted for changes in the 2018-2019 Graduate Calendar Academic Regulations section as detailed in the Appendix.

**CONSENT ITEMS - FOR INFORMATION**

None.
### Submission Details:

| Program Changes Proposal: | 1. Updates the Faculty Members  
2. Change to Co-op MPAC 5P90 course name and description |
|---------------------------|--------------------------------------------------|
| Program Changes Explanation: | 1. Updates based on hiring and promotions.  
2. As provided by Co-op office, "Co-op students are required to register and complete the compulsory Co-op Professional Preparation Course (5N90) with a “Satisfactory” grade prior to the search of their first co-op work term. The primary goal of this course is to provide graduate students with the tools, resources and skills to maximize co-op employment and professional development opportunities - both while at Brock and after graduation. All graduate co-op students are required to pass this course with a “Satisfaction” grade prior to the start of their co-op job search term. The 5N90 course is designed to meet higher Degree Level of Expectations for Master’s degree students. This is a non-credit course and grade will be evaluated based on class participation including attendance and completion of professional projects.” |

<table>
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<tr>
<th>Course Revisions:</th>
<th>MPAC 5N90 - Co-op Professional Preparation Course (was &quot;Co-op Pre-Employment Training and Development&quot;)</th>
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<td>Status:</td>
<td>Awaiting submission by sub-committee editor; before sub-committee meeting.</td>
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| Comments:        | Submitted by Carrie Kelly on January 22, 2018 at 10:43:17 AM  
Submitted by Carrie Kelly on January 22, 2018 at 10:49:24 AM  
Submitted by Narongsak Thongpapanl on January 22, 2018 at 11:03:25 AM  
Submitted by Mwinchande Chande on February 9, 2018 at 09:06:39 AM  
Edited by Liz Keenan on February 15, 2018 at 02:04:41 PM: |
Master of Professional Accounting

Master of Professional Accounting (International Student Pathway)
https://bus.brocku.ca/mpacc

Dean
Andrew Gaudes
Goodman School of Business
Associate Dean, Research and Graduate Programs
Narongsak (Tek) Thongpapanl
Goodman School of Business
Core Faculty
Professor
Darlene Bay (Accounting), Ernest Biktimirov (Finance, Operations and Information Systems), Fayez A. Elayan (Accounting), Hemantha Herath (Accounting), Eugene Kaciak (Finance, Operations and Information Systems), Jingyu (Jennifer) Li (Accounting), Alex Nikitkov (Accounting), Raafat R. Roubi (Accounting), Samir Trabelsi (Accounting)
Associate Professors
Ian Adamson (Accounting), Walid Ben Omrane (Finance, Operations and Information Systems), Karen Brown (Accounting) Gail L. Cook (Accounting), Louis Culumovic (Accounting), Maureen Donnelly (Accounting), Sohyung Kim (Accounting), Pascale Lapointe-Antunes (Accounting), Jingyu (Jennifer) Li (Accounting), Zhefeng (Frank) Liu (Accounting), Parunchana Pacharn (Accounting), Barbara Sainty (Accounting), Paul Scarbrough (Accounting), Anamitra Shome (Accounting), Tashfeen Sohail (Accounting), Linda Stillabower (Accounting), Tanya Tang (Accounting), Samir Trabelsi (Accounting), Allister Young (Accounting)
Assistant Professors
Yun Ke (Accounting), Staci Kenno (Accounting), Michelle Lau (Accounting)
Participating Faculty
Lecturers
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Fields of Specialization

Program Description

The Master of Professional Accounting (MPAcc) program provides international students, who have studied accounting outside of North America, with a broad background in all aspects of Canadian accounting. The MPAcc program enables students to assimilate advanced knowledge in accounting and related aspects of business. The program encourages the development of critical thinking, analytic and communication skills. It is a lock-step program that includes: an intensive English language study program (1 month in August), followed by three academic terms (12 months).

The program combines academic learning with practical experience through an optional co-op work term. The MPAcc Co-op allows students to apply their knowledge to private and public business settings and to develop highly specialized professional skills. The work experience, along with valuable networking contacts, makes a difference to students when preparing to enter the competitive career market.

At the end of the program, graduates are awarded a Master of Professional Accounting degree. Although the MPAcc program does not lead directly to a Canadian accounting designation, students interested in pursuing a Canadian accounting designation may submit their post-secondary transcripts (in English) to CPA Ontario for an assessment to determine course equivalencies in the CPA program.

Admission Requirements

Successful completion of a four year Bachelor’s degree, or equivalent, with a substantial number of accounting courses, and at least the equivalent of a 75% (mid-B) average. Prior courses taken in finance, macro and micro-economics, statistics and business strategy are strongly recommended.
Proof of English language proficiency will be required from all applicants. The minimum required score for entry is 80 on the TOEFL iBT (with minimum 21 on speaking and 21 on writing, no section under 19), 6.5 on the IELTS (no section under 6.0), or equivalent. For a full listing of accepted tests, see https://brocku.ca/nextstep/international-students/english-language-proficiency/.

The program is offered full-time only and is completed over three terms (Fall, Winter, Spring)

**Degree Requirements**

**Business English and Skills Transition Program**

All students entering the MPAcc program must complete a non-credit Business English and Skills Transition (BEST) program with satisfactory standing (70%) in all courses. Students who do not achieve satisfactory standing may be withdrawn from the MPAcc program by the Associate Dean, Research and Graduate Programs in consultation with the MPAcc Committee. The Business English and Skills Transition program takes place over four weeks in August. The objective of the program is to prepare students for graduate studies in Canada and enable development of English language skill in a business context, prior to proceeding to the graduate courses. The program utilizes real world examples from the North American business and academic environment.

Successful completion is required in the following courses:

- **MPAC 5N85 Strategies for Success**
- **MPAC 5N86 Business Communication**

A total of fifteen half-credit courses are required to complete the degree requirements.

- **MPAC 5P01 Financial Accounting I**
- **MPAC 5P02 Financial Accounting II**
- **MPAC 5P03 Managerial Accounting**
- **MPAC 5P10 Analysis and Problem Solving**
- **MPAC 5P24 Business Law**
- **MPAC 5P30 Assurance I**
- **MPAC 5P31 Advanced Management Accounting**
- **MPAC 5P36 Business Management II**
- **MPAC 5P37 Assurance II**
- **MPAC 5P38 Taxation I**
- **MPAC 5P39 Taxation II**
- **MPAC 5P41 Financial Statement Analysis**
- **MPAC 5P51 Information Technology and Systems**
- **MPAC 5P51 KBA Modeling and ADT for Financial Reporting**
- **MPAC 5P61 Corporate Governance**
- **MPAC 5P91 Corporate Finance for Accounting**

Admission to the co-op option is on a competitive basis. Students may be admitted to the co-op option at the time of admission or following the first term of MPAcc courses. Co-op students will be required to maintain a 75% overall average and achieve appropriate English language proficiency. Admission to the co-op option is on the basis of marks, a review of a personal résumé and employer availability. An interview may be required. In addition to the current tuition fees, co-op students are assessed a co-op administrative fee.

Co-op students take part in work-placement seminars (MPAC 5N90), comprised of lectures, presentations and industry specific information, for two hours each week prior to the first co-op work term. Attendance is mandatory. MPAcc students will complete all of their academic terms prior to the co-op work term.

**Course Descriptions**
Students must check to ensure that prerequisites are met. Students may be deregistered, at the request of the instructor, from any course for which prerequisites and/or restrictions have not been met.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td><strong>MPAC 5N11</strong></td>
<td>Co-op Employment I</td>
</tr>
<tr>
<td>Co-op work term (four months) with an approved employer providing a work integrated learning experience related to the student's chosen area of concentration. The co-op employment is full time with 35 to 40 hours per week for 12 to 16 weeks. Students are required to meet all the work term deliverables successfully (learning objective, work site visit, work term report and work term evaluation) and fulfill their employment contract in order to receive a “Satisfactory” grade for the work term. Restriction: Open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office.</td>
<td></td>
</tr>
</tbody>
</table>

| **MPAC 5N12** | Co-op Employment II |
| Co-op work term (four months) with an approved employer providing a work integrated learning experience related to the student's chosen area of concentration. The co-op employment is full time with 35 to 40 hours per week for 12 to 16 weeks. Students are required to meet all the work term deliverables successfully (learning objective, work site visit, work term report and work term evaluation) and fulfill their employment contract in order to receive a “Satisfactory” grade for the work term. Restriction: Open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office. |

| **MPAC 5N13** | Co-op Employment III |
| Co-op work term (four months) with an approved employer providing a work integrated learning experience related to the student's chosen area of concentration. The co-op employment is full time with 35 to 40 hours per week for 12 to 16 weeks. Students are required to meet all the work term deliverables successfully (learning objective, work site visit, work term report and work term evaluation) and fulfill their employment contract in order to receive a “Satisfactory” grade for the work term. Restriction: Open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office. |

| **MPAC 5N14** | Co-op Employment IV |
| Co-op work term (four months) with an approved employer providing a work integrated learning experience related to the student's chosen area of concentration. The co-op employment is full time with 35 to 40 hours per week for 12 to 16 weeks. Students are required to meet all the work term deliverables successfully (learning objective, work site visit, work term report and work term evaluation) and fulfill their employment contract in order to receive a “Satisfactory” grade for the work term. Restriction: Open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office. |

| **MPAC 5N85** | Strategies for Success |
| (also offered as MBAB 5N85) | Workshops, seminars and presentations to assist in providing international students with a smooth transition to graduate studies in business. Restriction: Open to MPAcc students. |

<p>| <strong>MPAC 5N86</strong> | Business Communication |
| (also offered as MBAB 5N86) | Emphasis on language skills required to perform in an English-speaking business context. Restriction: Open to MPAcc students. |</p>
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>MPAC 5P01</td>
<td>Financial Accounting I</td>
<td>The theory and practice of financial statement preparation including the conceptual framework for accounting choices, revenue recognition and the role of financial information in contracting. Emphasis on the measurement, reporting, and disclosure of monetary assets and liabilities. Includes complex issues such as accounting for leases, pensions, future income taxes, intercorporate investments and cash flow reporting.</td>
</tr>
<tr>
<td>MPAC 5P02</td>
<td>Financial Accounting II</td>
<td>The theory and practice of financial statement preparation in accordance with generally accepted accounting principles. Complex issues including accounting for leases, pensions, future income taxes, intercorporate investments and cash flow reporting. Prerequisite(s): MPAC 5P01 or permission of the Graduate Programs Office. Co-requisite(s): MPAC 5P02 may be taken concurrently with MPAC 5P01</td>
</tr>
<tr>
<td>MPAC 5P03</td>
<td>Managerial Accounting</td>
<td>Internal recording systems devised to implement and guide management planning and control with particular emphasis on cost finding, product costing, cost behaviour and cost allocations as well as analysis and communication of relevant information to users in a professional manner.</td>
</tr>
<tr>
<td>MPAC 5P09</td>
<td>Financial Statement Analysis</td>
<td>Analysis of financial accounting procedures and the rules that govern disclosure. Emphasis is on basic financial statements and how alternative accounting methods affect those statements and the analysis of financial statement relationships. Prerequisite(s): MBAB 5P08 or permission of the Graduate Programs Office.</td>
</tr>
<tr>
<td>MPAC 5P10</td>
<td>Analysis and Problem Solving</td>
<td>Application of technical competencies in sub-disciplines of accounting developed over the program with a focus on analysis and problem solving in the context of integrative case studies.</td>
</tr>
<tr>
<td>MPAC 5P24</td>
<td>Business Law</td>
<td>The legal environment of business and basic legal considerations for business organizations including forms of organization, liability of owners, shareholders, directors and managers.</td>
</tr>
<tr>
<td>MPAC 5P30</td>
<td>Assurance I</td>
<td>Principles and theories of auditing; ethical, legal and professional responsibilities of the auditor; nature of verification, audit evidence, testing, the elements of effective control structures, the use of statistical sampling and evolution of external, internal and comprehensive auditing; application of professional judgment and integration of auditing across the organization.</td>
</tr>
<tr>
<td>MPAC 5P31</td>
<td>Advanced Management Accounting</td>
<td>Examines various advanced topics such as cost behaviours, costing systems, accounting for decision-making, planning and control, incentive and compensation systems, decentralization, and performance evaluation. Prerequisite(s): MPAC 5P03</td>
</tr>
<tr>
<td>MPAC 5P36</td>
<td></td>
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</tbody>
</table>
### Financial Accounting III
(also offered as MBAB 5P36)
The theory and practice of financial statement preparation in accordance with generally accepted accounting principles with emphasis on accounting for complex business organizations and not-for-profit organizations.
Prerequisite(s): MPAC 5P02.

### Assurance II
(also offered as MBAB 5P37)
Generally accepted auditing standards, risk, materiality and the planning and execution of the audit. Emphasis on the overall audit plan, evaluation of results, testing and sampling, audit reports, review engagements, internal controls, and the audit of different transaction cycles. Integration of auditing across the organization.
Prerequisite(s): MPAC 5P30.

### Taxation I
(also offered as MBAB 5P38)

### Taxation II
(also offered as MBAB 5P39)
Topics include computation of taxable income and taxes payable for corporations. Tax implications of changes in corporate structures, corporate distributions, rollovers, shareholder/manager remuneration. Trusts and Partnerships. Determination of the effects of federal income taxes on decision-making. Discussion of taxation issues that integrate across businesses and for individuals.

### Information Technology and Systems
(also offered as MACC 5P51)
Current issues in developing and managing accounting information systems. Fundamentals of value chain modeling, business process modeling and database implementation using REA. Fundamentals of business reporting and information management using XBRL.
Restriction: open to MAcc and MPacc students.

### Corporate Governance
Using examples drawn from current business practices, investigates financial reporting matters, the role and function of auditing and the board of directors, ethics, management policy and leadership. Focuses on developing critical thinking and research skills.

### Corporate Finance for Accounting
Examination of corporate financing and investment decisions with emphasis on the accounting treatments and the financial reporting implications via a case approach; in depth analysis of financial planning, treasury management, capital budgeting, valuation, financial risk management, and corporate finance transactions.

### CO-OP COURSE

### MPAC 5N90
Co-op Professional Preparation Course-Employment Training and Development
An in-depth series of workshops and interactions to prepare learners for their success in the co-op program. The primary goal of this course is to help learners understand how to conduct job search, the expectations and skills to maximize co-op employment and professional development opportunities - both while at Brock and after graduation. It also provides graduate students with the tools, resources and skills to network with industry professionals. Topics include resume writing, interview skills, networking training, employer events and industry panel discussion. This course is a pre-requisite for any co-op students who wish to participate in co-op job search and employment. Students are required to meet all the workshop deliverables outlined in the course outline in order to receive a “Satisfactory” grade. This grade will be evaluated based on class participation including attendance and completion of professional projects for the training and continue on with the co-op program.

Restriction: open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office.
<table>
<thead>
<tr>
<th>Program Changes Proposal:</th>
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</thead>
<tbody>
<tr>
<td>1. Update Faculty list</td>
</tr>
<tr>
<td>2. Change to Co-op MACC 5P90 course name and description</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Program Changes Explanation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Update Faculty based on hiring and promotions.</td>
</tr>
<tr>
<td>2. As provided by Co-op office, &quot;Co-op students are required to register and complete the compulsory Co-op Professional Preparation Course (5N90) with a “Satisfactory” grade prior to the search of their first co-op work term. The primary goal of this course is to provide graduate students with the tools, resources and skills to maximize co-op employment and professional development opportunities - both while at Brock and after graduation. All graduate co-op students are required to pass this course with a “Satisfaction” grade prior to the start of their co-op job search term. The 5N90 course is designed to meet higher Degree Level of Expectations for Master’s degree students. This is a non-credit course and grade will be evaluated based on class participation including attendance and completion of professional projects.&quot;</td>
</tr>
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<table>
<thead>
<tr>
<th>Course Revisions:</th>
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<tbody>
<tr>
<td>MACC 5N90 - Co-op Professional Preparation Course (was &quot;Co-op Pre-Employment Training and Development&quot;)</td>
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<tr>
<th>Status:</th>
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<tbody>
<tr>
<td>Awaiting submission by sub-committee editor; before sub-committee meeting.</td>
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<table>
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<tr>
<th>Comments:</th>
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<tbody>
<tr>
<td>Submitted by Carrie Kelly on January 22, 2018 at 10:48:21 AM</td>
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<tr>
<td>Submitted by Carrie Kelly on January 22, 2018 at 10:49:37 AM</td>
</tr>
<tr>
<td>Submitted by Narongsak Thongpapanl on January 22, 2018 at 11:04:07 AM</td>
</tr>
<tr>
<td>Submitted by Mwinchande Chande on February 9, 2018 at 09:06:29 AM</td>
</tr>
<tr>
<td>Edited by Liz Keenan on February 15, 2018 at 02:00:24 PM:</td>
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</table>
Accounting
Master of Accountancy
bus.brocku.ca/macc
Graduate Diploma in Accountancy
brocku.ca/business/future/graduate/diploma/accounting

Fields of Specialization
General (CPA Pathway)
Information Assurance (not offered in 2018)
Taxation (not offered in 2018)

Dean
Andrew Gaudes
Goodman School of Business
Associate Dean, Research and Graduate Programs
Narongsak (Tek) Thongpapanl
Goodman School of Business

Core Faculty
Professor
Darlene Bay (Accounting), Ernest Biktimirov (Finance, Operations and Information Systems), Fayez A. Elayan (Accounting), Hemantha Herath (Accounting), Eugene Kaciak (Finance, Operations and Information Systems), Jingyu (Jennifer) Li (Accounting), Alex Nikitkov (Accounting), Raafat R. Roubi (Accounting), Samir Trabelsi (Accounting)

Associate Professors

Assistant Professors
Yun Ke (Accounting), Staci Kenno (Accounting), Michelle Lau (Accounting)

Participating Faculty
Lecturers
M. Sharon Broderick (Marketing, International Business and Strategy), Norman Chasse (Accounting), Michael Espinoza (Accounting), Jacqueline
Master of Accountancy

Program Description

The Master of Accountancy (MAcc) program (a two term program with an optional four month co-op work term) is part of the Goodman School of Business BAcc/MAcc CPA Pathway. The Goodman School of Business is accredited by the Chartered Professional Accountants of Ontario and eligible graduates of the MAcc can proceed to write the Common Final Evaluation (CFE) in the September immediately following the program. Students who have not completed the Goodman BAcc (Bachelor of Accounting) degree may be eligible for the CPA Pathway. Contact the Goodman School of Business, Graduate Programs Office for an individual assessment.
For students interested in obtaining the CPA designation, the MAcc program enables them to complete the CPA PEP program in seven months of full-time study, rather than two years of part-time study. Students will complete all four CPA elective modules (Assurance, Tax, Finance and Performance Management) and will exceed the elective requirements of CPA Ontario. Additionally, students will complete two integrated capstone modules designed to prepare them for the CFE.

In addition to fulfilling CPA exam requirements, the MAcc enables students to assimilate advanced knowledge in accounting and related aspects of business. The program encourages the development of critical thinking, analytic and communication skills.

Students will select the General (CPA Pathway) or the Taxation or Information Assurance specialization. In all options, students must complete one or more electives or specialty courses in other business topics or in approved topics offered by programs outside the business school. The opportunity to earn a designated minor in Business Analytics, Finance, Human resource management or Marketing is also available.

Note: in 2018/19 the Information Assurance and Taxation specialization courses will not be offered.

The MAcc program combines academic learning with practical experience through an optional co-op work term. The MAcc co-op option provides students with the opportunity to apply their knowledge in private and public business settings and to develop professional skills. The MAcc co-op work experience can be used toward the CPA practical work experience requirement.

Admission Requirements
Successful completion of a four year Canadian Bachelor’s degree, or equivalent, with an accounting concentration including courses in advanced financial accounting, cost and management accounting, advanced auditing, advanced personal and corporate taxation, business/management information systems, corporate finance, economics, Canadian business law and integration and problem solving with an average of not less than 75% (mid-B) over the last two years of full-time undergraduate study.

For students who must provide proof of English Language Proficiency, a minimum Academic IELTS score of 7.5 or TOEFL iBT score of 105 (or equivalent) is required. For a full listing of accepted tests see: https://brocku.ca/nextstep/international-students/english-language-proficiency/

The Graduate Admissions Committee will review all applications and recommend admission for a limited number of suitable candidates. Part-time study is available. However, applicants should consult with the Graduate Program Office regarding course sequencing and availability.

Students must take MAcc 5P11 and MAcc 5P12 concurrently and in the final term of the program.

All MAcc students will be required to have a PC-based laptop as the CPA Securexam software runs on PC-based computer only. No Apple/Power PC/Macintosh computer would be acceptable, even if it runs Windows. Securexam will run on Microsoft Windows Vista, Windows 7, 8 or 10 operating systems. For more information about Securexam, please refer to the CPA website.

Degree Requirements (Subject to Senate Approval)
The Master of Accountancy is normally completed in two terms (Winter and Spring).

Students must complete a total of ten half-credit required courses and electives.

Required Courses
MAcc 5P21 Strategic Performance Management
MAcc 5P41 Advanced Topics in Taxation
MAcc 5P71 Advanced Topics in Assurance
MACC 5P91 Advanced Topics in Corporate Finance
MACC 5P11 Integration and Team Management
MACC 5P12 Integration and Analysis
**MACC 5P51 Information Technology and Systems**

**MACC 5P51 KEA Modeling and ABSL for Financial Reporting**

MACC 5P61 Corporate Governance

**General CPA Pathway**
The CPA Pathway is accredited by CPA Ontario and is primarily focused on the body of knowledge required for the CPA PEP program. Completion of the MACC (CPA pathway) will provide students with advanced standing in CPA PEP to the end of Capstone 2. Students are encouraged to complete the Common Final Examination (CFE) in the September immediately following the completion of the MACC degree.

In addition to the required courses, students must complete two half-credit course electives. The elective courses are normally selected from other graduate courses offered in the Goodman School of Business. Requests to take electives from upper year undergraduate offerings and/or graduate courses outside of the Goodman School of Business may also be considered on a case-by-case basis.

Students in the CPA Pathway who successfully complete three or more half-credit electives from one of the functional areas of business will fulfill the requirements of a minor that will be notated on their official transcript. (Note: this will require students take an additional course over the required course load.) A minor may be pursued in: Business Analytics, Finance, Human Resource Management, Operations Management and Marketing. (Note that courses may not be offered in a given year if there is insufficient student interest.)

**Tax Specialization**
The tax specialization provides students the opportunity to develop advanced knowledge in taxation and an ability to research tax issues and communicate results efficiently and effectively.

In addition to the required courses, students in the tax specialization take MACC 5P42, (Tax Research and Statutory Interpretation and Practice) MACC 5P43 (Tax Policy), and MACC 5P45 (International Taxation: The Canada/United States Model) and one half-credit elective. The elective half-credit course is normally selected from other graduate courses offered in the Goodman School of Business. Requests to take electives from upper year undergraduate offerings and/or graduate courses outside of the Goodman School of Business may also be considered on a case-by-case basis.

Note: In 2018/19 the Taxation specialization will not be offered

**Information Assurance specialization**
The information assurance specialization provides students with the opportunity to develop advanced expertise in accounting information system assurance and technology, a strong understanding of the strategic role of information systems and their review and design.

In addition to the required courses, students in the information assurance specialty stream will take MACC 5P52 (E-Commerce), MACC 5P53 (Accounting Database Design), MBAB 5P15 (Introduction to Information Assurance) and MBAB 5P16 (Enterprise Infrastructure Architecture).

Note: In 2018/19 the Information Assurance stream will not be offered.

**Co-op Option**
Admission to the co-op option is on a competitive basis. Students may be admitted to the co-op option at the time of admission or following the first term of MACC courses. Co-op students must maintain a 75% overall average and achieve appropriate English Language Proficiency. Admission to the co-op option is on the basis of marks, a review of a personal resume and employer availability. An interview may be required.
Co-op students complete (MACC 5N90) work-placement seminars, that include lectures, presentations and industry specific information, for two hours each week prior to the first co-op work term. Attendance is mandatory. The co-op option is available to full-time students. Students will complete year one of their program prior to the co-op work term.

**Graduate Diploma in Accountancy**

**Program Description**

The Graduate Diploma in Accountancy (GDAcc) program (a one term program) is part of the Goodman School of Business BAcc/MAcc CPA Pathway and consists of the first term of the MAcc program. The Goodman School of Business is accredited by the Chartered Professional Accountants of Ontario and eligible graduates of GDAcc-can proceed with the MAcc program and subsequently to write the common Final Evaluation (CFE) in the September immediately following the program. Students who have not completed the Goodman BAcc (Bachelor of Accounting) degree may be eligible for the CPA Pathway. Contact the Goodman School of Business Graduate Programs Office for an individual assessment.

For students interested in obtaining the CPA designation, the GDAcc program enables them to complete two CPA Electives in four months of full-time study. In addition to fulfilling CPA exam requirements, the GDAcc enables students to assimilate advanced knowledge in accounting and related aspects of business. The program encourages the development of critical thinking, analytic, and communication skills.

**Admission Requirements**

Successful completion of a four year Canadian Bachelor’s degree, or equivalent, with an accounting concentration including courses in advanced financial accounting, cost and management accounting, advanced auditing, advanced personal and corporate taxation, business/management information systems, corporate finance, economics, Canadian business law and integration and problem solving with an average of not less than 75% (mid-B) over the last two years of full-time undergraduate study. For students who must provide proof of English Language Proficiency, a minimum Academic IELTS score of 7.5 or TOEFL iBT score of 105 (or equivalent) is required. For a full listing of accepted tests see: https://brocku.ca/nextstep/international-students/english-language-proficiency/

The Graduate Admissions Committee will review all applications and recommend admission for a limited number of suitable candidates.

**Degree Requirements**

The Graduate Diploma in Accountancy is normally completed in one term (Winter). Students must complete a total of five half-credit required courses and electives: MACC 5P21, 5P41, 5P71, 5P91 and one half-credit elective selected from MBAB 5P11-5P83.

**Course Descriptions**

Note that not all courses are offered in every session. Refer to the applicable timetable for details.

Students must check to ensure that prerequisites are met. Students may be deregistered, at the request of the instructor, from any course for which prerequisites and/or restrictions have not been met.

**MACC 5F91**

Independent Study

Research and/or consulting project carried out in collaboration with a faculty adviser and relevant resource personnel. Development of knowledge in a specialized discipline and development of ability to apply the knowledge to particular issues and/or situations.

Restriction: open to MAcc students in the general stream.

**MACC 5N11**
Applied Linguistics

Submission Details:

Applied Linguistics
Master of Arts in Applied Linguistics (TESL)
Field of Specialization
Teaching English as a Subsequent Language
Interim Dean
Ingrid Makus
Faculty of Social Sciences
Associate Dean
Diane Dupont
Faculty of Social Sciences
Core Faculty
Professors
Associate Professors
Cheng Luo (Applied Linguistics), David Hayes (Applied Linguistics), Ron Thomson (Applied Linguistics)
Graduate Program Director
Ron Thomson
ron.thomson@brocku.ca
Graduate Program Assistant
Mae Leong

905-688-5550, extension 5165
Mackenzie Chown
gradappllingtesl@brocku.ca
https://brocku.ca/social-sciences/departments-and-centres/applied-linguistics/graduate-program-al

Program Description
Teaching English as a Subsequent Language is a complex process, with a knowledge base combining such diverse areas as applied linguistics, language-teaching methodology, curriculum design, and testing. This MA program is designed to integrate these important elements in an educational experience promoting a high level of expertise and professionalism. Faculty teaching in the program bring a valuable range of attributes, including extensive international experience, hands-on proficiency in ESL teaching right here in Canada, capacity in a range of different languages beyond English, and energetic research and scholarship published and presented around the world. Graduates of this dynamic program will be well prepared as Teaching English as a Subsequent Language professionals working in Canada or abroad and those who have completed a thesis will be well prepared for further graduate study at the doctoral level.

There are two program options: a 12-month Direct Entry Program and a unique 14-month Bridged Entry Program especially for students for whom English is a subsequent language. The Bridged Entry Program includes a non-credit summer bridging segment (LING 5N01) as well as academic writing mentoring throughout the academic year. However, all students, in both programs, choose courses from the same course bank and all students study the credit courses together in the same classes.

Candidates entering the Direct Entry Program should anticipate commencing courses in early September. Course work will normally be completed by the end of April, with the major research paper to be completed by the end of August (3 terms). Thesis-route students will normally complete the degree by the end of December (4 terms).

Applicants admitted into the Bridged Entry Program should anticipate commencing the bridging session in the month of July, with regular credit courses beginning in the following September. Course work will normally be completed by the end of April, with the major research paper finished by the end of August. Thus, the time commitment will be approximately 14 months.

The Applied Linguistics - Bridged Entry program is not eligible for OSAP funding. For more information contact the Student Awards and Financial Aid Office at saf@brocku.ca.

Admission Requirements
Successful completion of a four year Bachelor's degree, or equivalent, in a relevant discipline with a minimum average of 75%. Applicants who do not meet the minimum requirements for admission, who believe they may be eligible for admission, should contact the Graduate Program Director to discuss their admission qualifications.

Applicants should have a four year Bachelor's degree (or equivalent) undergraduate background which includes English linguistics, TESL, or a comparable field, with courses relevant to the theory and practice of Teaching English as a Subsequent Language (e.g. general linguistics, syntax, phonology, discourse analysis, or other linguistics courses with a focus on English; educational psychology or similar courses related to ESL learning; ESL teaching methodology; or ESL practice teaching). Applicants without the required subject background at the undergraduate level, but with a minimum overall average of 75%, may be admitted if they show strong
academic performance on a graduate certificate in TESL from a recognized university and have relevant teaching experience.
Strong English language skills are essential for all applicants.
For Direct Entry, candidates whose first language is not English and who have not completed 3 or more years of full-time study at a Canadian post-secondary institution are required to provide proof of English language proficiency as follows: TOEFL PBT 630/CBT 267/iBT 109, TWE 5.5 and TSE 55, or IELTS 8 and writing band 8, (no individual score under 7.5).
For Bridged Entry, the following English language proficiency scores are required: TOEFL PBT 550/CBT 213/iBT 80, TWE 4.5 and TSE 45, IELTS 6.5 and writing band 6.5, (no individual score under 5.5).
Applicants who submit TOEFL or IELTS, scores may be asked to submit a writing sample.
Even with excellent language skills, applicants without a thorough undergraduate grounding in TESL-relevant courses are very unlikely to be admitted to the Direct Entry Program. In those circumstances, native speakers or others with a near-native command of English are advised to consider, in consultation with the Graduate Program Director, applying for the undergraduate TESL Certificate program also offered by the Department of Applied Linguistics. TESL Certificate graduates with a strong ‘B’ average (mid-70 or higher) are well-placed to apply for admission to the MA-level study of TESL at Brock or elsewhere.
The Graduate Admissions Committee will review all applications and recommend admission for a limited number of suitable candidates.
Part-time students will be admitted only in exceptional circumstances.

**Degree Requirements**
Students will consult with the Graduate Program Director when planning their programs of study. Graduate students follow either Scheme A or Scheme B. Scheme A candidates must submit a preliminary thesis proposal and find a supervisor as advised by the Graduate Program Director. Bridged Entry students may only complete Scheme B. For either scheme, supervisory responsibilities will be assigned within the proposed supervisor’s and second reader’s area of interest and expertise, with reasonable attention to equitable distribution of supervisory assignments and under the overall guidance of the Graduate Program Committee.

**Scheme A: Course Work and Thesis**
Students must successfully complete the two core courses, and a minimum of two additional courses, as determined in consultation with the supervisor and Graduate Program Director, and the MA thesis.

**Core Courses**
LING 5P07 Topics in Subsequent Language Acquisition Theory and Research
LING 5P85 Research Issues and Methodology in Subsequent Language Acquisition
Additional Courses (minimum of two of the following, in consultation with the supervisor and Graduate Program Director), depending on availability.
LING 5P00 Foundations of Language Teaching and Learning
LING 5P01 Sociolinguistics Applied to Language Teaching and Learning
LING 5P02 Pedagogical Grammar: Theory, Research and Practice
LING 5P03 Oral/Aural Skills in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P04 Reading in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P05 Writing in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P08 Vocabulary: Theory, Research and Practice
LING 5P10 Independent Study (approval of the Graduate Committee required)
LING 5P60 Teaching English to Young Learners
LING 5V60-69 Special Topics in Applied Linguistics

**Thesis**
LING 5F90 MA Research and Thesis

**Scheme B: Course Work and Major Research Paper**
Students must successfully complete the two core courses, six additional courses, and the major research paper.

**Core Courses**
LING 5P07 Topics in Subsequent Language Acquisition Theory and Research
LING 5P85 Research Issues and Methodology in Subsequent Language Acquisition
Additional Courses (six of the following, not all courses are offered every year)
LING 5P00 Foundations of Language Teaching and Learning
LING 5P01 Sociolinguistics Applied to Language Teaching and Learning
LING 5P02 Pedagogical Grammar: Theory, Research and Practice
LING 5P03 Oral/Aural Skills in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P04 Reading in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P05 Writing in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P08 Vocabulary: Theory, Research and Practice
LING 5P10 Independent Study (approval of the Graduate Committee required)
LING 5P60 Teaching English to Young Learners
LING 5V60-69 Special Issues in Applied Linguistics

**Major Research Paper**
LING 5F89 Major Research Paper

**Course Descriptions**
Note that not all courses are offered in every session. Refer to the applicable timetable for details.
Students must check to ensure that prerequisites are met. Students may be deregistered, at the request of the instructor, from any course for which prerequisites and/or restrictions have not been met.

**LING 5F89**
Major Research Paper
Major Research Paper, under the supervision of a faculty supervisor, on a specific issue in subsequent language teaching, curriculum design, professional development, student assessment, program evaluation, or a related area. Prerequisite: Completion of all course work; approval of the Major Research Paper topic by the supervisor.

**LING 5F90**
MA Research and Thesis
A research project involving the preparation and defence of a thesis on a topic in subsequent language teaching, curriculum design, professional development, student assessment, program evaluation, or a related area, demonstrating capacity for independent work. Research to be conducted under the supervision of a faculty supervisor and defended at an oral examination.
Prerequisite(s): Completion of all course work; approval of the thesis proposal by the MA Program Committee.

**LING 5N01**
Academic and Cultural Orientation for Bridged Graduate Students in Applied Linguistics
Academic and cultural orientation appropriate to academic context. Foundations and development of advanced academic skills in library research, note-taking, essay writing, seminar and workshop presentations, based on concepts and terminology in Applied Linguistics. Guidance in individual and group assignments. Familiarization with and use of electronic library databases and other e-resources.

**LING 5P00**

**Foundations of Language Teaching and Learning**

Linguistic, educational and social foundations of subsequent language teaching in the Canadian context as well as in international settings. Models of curriculum design and student assessment. Current trends in language teaching, program development, professional development, and related areas.

**LING 5P01**

**Sociolinguistics Applied to Language Teaching and Learning**

Theoretical concepts and research findings in sociolinguistics applied to the teaching and learning of English as a subsequent language. Focus on the social and cultural aspects of language, on the collaborative and social aspects of language learning, on the link between language and personal or social identity, and on the influence of the social world on language use, learning and teaching.

**LING 5P02**

**Pedagogical Grammar: Theory, Research and Practice**

Models of pedagogical grammar and their relationship to theories of subsequent language acquisition. Focus on issues arising in classroom learning. Application of grammar analyses to learning/teaching situations. Survey and critique of selected Information Technology tools available for the development of grammar skills.

**LING 5P03**

**Oral/Aural Skills in Teaching English as a Subsequent Language: Theory, Research and Practice**

Theoretical insights and research findings relevant to the pedagogy of speaking and listening, including models of oral interaction and of listening comprehension, and trends in speaking/listening instruction. Canadian Language Benchmarks for speaking and listening.

**LING 5P04**

**Reading in Teaching English as a Second Language: Theory, Research, and Practice**

Practical and theoretical foundations for decisions regarding materials design and instructional methodology, including genre theory, contrastive rhetoric, feedback and assessment, Information Technology.

**LING 5P05**

**Writing in Teaching English as a Subsequent Language: Theory, Research, and Practice**

Theoretical models of writing and instructional practices. Current issues in ESL writing research and teaching, including genre theory, contrastive rhetoric, feedback, assessment and critique of assessment tools (e.g. CLBs, IELTS), Information Technology.

**LING 5P07**

**Subsequent Language Acquisition Theory and Research**

Critical examination of current theories and key issues in subsequent language acquisition research, from various perspectives (linguistic, psycholinguistic, sociolinguistic, etc.). Integration of theoretical models, research evidence and practice.

**LING 5P08**

**Vocabulary: Theory, Research and Practice**

Theoretical models and research findings regarding how words are represented and processed in the mind. Focus will be on the consequences
of research findings for second language acquisition, bilingualism, and the teaching and learning of English as a Second Language.

**LING 5P10**

Independent Study
Research project carried out in collaboration with a faculty member. Enrichment of theoretical knowledge in a particular area of TESL, and development of the ability to apply that knowledge practically.

Note: Approval of the Graduate Committee is required for registration in this course.

**LING 5P60**

Teaching English to Young Learners
Theoretical insights and research findings relevant to ESL pedagogy of young learners as applicable to classroom teaching in both Canadian and international contexts.

**LING 5P85**

Research Issues and Methodology in Subsequent Language Acquisition
Research methods and issues in subsequent language teaching, curriculum design, professional development, student assessment, program evaluation, and related areas.

**LING 5V60-5V69**

Special Topics in Applied Linguistics
Selected issues or topics in the theory and practice of applied linguistics according to the specific areas of instructional expertise.
Faculty Structure

Submission Details:

Faculty Structure
Faculty of Graduate Studies
Interim Dean, Diane Dupont, BA Carleton, MA Toronto, PhD British Columbia
Director, Gail Pepper, BA, MEd
Acting Director, Charlotte Sheridan, BA, MEd

Academic Faculties
Faculty of Applied Health Sciences
Dean, Peter Tiidus, BSc, MSc York, PhD Waterloo
Associate Dean, Research and Graduate Studies, Nota Klentrou, BSc Athens, MSc, PhD Montreal
Graduate Programs: MA, MSc, MPH, MPK, PhD, Applied Health Sciences
Goodman School of Business
Dean, Andrew Gaudes, B.E.S., M.F.M., PhD University of Manitoba
Associate Dean, Graduate Programs and Research, Narongsak (Tek) Thonpapanl, BSc, MBA, PhD Rensselaer Polytechnic Institute
Graduate Degrees: MBA, MAcc, Master of Professional Accounting, MBE, MSc Management, Diploma in Accountancy, Diploma in Business Administration
Faculty of Education
Dean, Michael Owen, BA Carleton, MEd Alberta, PhD Toronto
Associate Dean, Research and International Initiatives, Michael O'Sullivan, BA Saint Mary's, BEd, MA Regina, MEd, EdD OISE/UT
Graduate Degrees: MEd, PhD in Educational Studies (Joint Program)
Faculty of Humanities
Dean, Carol U. Merriam, BA, MA Queen's, PhD Ohio State
Associate Dean, Michael Carter, BA, MA Queen's, PhD McMaster
Graduate Degrees: MA, Canadian-American Studies, Classics, English, History, Philosophy, Studies in Comparative Literature and Arts, PhD in Interdisciplinary Humanities
Faculty of Mathematics & Science
Graduate Programs

The following graduate programs are currently offered at Brock University:

**Doctoral Programs:**
- PhD in Applied Health Sciences
- PhD in Biological Sciences
- PhD in Biotechnology
- PhD in Chemistry
- PhD in Child and Youth Studies
- PhD in Educational Studies
- PhD in Interdisciplinary Humanities
- PhD in Physics
- PhD in Psychology

**Master's Programs:**
- Master of Accountancy (MAcc)
- Master of Applied Disability Studies (MADS)
- Master of Business Administration (MBA)
- Master of Arts (MA)
- Applied Disability Studies
- Applied Health Sciences
- Applied Linguistics (Teaching English as a Subsequent Language)
- Canadian-American Studies
- Child and Youth Studies
- Classics
- Critical Sociology
- English
- Geography
- History
- Philosophy
- Political Science
- Popular Culture
- Psychology
- Social Justice and Equity Studies
- Studies in Comparative Literature and Arts
- Master of Business Economics (MBE)
- Master of Education (MEd)
- Master of Professional Accounting (MPAC)
- Master of Professional Kinesiology (MPK)
- Master of Public Health (MPH)
- Master of Science (MSc)
- Applied Health Sciences
Biological Sciences
Biotechnology
Chemistry
Computer Science
Earth Sciences
Management
Material Science
Mathematics and Statistics
Physics
Master of Sustainability (MS)

Diploma
Diploma in Accountancy
Diploma in Applied Disability Studies
Diploma in Business Administration
Degrees offered through Concordia Lutheran Theological Seminary (an affiliated theological college of the University)
Master of Divinity (MDiv)
Master of Theological Studies (MTS)
## Submission Details:

<table>
<thead>
<tr>
<th>Status:</th>
<th>Awaiting submission by sub-committee editor; before sub-committee meeting.</th>
</tr>
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| Comments: | Submitted by Liz Keenan on October 13, 2017 at 08:56:15 AM  
Submitted by Liz Keenan on November 7, 2017 at 11:05:00 AM  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:19:19 PM:  
I. **Statistics Canada**: Updated email information. Other contact information removed as it is no longer valid.  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:27:35 PM:  
II. **Ministry of Training, Colleges and Universities**: Updated to reflect the new name of the Ministry.  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:30:12 PM:  
Definitions: Updated URL address.  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:36:00 PM:  
Definitions: Updated URL address  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:41:08 PM:  
Research Involving Animals: Updated URL address  
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Computer Programs: Updated URL address  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:50:36 PM:  
Graduate Student Intellectual Property Form: Updated URL address  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:52:26 PM:  
Grade Changes: Updated URL address  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:53:46 PM:  
Calculation of Averages: Added missing space  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 02:55:16 PM:  
XI. Graduate Supervision and Supervisory Committees: Added missing space  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 03:04:11 PM:  
XIV. Graduate Theses, Major Research Paper Documents: Updated URL address  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 03:28:03 PM:  
XV. Thesis Defences: Added commas  
Edited by Liz Keenan (on behalf of Liz Keenan) on February 15, 2018 at 03:29:51 PM:  
XVII. Academic Integrity/Academic Misconduct: Fixed a couple typos |
Academic Regulations and University Policies

I. Confidentiality and Release of Student Records

A. Protection of Privacy

Brock University collects and retains student and alumni personal information under the authority of The Brock University Act, 1964. This information is related directly to and needed by the University for the purposes of admission, registration, graduation and other activities related to its programs, being a member of the Brock University community and attending a public post-secondary institution in the Province of Ontario.

The information will be used to admit, register and graduate students, record management achievement, issue student identification cards, and administer and operate academic, athletic, recreational, residences and other University programs.

Information on admission, registration and academic achievement may also be disclosed and used for statistical and research purposes by the University, other post-secondary educational institutions and the provincial government.

Personal information provided for admission and registration and any other information placed into the student record will be collected, protected, used, disclosed and retained in compliance with Ontario's Freedom of Information and Protection of Privacy Act (R.S.O. 1990, c.F.31).

B. Student Access

Students have the right to inspect all documents contained in their own record, with the exception of evaluations and letters of reference supplied to the University with the understanding that they be kept confidential.

Students have the right to request that erroneous information contained in their records be corrected and that recipients, of any information found to be in error, be advised of the correction. Students wishing to inspect their record must make an appointment with the Director or Associate Director of Graduate Studies.

All official transcripts will be complete and unabridged. Partial transcripts cannot be issued. Transcripts issued directly to students bear the notation "Issued to Student".

Documents pertaining to a student's achievement at another institution, which may have been received by the University, will not normally be released or redirected to another institution.

C. Employee and Student Organization Access

Employees of the University are permitted access to information contained in student records, if they need to know the information in order to perform their official duties. As a general rule, only employees involved in some aspect of academic administration or student affairs are given access to the contents of student records.

In addition to collecting personal information for its own purposes the University collects specific and limited personal information on behalf of the Graduate Students' Association (GSA), as well as constituent organizations authorized by the GSA. The GSA uses this information for the purposes of membership administration, elections, annual general meetings, transit passes, health plan and for other authorized purposes. Information provided is released by the Faculty of Graduate Studies to GSA upon entering into a written confidentiality and privacy agreement outlining the terms, conditions and purpose for the release.

D. Third Party Access

It is University policy to make a minimum of information freely available to all inquirers. The University will disclose information about students who have graduated, which is considered to be public information as follows:

degree(s) obtained and the dates conferred by the University, and in most circumstances, scholarships and the dates awarded.

Except as specified below other information contained in the record (including current registration status and program of study) will be disclosed only with the student's written consent. This restriction applies to requests from parents, spouses, credit bureaus, police, CSIS and immigration and other government agencies. Specified records or portions thereof may be provided to persons or agencies pursuant to a court order, summons or subpoena directing the University to release information; to Statistics Canada and the Ministry of Education in connection with enrolment audits; or in accordance with the requirements of duly constituted professional licensing and certification bodies.

In emergency situations involving the health and safety of an individual, or in compassionate situations, the Director of Graduate Studies or designate may, if it is considered to be in the
best interest of the student, authorize the release of information needed to contact the student.

E. Notification of Disclosure of Personal Information

I. Statistics Canada
Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education. It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at post-secondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand 'outcomes'. In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student's name, student ID number, Social Insurance Number), student contact information (address and telephone number), student demographic characteristics, enrolment information, previous education, and labour force activity. The Federal Statistics Act provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the Statistics Act prevent the information from being released in any way that would identify a student.

Students who do not wish to have their information used are able to ask Statistics Canada to remove their identification and contact information from the national database. On request by a student, Statistics Canada will delete an individual’s contact information (name, address, or other personal identifiers) from the PSIS database. To make such a request, please contact:

By email: statcan.SIEP.Requests@statcan.gc.ca
By telephone: 1-800-307-3382 or 1-613-951-7608

By mail: Institutional Surveys Section, Centre for Education Statistics, Statistics Canada, Main Building, SC 2100 K, Tunney’s Pasture, Ottawa, ON K1A 0T6.

II. Ministry of Training, Colleges and Universities
The University is required to report student-level enrolment-related data to the Ministry of Advanced Education and Skills Development (MILC) Training, Colleges and Universities (MCU) as a condition of receipt of its operating grant funding. The Ministry collects this enrolment data, which includes limited personal information such as the Ontario Education numbers, student characteristics and educational outcomes, in order to administer government post-secondary funding, policies and programs, including planning, evaluation and monitoring activities.

Brock University is required to disclose personal information such as Ontario Education Numbers, student characteristics and educational outcomes to the Ministry of Advanced Education and Skills Development (MCU) Training, Colleges and Universities under s. 15 of the Ministry of Advanced Education and Skills Development Act, R.S.O., 1990, Chapter M. 19, as amended. The Ministry collects this data for purposes such as planning, allocating and administering public funding to colleges, universities and other post-secondary educational and training institutions and to conduct research and analysis, including longitudinal studies, and statistical activities conducted by or on behalf of the ministry for purposes that relate to post-secondary education and training.

Further information on the collection and use of student-level enrolment-related data can be obtained from the Ministry of Advanced Education and Skills Development (MILC) website: http://www.mec.gc.ca/ or by writing to the Director, Postsecondary Finance Branch, Postsecondary Education Division, 2nd Floor, Mowat Block, 900 Bay Street, Toronto, ON M7A 1L2.

F. Name Changes
As Brock is committed to the integrity of its student records, each student is required to provide, either on application for admission or in personal data required for registration, his/her legal name. Any requests to change a name, by means of alteration or deletion, substitution or addition, must be accompanied by appropriate supporting documentation. Upon making application for graduation a student may be asked to provide proof of his/her name.

G. Transcripts
Copies of student transcripts will be issued at the student's request, subject to reasonable notice. Requests should be submitted in person or by writing to the Office of the Registrar. In accordance with the University's Policy on Access to Student Records, the student's signature is required for the release of records. Transcripts issued directly to the student are stamped "Issued to Student". Partial
transcripts cannot be issued. The Office of the Registrar cannot be responsible for transcripts lost or delayed in the mail.

**H. Withholding of Degree or Grades**

Only the Faculty of Graduate Studies may release final grades. No student owing the University fees or fines will receive a diploma, certificate, transcript or a statement of final grades or have any such statements communicated to parties outside the University, until such time as the debts have been cleared to the satisfaction of the University.

**II. Student Status**

Graduate students must be identified as completing their graduate program on either a full-time or part-time basis and must be registered on a continuous basis from the point of admission to completion of the graduate program unless they have applied for and received approval for inactive status or a leave of absence.

Each graduate program determines whether a particular graduate program may be taken at Brock on a full-time or part-time basis.

Students are defined as having either full-time or part-time status at the time of admission and are expected to complete their degree under the admission status. Requests for changes to status will be reviewed, and only approved in extenuating circumstances by the graduate program and the Faculty of Graduate Studies.

Students admitted to graduate studies at Brock may not pursue two degrees concurrently (at Brock or elsewhere).

**Definitions**

**Full-time Students**

Full-time graduate students are defined as students whose main purpose is graduate study for the purpose of obtaining a graduate degree. Graduate study differs from undergraduate study in that it is for most students an activity that is highly concentrated, demanding and all-consuming.

Full-time graduate students are defined according to regulations as follows:

- they must be pursuing their studies as a full-time occupation and identify themselves as full-time graduate students in all documentation;
- they must be considered by the University to be in full-time study;
- they must maintain regular contact with their graduate program director and supervisor;
- they must be geographically available and visit the campus regularly. Without forfeiting full-time status, a graduate student, while under supervision, may be absent from the university (e.g. visiting libraries, doing field work, attending a graduate course at another institution, etc.) provided that, if any such absence exceeds four weeks in any one term, written approval of the student’s absence by the Graduate Program Director is forwarded to the Faculty of Graduate Studies and approved by the Dean of Graduate Studies (or designate); (see [link](https://brocku.ca/graduate-studies/newcurrent-students/student-forms))

It is advisable for full-time graduate students to notify their Graduate Program Director and supervisor of any employment undertaken outside the University; they must limit University employment to an average of no more than ten hours a week of University paid work in a given term. This ten hour a week rule applies to paid employment on campus and includes Graduate Teaching Assistantships and Research Assistantships. Approval to work on campus for more than an average of ten hours per week requires the approval of the graduate supervisor, the Graduate Program Director, and the Dean of Graduate Studies.

**Part-time Students**

Students who are admitted to part-time studies are restricted to a less than full-time program of study. There is no restriction with respect to time spent on paid employment. Part-time students may register in a maximum of 1.0 credit per term, excluding thesis and MRP registration. (A part-time MEd student may register in a maximum of 1.0 credit in each of the Spring and Summer MEd terms.) Not all programs offer the option to study part-time.

Part-time students should consult with their Graduate Program Director regarding course selection and course load per term.

**Inactive Students**

If, for some acceptable reason, a student is unable to take courses in a specific term, inactive status must be approved by the Graduate Program Director and the Faculty of Graduate Studies.

Permission must be obtained before the start of the academic term for which the student is seeking inactive status (via the Request for Inactive Term Form found at: [link](https://brocku.ca/graduate-studies/newcurrent-students/student-forms)). During an inactive term, the student pays the inactive
fee and retains library privileges. Inactive terms do not extend the final completion date by which degree requirements must be completed. Normally, inactive terms may not be consecutive and no more than two inactive terms may be taken during any graduate degree program. Students on inactive status will not be eligible to receive University fellowship support or other financial support from the University.

**Leave of Absence Students**

A leave of absence from a graduate program will be granted only in exceptional circumstances such as parental and maternity leave, medical leave, work leave that requires the student to leave the geographic area or compassionate grounds. Cases will be considered on an individual basis and must have the approval of the graduate supervisor (if applicable) and the Graduate Program Director before they are submitted to the Faculty of Graduate Studies for approval. A graduate student granted a leave of absence will not be registered and will not be required to pay fees for the duration of the leave. Students on leave will not be eligible to receive University fellowship support or other financial support from the University. In the case of funding by an external agency, the regulations of the granting agency will apply. The length of time for completion of the degree will be extended by the duration of the leave. A graduate student’s status regarding eligibility for employment on campus as a Teaching Assistant changes when on a Leave of Absence. Please refer to the CUPE 4207 Collective Agreement for specific information. Leaves of absence are for a minimum of two consecutive terms and a maximum of three consecutive terms. Normally, a student will not be granted more than one leave of absence during a graduate degree program. A leave of absence cannot be followed by an inactive term.

Request for Leave of Absence Forms are available from the Faculty of Graduate Studies or the Graduate Studies website at [https://brocku.ca/graduate-studies/new-current-students/student-forms](https://brocku.ca/graduate-studies/new-current-students/student-forms)

**III. Residency Requirement**

The residency requirement of a graduate degree program is the minimum number of terms in which the student must be registered prior to degree completion. For Master’s degrees except MBA and MAcc, the minimum requirement is 3 terms (one year) of full-time registration. For part-time students 6 terms (two years) of study is required to fulfill the residency requirement. The minimum requirement for MAcc students is 2 terms of full-time registration. The requirement for MBA students is 2 terms of full-time registration or 4 terms of part-time registration. A Doctoral degree requires a minimum of 9 terms (three years) of full-time study after a Bachelor’s degree or 6 terms (two years) after a Master’s degree.

**IV. Degree Requirements**

Each graduate program specifies and outlines the graduate program degree requirements in their graduate program entry within the Graduate Calendar. Links to the graduate program calendar entries are found at: [brocku.ca/webcal](https://brocku.ca/webcal)

**Course Substitutions**

A Graduate Program Director may approve degree requirement course substitutions up to a maximum of 25% of program requirements (excluding the thesis or major research paper). Such course substitutions must be reported to the Faculty of Graduate Studies, preferably at the time of course registration.

Questions regarding program/degree requirements should be addressed to the graduate program.

**V. Applicable Calendar**

Students who have maintained enrolment in each calendar year (May to April) may complete the degree program using the Academic Regulations section and program degree requirements operative in the year in which that program was entered, or any subsequent Calendar published while enrolled. Students who interrupt their studies for more than one calendar year (by not enrolling in at least 1 credit) become subject to the Calendar regulations in effect at the time of their re-registration.

**VI. Degree Completion Time Limits**

Each graduate program has a defined time to completion which is the number of graduate terms normally required to complete the program. Graduate funding periods are typically tied to the program’s defined time to completion and are specified in the graduate program calendar entry. Additionally, there are university maximum time limits for the completion of graduate degree programs.

**University Maximum Time Limits**


**Master’s Degrees**

Full-time students  
Full-time students must complete all degree requirements within three years from the date of first registration.

Part-time students  
All part-time master's students, except MBA, must complete all degree requirements within five years from the date of first registration.

Part-time MBA students must complete all degree requirements within six years from the date of first registration.

**Doctoral Degrees**

Full-time students  
Full-time students must complete all degree requirements within six years from the date of first registration.

Part-time students  
Part-time students must complete all degree requirements within eight years from the date of first registration.

Where a student is permitted to change status from full-time to part-time, or vice versa, the fraction of time remaining under the previous status will apply to the new status.

**Extension of Degree Time Limits**

In exceptional circumstances, an extension of time permitting further registration may be granted. Extension requests, detailing the exceptional circumstances, must be received by the Faculty of Graduate Studies within the first month of the term in which the completion date expires, and all requests must be approved by the student's supervisor (if applicable), the Graduate Program Director and the Dean of Graduate Studies. An extension will only be granted if approved by the graduate program concerned. A request for **Extension of Degree Time Limits** form can be found at: https://brocku.ca/graduate-studies/current-student-forms

**VII. Registration Policies and Procedures**

All graduate students must maintain continuous registration in each successive term from the time of initial registration until degree requirements are complete. Students are responsible for ensuring that they register at the appropriate time for each term, as indicated in the Schedule of Important Dates. brocku.ca/webcal Select Current Graduate Calendar.

Students must remain continuously registered to the end of the term in which they complete the degree requirements. Completion means that all corrections have been made to the thesis or major research paper and the final approved copy has been submitted to the graduate program or uploaded to the Digital Repository. Should the Graduate Record Form not be received by the last day for late registration in a given term, the student will be required to register for that term. If registration lapses, the student will be withdrawn from the program.

**Final Stage Status**

Students approved for Final Stage Status by their graduate program must have completed all course work, and must have a complete draft of their Major Research Paper or Thesis, that their supervisory committee agrees requires no further research or additional chapters/sections. Students approved for Final Stage Status must be able to complete their exit requirement within the subsequent term. Final Stage Status may be awarded only once and for only one term. The Final Stage Status Form is found at: brocku.ca/graduate-studies/current-students/student-forms

Credit will be given only for those courses for which the student is formally registered. A student will receive no credit for any work completed during a term in which the student was not properly registered.

It is the responsibility of students to ensure that they are registered by the appropriate deadline date. Students who fail to register by the deadline date will be charged a late registration fee. Students will not be allowed to register after the official registration count dates of November 1, February 1 and June 30.

Students must check their student account via Student Self-Serve for fees owing. To access and check a student financial account, sign into the University portal, my.brocku.ca, click on Student Self-Serve, then from the list of options click on Financial History. It is important for students to check their Brock email regularly, for messages from the Student Accounts Finance Office regarding their financial account. Graduate funding information is available through the my.brocku.ca Student Self-Serve, click on GradStuFunding. Via this screen, students have the capability to see all graduate
students of Graduate Studies and will require the submission of an application for reinstatement. The request for reinstatement must be approved by the Graduate Program Committee and the Faculty of Graduate Studies. The application process may include recommendations regarding the retention of previous course credits. The request for reinstatement application fee is charged. If enrollment is allowed to lapse a second time, the student will not be reinstated. The Request for Reinstatement Form can be found at: brocku.ca/graduate-studies/current-students/student-forms/

Master of Accountancy
All students are required to register for both the Winter (January - April) and Fall (September - December) terms, unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Professional Accountancy
All students are required to register for the Spring Business English and Skills Transition program (1 month - August) and the Fall (September-December), Winter (January-April) and Spring (May-August) terms, unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

MBA and MBA ISP
MBA students are required to register for both the Fall (September-December) and Winter (January-April) terms, ISP students must also register for the Spring Business English and Skills Transition program (1 month - August), unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Business Administration and MBA ISP
MBA students are required to register for both the Fall (September-December) and Winter (January-April) terms, ISP students must also register for the Spring Business English and Skills Transition program (1 month - August), unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Public Health, Master of Science, Master of Public Safety and Doctoral programs
All MA, MBE, MPH, MPK, MSc, MS and PhD students are required to register for each of the three academic terms (Fall, Winter, Spring) unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Education
MEd students are required to register in three academic terms per year: Spring (May-June) or Summer (July-August), Fall (September-December) and Winter (January-April) unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Extra Courses
A full-time graduate student, with the permission of his/her Graduate Program Director, may take up to one extra graduate or undergraduate credit course (including audit status courses) that are not directly related to their graduate degree program. Students must declare a course to be Extra prior to the last day of withdrawal; however, the declaration is typically made at the point of registration. No additional fee above that charged for the graduate program degree requirements will be levied for these courses. Extra courses are subject to the same regulations as courses required for the degree but cannot be used for credit toward the degree.

Audit Courses
Graduate students wishing to attend courses without completing assignments and writing examinations must register as auditing the course. Students must have approval from the instructor of the course and their Graduate Program Director. No credit or assessment of performance will be awarded. Changes from audit to degree status or vice versa, are accepted by the Faculty of Graduate Studies no later than the last day to add a course (of that term). All audit courses are coded as extra courses.

Repeating a Course for which a Passing Grade has been Awarded
Students may repeat a course for which they have received a passing grade. The grade awarded for a repeated course will supersede the grade from the first attempt at the course regardless of
whether it is higher or lower. Both grades will remain on the student's transcript but the second grade, whether higher or lower, will be used in the computation of the student's average. No course may be repeated more than once.

**Repeating a Failed Course**

Students may repeat a failed course, but no course may be repeated more than once. Both grades will remain on the student's transcript but the second grade will be used in the computation of the student's average.

A student may repeat no more than a total of one credit.

**Ontario Visiting Graduate Student Plan (OVGS)**

The Ontario Visiting Graduate Student Plan allows graduate students of an Ontario university to take graduate courses at another Ontario university while remaining registered at their own university. The plan allows students to bypass the usual application for admission procedures. Registration is not complete until prior approval has been received from both the host and the home universities. A student who is classified as an Ontario Visiting Graduate Student will register and pay fees to the home university but will pay no fees to the host university. A description of the course must be attached to the form (course outline if available). No more than one credit (two half credit courses) will be allowed as OVGS credit. The course(s) selected must be at the graduate level and required for the student's degree program and not available at the home (Brock) university. Such courses may not be "extra" or "audit" courses for the student. **Ontario Visiting Graduate Student forms** are available from the Faculty of Graduate Studies or the Graduate Studies website [https://brocku.ca/graduate-studies/current-students/student-forms](https://brocku.ca/graduate-studies/current-students/student-forms)

**Letters of Permission**

A student may request a Letter of Permission from the Faculty of Graduate Studies in order to take a course or courses at another university (outside of Ontario) as a visiting student. The student must be in good standing, that is, having successfully completed a minimum of two graduate credits with a minimum overall B average. Brock credit will not be granted to students who Challenge for Credit, on a Letter of Permission, at the host institution. The student must indicate the specific course(s) he/she wishes to take and provide the Faculty of Graduate Studies with the course description(s) from the calendar of the host university. Course(s) requested should be relevant to a student's degree program and must be approved by both the student's academic department/program and the Dean of Graduate Studies. Approval shall be at the discretion of the department/program and Dean, who shall base the decision on the applicant's overall academic record, the appropriateness of the particular course to the applicant's program and on any other factors deemed relevant.

If a letter of permission is granted to a currently registered student, it will be provisional pending successful completion of the progressions requirements for that session.

On return to the Faculty of Graduate Studies of the approved application, the Faculty of Graduate Studies will forward a Letter of Permission to the host university. Students should contact the host university to determine any course access limitations imposed on visiting students.

Students must formally request that the host university forward an official transcript to Brock. The transcript must be received within eight weeks of the course end date as specified on the application for the Letter of Permission. Failure to provide an official transcript will result in the automatic assignment of a failing (F) grade in each course attempted on the Letter of Permission. Not more than one credit (two half credit courses) may be taken at other universities on a Letter of Permission to fulfill graduation requirements for any graduate program at Brock.

Courses taken on a Letter of Permission will not be included in the calculation of the graduate student's Brock University average.

Credit will be granted only when the course is completed successfully with a minimum grade of “B” or 70% at the host institution. Course credit will be granted equal in value to the course weight assigned by the host institution. Any course attempted under a letter of permission shall be recorded on the Brock University transcript as a Pass/Fail grade. The exact name and title of the course(s) taken, the name of the host institution, and the grade assigned by the host institution, will appear as a notation on the Brock University transcript.

If the selected course is dropped after the commencement of classes, notification in writing, and an official transcript or statement, must be submitted immediately by the student to the Faculty of Graduate Studies at Brock University.

Students granted permission to take the final course(s) of their program on a Letter of Permission must ensure that grades, in the form of an official transcript, are received by the Faculty of
Graduates Studies by April 25 for those wanting to graduate at Spring Convocation and September 5 for those wanting to graduate at Fall Convocation.

Drop/Withdrawal of Courses
Students wishing to change their course registrations during the drop period may do so through the Web until the system closes for the session. After the system closes, students must submit the Registration Course Add/Drop Form to the Faculty of Graduate Studies by the withdrawal deadline date as published in the Schedule of Important Dates. While it is a courtesy to inform the instructor of withdrawal from a course, this does not constitute official withdrawal from either a course or the University. The date of withdrawal from a course, following the course change period, will be recorded on the student's official transcript. Grades will be recorded on students' transcripts for all courses in which they have officially registered and from which they have not officially withdrawn. A student who drops or withdraws in good standing may be entitled to a refund of tuition fees in accordance with the refund schedule. See: brocku.ca/finance/studentfinance/graduate/

Voluntary Program Withdrawal
Graduate students wishing to voluntarily withdraw from a graduate program must consult with the graduate program concerned and submit the Notice of Voluntary Withdrawal Form to the Faculty of Graduate Studies. The form is available from the Graduate Studies website https://brocku.ca/graduate-studies/current-students/student-forms

Required Withdrawal from Course
Graduate students may be required to withdraw from a graduate course(s) due to academic or non-academic misconduct.

Required Withdrawal from Graduate Program
Graduate students may be required to withdraw from a graduate program due to unsatisfactory performance or academic or non-academic misconduct.

Personal Time Off
Students may take up to two weeks per year (14 calendar days) in personal time off, plus statutory and non-statutory holidays during which the University is closed. This personal time off must be negotiated between student and supervisor and/or Graduate Program Director. Time off should not compromise the progress of a student's studies, including the fulfillment of course requirements. Students must ensure that laboratory activities and experimentation are either completed or arrangements made for others to continue ongoing work. Time sensitive deadlines must be taken into consideration. Time off cannot be carried forward from year to year. Time off should be requested as far in advance as possible.

Academic Accommodation for Religious Obligations
Brock University acknowledges the pluralistic nature of the student community such that accommodations will be made for students who, by reason of religious obligation, must miss an examination, test, assignment deadline, laboratory or other compulsory academic event. Students requesting academic accommodation on the basis of religious obligation should make a formal, written request to their instructor(s) for alternative dates and/or means of satisfying requirements. Such requests should be made during the first two weeks of any given academic term, or as soon as possible after a need for accommodation is known to exist (i.e., posting of the examination schedule), but in no case later than the second-last week of classes in that term. When a student's presence is required prior to the date on which classes begin, any student who cannot meet this expectation of attendance for reasons of religious obligation should notify the Faculty of Graduate Studies, in advance. Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodation in a way that avoids academic disadvantage to the student. The type of accommodation granted will vary depending on the nature, weight and timing of the work for which accommodation is sought. In cases regarding academic accommodation of students on the basis of religious obligation, any dispute unresolved by discussion between the student and instructor may be appealed, first to the Graduate Program Director and thereafter to the Dean of the Faculty in which the student is registered. If the student is not satisfied with the decision of the Faculty Dean, the student may then appeal to the Dean of Graduate Studies. If the student is not satisfied with the decision of the Dean of Graduate Studies, the student may then appeal to the Student Appeals Board.
A current list of major religious observance days is posted at https://brocku.ca/registrar
VIII. Research Policies and Procedures

As Brock University has signed the Agreement on the Administration of Agency Grants and Awards by Research Institutions with the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council of Canada, and the Social Sciences and Humanities Research Council of Canada, being the agencies of the Government of Canada charged with promoting and funding research and research training in Canada, all students must comply with the Agreement including all related Policies, Frameworks, Regulations, and Guidelines with respect to areas such as conflict of interest in research, integrity in research, research involving humans and animals, biohazardous materials, etc. For further information, we encourage students to visit http://www.science.gc.ca/Research_Funding_Collaboration/Policies_and_Guidelines/Institutional_Agreement-W556B87BE5-1_En.htm

Research Involving Human Participants

At Brock University, human research refers to activities where data from human participants are used as part of an undertaking intended to extend knowledge through a disciplined inquiry or systematic investigation. Human participants are those individuals whose data, or responses to interventions, stimuli, or questions by the researcher, are relevant to answering the research question. The definition of human participant research also extends to secondary and/or non-public sources of information; identifiable, private information about an individual(s) such as that found in health records; and research involving human biological materials from persons living or dead. All human participant research must undergo ethics review prior to commencing and receive clearance from a Brock University Research Ethics Board (REB) regardless of whether the procedures used are invasive or non-invasive. This policy applies to funded and non-funded research involving human participants conducted in any location on or off campus by Brock University faculty, staff, graduate students, undergraduate students and to anyone conducting research under the auspices or within the jurisdiction of Brock University. If you are in doubt as to whether your research requires REB review, please contact the Research Ethics Office reb@brocku.ca or (905) 688 5550, extension 3035 for advice.

As part of the application for human ethics clearance, graduate students must provide a certificate of completion for the Course on Research Ethics (CORE) on-line tutorial. Graduate students who conduct human participant studies strictly based on secondary analysis of a) human tissue or bodily fluids; or b) data from non-public sources—provided there is no involvement or interaction with human participants, are encouraged to complete the entire CORE tutorial. However, at minimum, these students must complete modules 1 (core principles), 2 (defining research), and 5 (privacy and confidentiality) before submitting a research ethics application.

Failure on behalf of researchers to adhere to Brock University’s human research ethics policies and procedures will result in an investigation according to REB compliance procedures and may constitute misconduct under the Brock University Research and Scholarship Integrity Policy. Please see: https://brocku.ca/research/ethics-and-research-reviews/human-ethics for additional information and the procedures you must follow to obtain research ethics clearance at Brock. For further information on research ethics guidelines in Canada, we encourage students to visit the Government of Canada’s Panel on Research Ethics website http://ethics.gc.ca/eng/index/

Research Involving Animals

All research that involves the use of animals must be reviewed and approved by the Brock University Animal Care and Use Committee prior to the initiation of such research or instruction. Please note that no work with animals can be ordered or obtained prior to approval of animal protocol by Brock Animal Care and Use Committee. See: http://brocku.ca/research-at-brock/office-of-research-services/research-ethics-office/ for additional information.

Radiation and Biohazard Safety

At Brock University, safety is everyone’s responsibility. All members of the university community should be thoroughly familiar with their safety responsibilities, strive to follow safety practices at all times, act proactively to prevent accidents and injuries, communicate hazards to supervisors, and be prepared for emergencies that may occur in the workplace or on campus. Brock University requires that health and safety be a primary objective in every area of operation and that all persons utilizing University premises comply with procedures, regulations and standards relating to health and safety. See brocku.ca/hr-ehs/environment-health-safety/academic-safety for additional information.

Field Safety
Brock University is committed to ensuring that scholarship and research is carried out in a safe and responsible manner. In particular, Brock recognizes the importance of encouraging faculty members, staff and students to engage in research beyond the campus walls. However, while all research involves the assessment and management of risk, the level of risk can vary with scholarship. Risk in field research may include, but is not limited to, the risk to physical health, emotional well-being and personal safety. The risks may arise because of the nature of the research itself, from the physical climate, or from the political, social, economic and cultural environment of the fieldwork location.

It is the policy of the University to encourage such activities as may be appropriate to the scholarly needs of the research program of its faculty members, students, affiliated research personnel, and staff to take every reasonable precaution to protect the personal health, safety and security of its participating members. In practice, responsibility for safety in field research rests primarily upon the persons who directly supervise and carry out the research on location. Such persons are expected at all times to exercise good judgement and must take all reasonable care in the circumstances to protect the personal health and safety of participating team members. See: https://brocku.ca/university-secretariat/facultyhandbook/section3#C_3 to review the Policy on Safety and Liability for Field Research and the related forms/appendices. See brocku.ca/hr-ehs/environment-health-safety/academic-safety for additional information.

Integrity in Research and Scholarship

Integrity is fundamental to the process of research and scholarship and misconduct damages the entire academic enterprise. While responsibility for maintaining standards of conduct in research and scholarship resides with all members of a research team, it is the responsibility of the University to provide an atmosphere which fosters the highest standards of integrity. Accordingly, Brock University acknowledges and accepts responsibility for maintaining ethical standards in research and scholarship, and agrees to investigate and resolve promptly and fairly all instances of alleged misconduct.

It is the purpose of this policy to set down principles that promote integrity in research and scholarship, to define categories of misconduct in research and scholarship, and to establish procedures to investigate allegations of research misconduct.

It is expected that all faculty, other employees, including those employed on grants and contracts, and students who engage in research at or under the auspices of Brock University will acquaint themselves with this Policy and all existing regulations and codes of conduct before commencing or continuing with any further research (Section III: 8 Research Ethics, Faculty Handbook; Article 11 - Academic Freedom, Article 12 - Rights and Responsibilities of Faculty Members, Article 14 - Integrity in Research and Scholarship Article 18 - Conflict of Interest, Article 38 - Patents, and Article 39 - Copyright of the BUFA/Brock Agreement on the Terms and Conditions of Employment for Faculty; Academic Regulations and other appropriate sections of the Graduate Calendar; and all future policies and regulations or codes of conduct respecting research and scholarship that may be introduced at Brock University). See: brocku.ca/university-secretariat/facultyhandbook and https://brocku.ca/webfm_send/21442 for additional information.

Intellectual Property

For work done by a student, research assistant or post doctoral fellow, Brock has the following guidelines related to the interpretation of copyright and other aspects of intellectual property rights. These guidelines distinguish, in general, between items done solely by the student and those undertaken as part of a joint research effort. In the former case, the intellectual property is primarily the student's, but the University reserves certain rights as detailed in the remainder of this section. In the latter case, the intellectual property rights involve the student, the research supervisor (and possibly other individuals as well), the University, and on occasion the financial sponsor of the research. (If the work is anticipated to have commercial possibilities, it is required that the parties involved agree in writing beforehand on the sharing of any financial returns.) While no policy can anticipate or cover all possible situations, the University Policy on Integrity in Research and Scholarship and these guidelines are intended to cover the rights of current and former Brock students, research assistants and postdoctoral fellows both while attending the University, and after they leave the University, whether with or without a degree.

Similarly, while it is difficult to provide a definitive definition of intellectual property (IP), the Government of Canada (Consumer and Corporate Affairs Canada: “Intellectual Property: What It Means To You”) indicates that there are at least six types of IP: Patents, for inventions and the creation of new kinds of technology;
Copyrights, for literary, educational, artistic, dramatic and musical works;
Trademarks, for words, symbols or pictures used to distinguish the goods or services of one person from those of another;
Industrial Designs, for the shape, pattern or ornamentation of an industrially produced object;
Integrated Circuit Topographies;
Plant Breeders Rights.
At Brock, given our mission and types of undergraduate and graduate programs, the most likely types of intellectual property to be created includes theses, dissertations, cognate essays, research papers, books, poems, plays, scripts, essays, articles, dictionaries, maps, lyrics, musical scores, sculptures, paintings, photographs, films, videos, tapes, computer software, databases, records, tapes, cassettes, educational materials, WEB based materials and inventions (new kinds of technology). To be protected by law, an item must satisfy three criteria: a) it must be an original creation; b) it must be a specific expression of an idea, not the idea itself; and c) the item must be fixed in a physical form. These creations may occur via term papers, theses or dissertations, research or cognate essays, course projects, cases, studio or laboratory assignments, etc.

Examinations, Reports and Papers Done as Part of Course Requirements
When work that is eligible for copyright is submitted to meet a requirement of a course, the University acknowledges the student's ownership of the copyright, but places the following conditions on the submission of the work to meet course requirements.
The original physical document becomes the property of the University. This applies particularly to examination answer scripts, and may also be applied to term papers and other course work.
Except for examination answer scripts, the University receives a royalty free, non-exclusive licence to make copies of the work for internal use within the University, and to circulate the work as part of the University library collection.

Theses and Project Reports
As with other papers, the University recognizes that the student holds copyright to the finished thesis. Copies of the thesis shall have on them in a prominent place on the title page the international copyright notice. The student is required to sign a licence to the University library and an additional licence to the National Library. These licences grant the two libraries permission to reproduce the thesis and to circulate it, but do not affect ownership of the copyright.
However, the University also recognizes that the ideas in the thesis will often arise from interaction with others. In some cases, this interaction will have been solely with the thesis supervisor; in other cases, a larger research team will have been involved. For this reason, it is understood that the copyright refers only to the written document of the thesis. The ideas themselves including any advances in theory, data, patentable ideas, or commercial exploitation of the work may or may not be the exclusive property of the student.
For the student who has worked closely with a supervisor, or as part of a research group, the rights to publish, patent or commercially exploit the results of the research are shared with the supervisor and/or the research group, and with the University. In those cases in which the work has been supported in part by research grants or contracts, there may be other conditions affecting any patent or commercial exploitation. The student should be made aware that such conditions might apply before work begins and bears some responsibility to enquire as to details if they have any concerns.

Computer Programs
Computer programs written as part of employment duties, as for example by a teaching assistant, are the property of the employer, as specified in the Copyright Act. Computer programs written as part of course work, a project or a thesis may also have value as a potentially marketable intellectual property.
The University recognizes that such software may arise in two different ways, and accordingly has two policies. In setting forth these policies, it is understood that in those cases in which software development draws upon other software owned or licenced by the University, the terms and conditions of the licence or purchase must be followed.
Where a student develops such software at the direct request of a supervisor, and under supervision, it is assumed that there is joint ownership of the intellectual property rights. In such cases, it is recommended that the individuals involved co-author a working paper documenting the software, rather than including it as an appendix to a thesis or report. Prior agreement between the student and supervisor that this is to be the case would be helpful.
Where a student develops such software on his/her own, as for example for an independent project in a course, copyright remains with the student. As a condition of using University computing facilities, the student is required to grant the University a royalty-free licence to use the software. This includes the right of the University to distribute copies of the software to Brock faculty, staff and students for the University's administration, education and research activities. This licence does not include the right to use the software for commercial purposes.

Further, Graduate Studies encourages all graduate students to have a thorough conversation with their graduate supervisor about intellectual property in an attempt to navigate any potential intellectual property issues in advance. Graduate Studies has created an IP Checklist to help students begin a conversation with their graduate supervisors about intellectual property matters (a copy of which can be found at: brocku.ca/graduate-studies/ current-students/regulations-and-policies/property).

Research Data

As with computer software, the University recognizes that research is conducted and data are acquired in two different fashions. When the data are acquired as part of a joint or collaborative effort, such as one relying on the equipment within a laboratory, they are not solely the property of the student, although some of the data may ultimately appear in tables or appendices in a completed thesis.

As a general rule, such data are the joint property of the student and the research supervisor, either of whom has the right to make it available to other individuals. Both student and supervisor are responsible for insuring that proper acknowledgment of the contributions of the student, supervisor, and other members of the research team is made when the data is released in any form.

When the data is acquired through the student's individual effort, and without the use of University laboratories or funding, then it is usually the property of the student making that effort. However, exceptions may occur when the student collects data using research instruments including interview schedules and questionnaires developed wholly or in part by the research supervisor or by some other person or agency. In such instances the right to ownership and/or use of the data may be shared among the parties involved.

Given the range of possible alternatives it is not possible to set absolute guidelines in advance covering all such situations. Consequently, it is strongly recommended that students and supervisors make clear agreements in advance concerning the ownership and use of data collected in this fashion. Ownership of data may also be affected by the terms of a research contract that has supported the work.

Equipment

If University resources have been applied to the construction or design of equipment, it is not the property of the student, but of the University. Equipment constructed or designed as part of course or thesis work is the property of the student if the work, materials, and workroom space have been provided by the student or other non-University source. Ownership of newly constructed equipment may also be specified in a research contract that has supported the work.

Graduate Student Intellectual Property Form

All graduate students must read and familiarize themselves with the Intellectual Property guidelines and policies of the university (as described above). In addition, the Policy on Integrity in Research and Scholarship requires graduate students and their graduate supervisors to sign an Intellectual Property Form indicating their agreement with the University policies and guidelines or indicating any specific arrangements that have been made that differ from these policies an. guidelines. Please see https://www.brocku.ca/graduate-studies/current-students/regulations-and-policies/Student-forms

Further, Graduate Studies encourages all graduate students to have a thorough conversation with their graduate supervisor about intellectual property in an attempt to navigate any potential intellectual property issues in advance. Graduate Studies has created an IP Checklist to help students begin a conversation with their graduate supervisors about intellectual property matters (a copy of which can be found at: http://www.brocku.ca/graduate-studies/current-students/regulations-and-policies/Student-forms).

IX. Examinations

Graduate instructors will indicate on the course outline and grading scheme whether formal or informal scheduled examinations are required.

Examination scripts must clearly identify the requirements for completing the examination. The duration in hours and minutes, if relevant, must also be identified. The following statements will
routinely be placed on final examination scripts: No examination aids other than those specified on
the examination scripts are permitted (this regulation does not preclude special arrangements
being made for students with disabilities). Translation dictionaries (e.g. English-French) or other
dictionaries (thesaurus, definitions, technical) are not allowed unless specified by the instructor
and indicated on the examination paper. Use or possession of unauthorized materials, or electronic
devices, will result in a charge of academic misconduct under the university's academic integrity
policy.
When an instructor transmits grades for a course to the Faculty of Graduate Studies, the
examination scripts shall be kept by the instructor for a period of time not less than six months.
After that time, they must be shredded. Students have the right to inspect their examination paper
under faculty supervision.
If a student is unable to write a formally scheduled examination, or having begun the exam is
unable to complete it for reasons of ill-health, a deferred examination will be granted provided
adequate supportive documentation has been submitted. Requests made on the basis of
compassionate grounds, religious obligations, or other extenuating circumstances will be judged on
a case-by-case basis.
Any medical request for a Deferred Examination must be supported by a completed Brock University
Student Medical Certificate (and include any relevant medical documentation) certifying that
the student was not capable of attempting the examination at the scheduled date and time. A
student must first contact the instructor for permission to write a Deferred Examination. Any such
application must be accompanied by required supporting documentation and must be submitted
within seven working days following the examination.
If the student is not able to contact the course instructor or if the course instructor is not willing to
give the student permission to write a Deferred Examination, the student may contact the Director
of the Graduate Program, within ten working days following the examination, to submit a request
for a Deferred Examination. The Graduate Program Director will forward the request and his/her
recommendation to the department Chair (for department based graduate programs) or the Faculty
Dean (for programs not located within a department) for consideration and decision.
If not satisfied with the outcome of the request, the student may then refer the matter to the
Dean of the Faculty offering the course. If the student is not satisfied with the decision of the
Faculty Dean, the student may then refer the matter to the Dean of Graduate Studies. If the
student is not satisfied with the decision of the Dean of Graduate Studies, the student may appeal
to the Student Appeals Board.
Deferred examinations will normally be written no later than the end of the subsequent graduate
term.
X. Evaluation of Student Performance
Grades
The following grades are awarded for graduate courses:
A+ - 90-100
A - 80-89
B - 70-79
C - 60-69
F - 59 or lower
Grading Scheme used prior to 2010-2011
A - 80, 82, 85, 88, 90, 92, 95, 98, 100
B - 70, 72, 75, 78
C - 60, 62, 65, 68
F - 58 or lower
IN (Incomplete) is a temporary grade granted to a student, in exceptional circumstances who has
been unable to complete some part of the term work in a course. A grade must be submitted no
later than 56 days from the last day of classes in each term. In the case of the thesis, major essay
or project, an IN grade should only be granted when the thesis or major research paper is
essentially complete (only minor revision or thesis defence scheduling required). If the IN is not
replaced by a letter grade within 56 days, the IN will be changed to the default grade.
IP (In Progress)
A grade of IP may be awarded if a student fails to complete all course requirements within the
prescribed time limit. A student who receives an IP grade for a course, must re-register for that
course in the term following that for which an IP grade is received. With the exception of the
thesis, major research paper or proposal courses, no half-credit graduate course shall be denoted IP for more than one term.

Pass/Fail
A grade of P or F will be awarded for courses completed on Letter of Permission (LOP). The actual grade awarded and the institution that awarded it will be noted at the bottom of the official Brock transcript. Pass/Fail is also used for the evaluation of thesis courses.

AG (Aegrotat standing)
Aegrotat standing is the granting of credit for a course(s), based on the course work already completed, when no further assessment - for example, a deferred examination - is considered feasible because of illness or other extenuating circumstances beyond the student's control. Students may only be granted Aegrotat Standing with the approval of the Dean of the Faculty offering the course.

SP (Deferred examination)
A deferred examination has been granted.

CR (Credit)
The satisfactory completion of a graduate credit course for which letter and percentage grading is not feasible.

NC (No-Credit)
The unsatisfactory completion of a graduate credit course for which letter and percentage grading is not feasible.

SA (Satisfactory)
Used for co-op work terms, internship options and non-credit courses.

UN (Unsatisfactory)
Used for co-op work terms, internship options and non-credit courses.

W (Withdrawn)
Where xx is the week of withdrawal

NR (Not reported)

NW (Not withdrawn)
For graduate courses the grades A+, A, B, C, F, IN (Incomplete), IP (In Progress), Pass/Fail, CR/NC (Credit/No-Credit), SA/UN (Satisfactory/Unsatisfactory), NW (Not Withdrawn), or AG (Aegrotat standing) will be recorded on the transcript.

For all graduate programs except the MBA, graduate credit is only earned for courses in which a grade of A+, A or B is awarded.

For graduate courses in the MBA program, the grades A+, A, B, C, F, In (Incomplete), IP (In Progress), Pass/Fail, CR/NC (Credit/No-Credit), SA/UN Satisfactory/Unsatisfactory, NW (Not Withdrawn), or AG (Aegrotat standing) will be recorded on the transcript. Grades A+, A, B, and C are considered to be passing grades and eligible for graduate credit. However, of the twenty half-credits required to complete degree requirements, a maximum of two-half credits at the C level may be used for degree credit and the student must achieve an overall minimum B average in the twenty half-credits that comprise degree requirements to be eligible to graduate.

For graduate courses in the MACC program, the grades A+, A, B, C, F, In (Incomplete), IP (In Progress), Pass/Fail, CR/NC (Credit/No-Credit), SA/UN Satisfactory/Unsatisfactory, NW (Not Withdrawn), or AG (Aegrotat standing) will be recorded on the transcript. Grades A+, A, B, and C are considered to be passing grades and eligible for graduate credit. However, of the ten half-credits required to complete degree requirements, a maximum of one-half credit at the C level may be used for degree credit and the student must achieve an overall minimum B average in the ten half-credits that comprise degree requirements to be eligible to graduate.

Major research paper or project grades shall be reported to the Faculty of Graduate Studies in the usual fashion with letter and numerical grades. If a failing grade is awarded for a major research paper or project, the student will be withdrawn from the program.

Thesis grades for master's and doctoral programs shall be reported to the Faculty of Graduate Studies as either a Pass or Fail grade. A Passing grade must be further differentiated as one of: Acceptable as is, Acceptable with minor revisions, Acceptable with major revisions. A failing grade will be awarded if two or more committee members find the thesis unacceptable or if the External Examiner does not approve the thesis. If a failing grade is awarded for a thesis, the student will be withdrawn from the program.

No graduate student can fulfill more than 25% of the minimum degree requirements by courses utilizing the Credit/No-Credit method of evaluation.

Grading Procedure
Each instructor shall make available to the class at the beginning of the term, the method by which student performance shall be evaluated.

**Grade Changes**
After grades have been submitted to the Faculty of Graduate Studies they may not be changed except by submission of a Request to Change a Grade Form (found at: [https://www.brocku.ca/graduatesudies/forms](https://www.brocku.ca/graduatesudies/forms)) signed by the instructor and the Graduate Program Director. Requests made for changes of grade beyond 180 days from the end of the term in which the grade was assigned, must also include the signature of the Faculty Dean.

**Academic Performance Information**
Student academic performance information is available following the end of each term of study via [mybrocku.ca/portal](http://mybrocku.ca/portal).

Final grades may only be released by the Faculty of Graduate Studies.

**Minimum Academic Performance and Academic Probation**
Graduate students must achieve and maintain satisfactory academic performance to be eligible to continue in a graduate program. Graduate program committees will review the performance of their enrolled graduate students on a regular basis, preferably each term.

At minimum, graduate programs will ensure that there is a formal meeting of each PhD supervisory committee at least once within the academic year (May-April). Each PhD supervisory committee must report annually on the student’s progress and the Graduate Program Director must forward such reports to the Faculty of Graduate Studies. The report will formally document the supervisory committee’s assessment of the progress of the student in the program.

Graduate students must maintain a minimum cumulative average of at least a B- (70 per cent) during each term of study. If a graduate student falls below the minimum cumulative average the student will be automatically placed on academic probation for the subsequent term by the Faculty of Graduate Studies. Additionally, a graduate program may recommend required program withdrawal. A probationary student must achieve the required minimum cumulative average, normally during the probationary term, to be eligible to continue as a graduate student.

In graduate programs with a research exit requirement (thesis, major research paper) satisfactory academic progress during the research phase will be determined through academic progress reviews by the graduate program committee (normally once per term) as outlined in the program's Graduate Handbook. An unsatisfactory academic progress decision, as determined by the graduate program committee, may result in a program's decision to place the student on academic probation for the subsequent term or a request for required program withdrawal.

An unsatisfactory academic progress decision, as determined by the graduate program committee at any point during the student's graduate program, may result in a program's decision to place the student on academic probation for the subsequent term or a request for required program withdrawal.

**Calculation of Averages**
The average which is used to determine academic standing is computed by dividing the sum of the numeric grades assigned to credits by the total number of credits attempted.

*Average = The sum (credit weight x grades) divided by the Total number of credits attempted* **See regulations on repeated courses.**

Only courses taken at Brock University and on OVGs as part of the graduate degree will be used in determining a student's average. Courses taken on a Letter of Permission will be marked as Pass/Fail and will not be used in determining any student average. The exact name and title of the course taken on Letter of Permission, including the grade received at the offering institution, will be included as a note on the student's transcript. Courses designated as Extra will not be used in determining any student average. Courses awarded as Advanced Standing or Transfer Credit will not be used in determining any student average.

For the purposes of calculating averages, a value of 45 percent is used for all “F” grades of 45 or lower.

**XI. Graduate Supervision and Supervisory Committees**
The role of a supervisor is threefold: to advise, to monitor and to mentor. Supervisors not only provide guidance, instruction and encouragement in the research activities of their students, but also take part in the ongoing evaluation and examination of their students' progress and performance. Supervisors and students have a mutual obligation to meet on a regular basis. The frequency of such meetings will depend on the discipline/field of study, type of program, and the
students’ progress. At least one, preferably several, meetings should be arranged in each academic term. Supervisors should also be reasonably accessible for meetings requested by their students. The Policy on Integrity in Research and Scholarship requires graduate students and their graduate supervisor to sign an Intellectual Property Form indicating their agreement with University policies and guidelines or indicating any specific arrangements made that differ from these policies and guidelines.

The graduate supervisor should discuss with graduate students under their supervision, at an early stage of their program, authorship practices within the discipline and encourage the dissemination of research results by publication in scholarly and research journals, presentations at conferences, and seminars.

The graduate supervisor should discuss with graduate students under their supervision other relevant university policies, including the Respectful Work and Learning Environment Policy and the Occupational Health and Safety Policy.

Each graduate program will ensure that a graduate supervisor and supervisory committee are designated for each graduate student completing a required major essay, project or thesis requirement.

The graduate supervisor in consultation with the graduate student will propose the supervisory committee composition. The committee composition must be approved by the Graduate Program Director and must be in place and operational by no later than the proposal stage of the major essay, project or thesis.

A thesis supervisory committee must at minimum comprise three members, the graduate supervisor and two additional faculty members. At least one of the three must be a full-time Brock University faculty member. A project or major essay supervisory committee must at minimum comprise the graduate supervisor and a second reader. Any changes to the composition of the supervisory committee must be made in consultation with the graduate student and the Graduate Program Director. The student or any member of the supervisory committee may, with just cause, request in writing a change in the composition of the supervisory committee.

If either the graduate student or supervisor wishes to initiate a change in supervisor and the change cannot be resolved at the graduate program level, a request must be presented in writing, with explanation, to the Graduate Program Director, and approved by the Faculty Dean and the Dean of Graduate Studies in consultation with the Graduate Program Director.

The graduate supervisor will inform graduate students under their supervision, and the Graduate Program Director, of any anticipated extended supervisor absence. In cases where the absence will be for a period of one month or more, supervisors will arrange for suitable communication methods and/or interim supervision e.g. through the use of supervisory committee members. Such arrangements will be communicated, by the supervisor, to graduate students under their supervision, and the Graduate Program Director.

If a student’s graduate supervisor leaves Brock University during the student’s program, the Graduate Program Director has the responsibility to ensure that the student can exercise one of the following options:

- Remain at Brock and change supervisor and perhaps major research paper, project or thesis topic.
- Remain at Brock and complete the existing major research paper, project or thesis even though the appropriate expertise may not be available at Brock for supervision. In this case, the supervisory committee may seek advice from experts off campus, or may arrange for the student to work off campus. It will be the responsibility of the supervisory committee (augmented, if necessary, by outside expertise), to advise the student on all matters regarding the major essay, project or thesis preparation. The student is not precluded from seeking advice from the former Brock faculty member, but the former Brock faculty member has no privileged position with respect to the major research paper, project or thesis. The supervisory committee will take precedence in all cases.

- Apply to transfer to the university to which the student’s former supervisor has moved.

Any special arrangements described in ii) or iii) above must be approved by the Faculty Dean and the Dean of Graduate Studies.

**XII. Admission to Doctoral Candidacy**

Each graduate program offering a doctoral degree is responsible for establishing detailed doctoral candidacy requirements. These requirements must be outlined as part of the graduate program's procedures. Admission to doctoral candidacy is a judgment by the supervisory committee and graduate program that the student is prepared to complete successfully the requirements of the
doctoral degree. Doctoral students must normally complete all candidacy requirements within 36 months of first registration.

To be admitted to candidacy the student must successfully achieve the following:

Complete all course requirements (non-thesis) as outlined in the graduate program's Calendar entry;

Complete any other program-specific candidacy requirements, such as language or seminar requirements, as outlined in the graduate programs' Calendar entry;

Complete a thesis proposal that is approved by the supervisory committee; and

Satisfy the requirements of breadth and depth knowledge in the field(s) of study, as specified by the graduate program. If the supervisory committee or program identifies that a student must undertake remedial or additional work related to any of the above candidacy requirements, that remedial or additional work must be completed before the student may be admitted to candidacy.

Once a student is admitted to candidacy, the student cannot be required to undertake additional required course work. Graduate programs will notify the Faculty of Graduate Studies when admission to candidacy requirements have been fulfilled and the notation will be added to the graduate students' record.

XIII. Graduate Research Proposals

Graduate students completing a major research paper, project or thesis must submit and have approved by their supervisory committee a proposal of research in accordance with their graduate program's procedures.

Following approval of the research design, human or animal ethics approval (or any other necessary approval) must be secured prior to the commencement of the research study.

As part of the application for human ethics clearance, graduate students must provide a certificate of completion verifying that they have completed the Course on Research Ethics (CORE) on-line tutorial. The on-line tutorial is found at: http://www.pre.ethics.gc.ca/eng/education/tutorial-didacticiel/

Although CORE training is not mandatory for students who do not intend to engage in research with human participants, these students are still encouraged to complete the tutorial to learn more about identifying ethical issues in the design, conduct and oversight of research.

XIV. Graduate Theses, Major Research Paper Documents

Master's and doctoral thesis documents must adhere to the Faculty of Graduate Studies minimum format requirements and any program specific format requirements.

The format requirements for major research paper or project documents are specified and outlined by individual graduate programs.

If a thesis or major research paper or project is to be edited by a professional editor, the student must obtain written permission from the students' supervisor and Graduate Program Director. The extent of editing provided must not exceed the guidelines set out by the Editors' Association of Canada in its Guidelines for Ethical Editing of Theses/Dissertations found at http://www.editors.ca/hire/guidelines-editing-theses. Graduate programs may require the student to submit a marked-up copy of the major research paper, project or thesis along with the final version to demonstrate the editing that has occurred. If an editor is used, specific acknowledgement must be included in the major research paper, project or thesis.

XV. Thesis Defences

Graduate thesis defences will normally be open defences. A request for a closed defence must be approved by the Dean of Graduate Studies and will be based on certified medical or compassionate grounds.

The arrangements for a thesis defence will commence once all members of the supervisory committee have signed off indicating their approval that the student and the thesis are ready for defence.

The examination committee of a master's thesis defence will minimally comprise the supervisory committee and an external examiner from outside the university or from outside the program but within the University. The approval of the external examiner is the responsibility of the Faculty Dean or designate. In exceptional circumstances, an external examiner who is external to the supervisory committee but internal to the program may be appointed. Such an examiner will have to be approved by both the Faculty Dean and the Dean of Graduate Studies.

The examination committee of a doctoral defence will minimally comprise the supervisory committee, an internal examiner (from outside the graduate program but within Brock University)
and an external examiner. The approval of the external examiner is the responsibility of the Dean of Graduate Studies or designate.

Typically a thesis defence will occur four to six weeks following the external examiner's receipt of the thesis document. External examiners shall submit their report no later than one week prior to the defence. External examiners shall, as part of their report, identify whether the thesis is ready for defence and whether the thesis is to be recommended for submission to internal/external thesis award competitions.

If the external examiner reports that the thesis is not ready for defence, the student must revise the thesis within a reasonable period of time in response to the examiner’s comments and the thesis will then be resubmitted to the external examiner. A decision by the external examiner that the thesis is not ready for defence is binding.

A change of external examiner, in exceptional circumstances, must be justified in writing to the Faculty Dean or designate for a master's thesis and the Dean of Graduate Studies or designate for a doctoral thesis.

The external examiner’s report will be shared with the examination committee and the graduate student prior to the defence.

The recommended format and procedures for a master’s thesis defence are outlined by the Faculty of Graduate Studies. Each graduate program will publish their approved master’s defence procedures. The Faculty Dean or designate will chair master's defences.

The required format and procedures for a doctoral defence are outlined by the Faculty of Graduate Studies. The Dean of Graduate Studies or designate will chair doctoral defences.

If a student is unable to attend the defence, or having begun the defence is unable to complete it for reasons of ill-health, a deferred defence will be granted provided adequate supporting documentation has been submitted. Requests for a deferral of a defence will be considered on the basis of compassionate grounds or other extenuating circumstances and will be judged on a case-by-case basis by the Dean of Graduate Studies. The defence will normally be re-scheduled within one month of the original defence date.

Students should typically be given two to four weeks to complete minor revisions which are to be approved by the graduate supervisor and four to twelve weeks to complete major revisions which are to be approved by the graduate supervisor and the chair of the defence.

Extraordinary exceptions to thesis defence procedures must be approved by the Dean of Graduate Studies.

**XVI. Submission and Deposit of Thesis**

Submission of thesis

When the thesis is in its final form (following defence), has been approved by the graduate program, and meets FGS Thesis Format Specifications, the student will submit the thesis to the Brock University Digital Repository for review by FGS. The student must also submit to the Faculty of Graduate Studies the Certificate of Approval, the Library and Archives Canada (LAC) Non-Exclusive License to Reproduce Theses, and the Brock University thesis and Major Research Paper Copyright Licence. Under certain circumstances (e.g. to protect confidential commercial information, patentable material, pending application, or where immediate commercial publication is anticipated) a graduate student may request a restriction on the circulation of the thesis for up to a period of twelve months.

**XVII. Academic Integrity/Academic Misconduct**

brocku.ca/academic-integrity

Brock University encourages the pursuit of knowledge and scholarship through the provision of academic programs and a learning environment of the highest quality. Academic Integrity is a core value that supports the University's mission.

It is expected that graduate students shall demonstrate competency in the acknowledgment of the work of others and an understanding of the rigour of academic study, by acting ethically and with integrity in all academic work as well as in the conducting of research and the reporting of research results. The trust Brock University bestows on its graduate students demands a higher standard of care be taken in the pursuit of graduate scholarship.

All graduate students have the responsibility to familiarize themselves with the Academic Integrity Policy as well as any policy related to their participation as a member of the University community, brocku.ca/webfm_send/28409 (Code of Student Academic Conduct).
See the Policy for specific information regarding the determination of academic misconduct offences and outcomes.

XVIII. Graduate Student Appeals

All graduate students have the right to appeal academic decisions. An appeal is a request that an academic decision (e.g., a grade or standing in a program) be changed, based on the evidence supplied by the student or that a regulation be waived on compassionate grounds or because of extenuating circumstances.

Appeal decisions (at all stages) will normally be made within 10 working days following receipt of the appeal and communicated electronically to the student as soon as possible. If the decision cannot be made in the posted timeframe, the student will be contacted to discuss an appropriate time frame for the decision and response.

The procedure of appeal varies according to the type of the appeal. The various procedures are outlined below.

Graduate students are entitled to bring one faculty, staff or student member of Brock University to any appeals meetings.

Types of Appeals

Appeal of Grades

Students who have a question regarding an academic decision in a course (including grades) must first discuss the matter with the course instructor or their supervisor (in the case of their thesis or major research paper), and the Graduate Program Director. If not satisfied with the decision/result of the appeal, the student may then refer the matter to the Faculty Dean and the Dean of Graduate Studies who will render a joint decision. If the student is not satisfied with the decision of the Deans, the student may then appeal to the Senate Student Appeals Board.

Appeals of final grades, including the assignment of a failing grade for non-attendance in a course, must be made within 30 days of the posting of grades by the Faculty of Graduate Studies. Failure of a course itself is not a valid reason for appeal. If the absence of the instructor or other factors make an appeal within 30 days impossible, the intention to appeal should be indicated to the Graduate Program Director within 30 days of the posting of grades by the Faculty of Graduate Studies.

Appeals Related to Academic Requirements/Decisions

A request for an exemption to a graduate program degree requirement must be directed to the Graduate Program Director of the student's program. If not satisfied with the outcome of the request, the student may then refer the matter to the Faculty Dean and the Dean of Graduate Studies. If the student is not satisfied with the joint decision of the Deans, the student may then appeal to the Senate Student Appeals Board.

A request for an exemption to a University degree requirement must be directed to the Faculty Dean and the Dean of Graduate Studies. If the student is not satisfied with the joint decision of the Dean of Graduate Studies, the student may then appeal to the Senate Student Appeals Board.

Requests for Retroactive Registration and Backdated Withdrawal

Within 30 days of the last day of classes, a backdated withdrawal will be considered upon the receipt of a request to the Faculty of Graduate Studies which is supported by documentation verifying medical reasons (Brock University Medical Certificate) or compassionate grounds that prevented the student from withdrawing by the required date for doing so. Requests submitted without supporting documentation will not be considered.

Prior to the last day of the course duration, a request for retroactive registration will be considered by the Faculty of Graduate Studies upon the receipt of supporting documentation that outline the reason(s) why formal registration did not occur. This documentation must be accompanied by Registration Form signed and dated by the course instructor, and Graduate Program Director, verifying that the student has been in continuous attendance.

Requests under C. i) and C. ii) are considered by, and a decision rendered by, the Director of Graduate Studies (or designate). There is no charge for this request.
Students wishing to appeal the decision of the Director of the Faculty of Graduate Studies may refer the matter to the Dean of Graduate Studies. If the student is not satisfied with the decision of the Dean of Graduate Studies, the student may then appeal to the Senate Student Appeals Board.

Appeals of Charges of Academic Misconduct
All appeals of academic misconduct decisions made jointly by the Faculty Dean and Dean of Graduate Studies may be appealed to the Senate Student Appeals Board within 30 days of the date of the letter informing the student of the decision and/or penalty.

Medical Appeals
The University endeavours to accommodate students whose studies become interrupted, or who may be unable to complete academic work, or write a test or examination, due to an incapacitating medical condition. In these situations, the student must complete the Brock University Medical Certificate and include any relevant medical documentation to support his/her request for academic accommodation based on medical grounds. The University may, at its discretion, request more detailed documentation in certain cases.

Appeals Procedures
Method of Appeal to the Student Appeals Board
All appeals directed to the Student Appeals Board must be received in type-written form.
Submissions not received in this form will be returned to the student without decision. Appeals should be submitted to the Associate Registrar, Academic Information and Protocol, Office of the Registrar and must provide any additional documentation not submitted to the Dean of Graduate Studies and must be accompanied by the appeal fee.
Appeals must clearly state the arguments and expectations of the student. The responsibility is on the student to demonstrate the validity of their appeal and to provide full and appropriate supporting documentation. Dissatisfaction with, or ignorance or neglect of University policy or published deadlines shall not constitute sufficient grounds for appeal.
Appeals of academic decisions must be made within 30 days of the date of the letter informing the student of the academic decision or within 30 days of the posting date of grades which informs the student of the academic decision and/or final grade.
Appeals of a charge of academic misconduct must be made within 30 days of the date of the letter informing the student of the decision of the Dean of Graduate Studies.
A student may abandon an appeal at any time during the appeal process.

Hearings at the Student Appeals Board
Meetings of the Student Appeals Board are held in camera.
In accordance with the rules of natural justice, students appealing to the Student Appeals Board have a right to a fair hearing. This includes the right to be notified of the date at which the student's appeal will be considered, the right to attend and present verbal arguments and the right to question the Dean of Graduate Studies (or the person designated by the Dean).
Students must inform the Associate Registrar, Academic Information and Protocol, Office of the Registrar, of their intention to attend the meeting.
Students are entitled to bring one faculty, staff or student member of Brock University (who shall act as an advisor) to the meeting of the Student Appeals Board.

Where a member of the University community has a close personal relationship, defined as any relationship, arising from being a member of immediate or extended family (parent, guardian, partner, sibling, aunt, uncle, cousin, or in-law) with a student; that person shall not participate in or contribute to that student’s appeals hearing.
Where a member of the University community and the student are engaged in activities (academic work, research projects, teaching programs, employment situations, etc) where the member of the University community is a Faculty supervisor, manager, or in a position of authority; that person shall not participate in or contribute to that student’s appeals hearing.
In situations where the relationship of a member of the University community and a student may pose a real, apparent, or potential conflict of interest; both parties must formally disclose in writing the conflict of interest, upon discovery, to the Administrative Co-ordinator, Student Appeals Board prior to the hearing.
If a student has asked to attend the meeting of the Student Appeals Board, the Dean (or the person designated by the Dean) whose decision is being appealed will be invited to attend the meeting of the Student Appeals Board.
The Student Appeals Board may request the attendance of appropriate individuals to appear before the Board to provide information pertinent to the appeal.
Where the appeal is against an assigned final grade, the faculty member named in the appeal will be invited to attend the meeting of the Student Appeals Board. In instances where a faculty member, Graduate Program Director, or Faculty Dean is named in an appeal, the student's submission will be available to the individual named. At the request of the student, the written response of the faculty member, Graduate Program Director, Faculty Dean, or the Dean of Graduate Studies to an appeal will be made available to the student. The student and the Dean of Graduate Studies, and where applicable the Graduate Program Director, faculty member, or Faculty Dean, will be informed, in writing, of the decision of the Student Appeals Board. The decision of the Student Appeals Board is final.

XIX. Degree Completion

Degree Audit

The graduate program submits to the Faculty of Graduate Studies the completed Graduate Record Form indicating that all degree requirements have been satisfactorily completed. The completion of graduate degree requirements outlined on the Graduate Record Form will be reviewed and approved by the Dean of Graduate Studies (or designate). If academic documentation for graduation is not submitted by the student's program at least one month prior to the convocation date, the student will be required to postpone graduation to the following convocation.

Intention to Graduate

Intention to Graduate is processed online via the University portal, my.brocku.ca, click on Student Self Serve, then from the list of options click on GraduationApp. Payment is made online and the application can be tracked through the various processing stages. Application deadlines are July 1 for Fall Convocation and February 1 for Spring Convocation. Details regarding the convocation ceremonies go to https://brocku.ca/registrar/grad

Candidates should note that in addition to the Intention to Graduate Form, all degree requirements must be completed by the dates published in the academic calendar before any degree will be awarded.

The convocation ceremony is physically accessible for both graduands and their guests.

Diplomas

Diplomas are prepared for students who have completed degree requirements as prescribed by Senate. Diplomas are presented at Convocation to students graduating from a degree program. Degree program graduates who are not able to attend Convocation will have their diploma/certificate mailed to the address indicated on their Brock account. Diplomas will be designed to indicate the degree name on the first line, the program and/or field of specialization (where applicable) on the second line, and Co-op designation (where applicable) on the third line.

Replacement of Diploma

Graduates may request, with payment of the required fee, a duplicate or reprinted diploma or certificate. A “duplicate copy” of a student's diploma or certificate will be issued 1) when a student requires a second copy of their diploma or certificate; 2) when, on request for a new diploma, the first copy of the diploma is not returned; and 3) when a statutory declaration (stating that the diploma or certificate has been lost, destroyed) is not submitted. A diploma or certificate will be “reissued” (noting the date of reissue) when the first diploma or certificate is returned or a statutory declaration is submitted. The words “duplicate copy” or “reissued” will be affixed to all diplomas and certificates requested in this manner.
To: Chabriol Colebatch, University Secretariat  
From: Don Cyr, Academic Colleague  
Date: March 6th, 2018  
Re: Deliberative Discussion Topic for Senate: Impact of Government Mandated Changed on Institutional Autonomy, Governance and Academic Freedom

Over the past eight months the meetings of the Academic Colleagues of the COU have been broadly focused on the impact of “mandated change” on Ontario universities, institutional autonomy, governance and academic freedom. Prior meetings have involved discussions with invited guests representing university presidents, boards and faculty associations. It is fairly clear from these meetings and discussions that the advent of the Strategic Mandate Agreement (SMA) process, instituted by the provincial government, has been of significant concern and debate on many campuses, representing a new level of mandated change on the part of government that is predicted to increase.

Suggested Deliberative Discussion Topics

• What is the potential impact of mandated change on academic freedom, and decision making on the part of Faculties and departments?

• What has and will be the impact of mandated change on the role of the University Senate?

• What has been the impact of mandated change on the role of the Board of Trustees?
**Brief History of Mandated Change**

Unlike the K-12 and secondary school system, provincial governments in Canada are not truly mandated to fund the Post-Secondary Education (PSE) system as there is no requirement in terms of participation at universities and colleges. It is simply good public policy to fund the system. As a result, universities in Canada, and particularly in Ontario, have historically enjoyed a degree of autonomy not exhibited in other public sectors.

If we define government control and “mandated change” to be the setting of performance measures and influencing the academic direction of universities, it could be suggested that despite much growth of mandated change in OECD countries, Canada, and particularly Ontario, has been relatively untouched until recently. Jones (2004) in particular would suggest that Canada experienced a period of relative calm in terms of government intervention in PSE throughout the 60’s and 70’s.

Indeed government control/intervention can be loosely tied to periods of recession and subsequent loss of government revenues leading to a focus on expenditure control. Although the recession of 1981 saw subsequent reform in the mid-80’s to PSE systems in many countries, in Ontario it largely took the form of decreased funding while leaving institutions to “self-manage”. Brock University was growing substantially during the late 1970’s and 80’s and this, you may recall, this was the time period of the successful marketing campaign “General Brock Wants You”. My understanding is that this helped to mitigate any discussion on a provincial ministerial level of whether Brock University should be closed down!

It was not until the recession of 1991 and subsequent election in 1995 of the progressive conservative government in Ontario, led by Premier Mike Harris on the basis of a “Common Sense Revolution” policy platform that subsequent reforms in terms of PSE in Ontario began to be enacted. Jones (2004) describes the subsequent changes as:

1) Privatization and marketization – reduced operating grant funding but increased flexibility in terms of tuition policy.
2) Blurring boundaries of the binary structure – the allowing for the establishment of private universities and applied degree granting status for colleges.
3) Institutional differentiation – largely at the college level, differentiating those that were allowed to offer applied degrees. However, differentiation encouraged at the university level through competition and differential funding of professional degree programs.
4) System expansion – largely associated with the double co-hort issue of 2003

I would argue that during this period we began to see the extension of government control in terms of academic policy/programming. Not discussed by Jones was the expansion of quality control and assurance processes in Ontario, and implicit government approval of new undergraduate program offerings, similar to the process of that for graduate programs.
In 2005, the Ontario government commissioned a study on PSE – the “Rae Report” (Rae, 2005), a result of which was the establishment of the concept of multi-year agreements, first instituted in 2006 (Díaz Paniagua, 2014). The major economic downturn of 2008-9 also led to a subsequent focus on increased control on the part of provincial governments across Canada including Ontario. It has also been suggested that there were also subsequent changes in legislation that set the stage for additional control on the part of the government in terms of PSE and less autonomy on the part of universities. In particular:

1. Freedom of Information and Protection of Privacy Act (FIPPA). The Act was amended in 2005 to include universities.

2. Broader Public Sector and Accountability Act (2010). Applies to all organizations that receive funding from the Province of Ontario.

A somewhat exacerbating development was the establishment in 2005 of the Higher Education Quality Council of Ontario (HEQCO which, as I note in the most recent Academic Colleagues report, would appear to have largely influenced the agenda and development of the Strategic Mandate Agreement (SMA) process. A few notes from my Academic Colleagues Report with regards to HEQCO studies and the greater focus on “differentiation” that appears to be a major principle of the SMA process:

“As a bit of background – a number of us have seen the various reports by HEQCO but it might be of interest to consider them in sequence:

1. HEQCO produced a report in 2010 on differentiation that is an interesting read. Much of it would appear to be somewhat of a roadmap of where the “mandated change” might be heading. It also provides a succinct summary regarding differentiation/systems in different provinces and countries.


http://www.heqco.ca/SiteCollectionDocuments/DifferentiationENG.pdf

Note the following statements in the report:

“Now, more than ever, Ontario should strive to own the podium of higher education.”

“Greater differentiation of the postsecondary sector is one of the most powerful levers available to government, especially in resource constrained times, to achieve its goals of greater quality, competitiveness, accountability and sustainability.”

2. In 2013 HEQCO, at the request of the Ministry, established a peer review panel and published a report on the first series of SMA submissions:


Note the following within the introduction:

“The challenge is to provide a high quality postsecondary education in Ontario in spite of continued growth and diminishing resources. The current system is not sustainable if quality is to be preserved or enhanced. To meet this challenge, there is a need for the provincial government to adopt a more active role in system planning.”

Page 3

“The Panel does not feel it can fulfill one of the government’s stated intentions; specifically to use the SMAs to identify “lead institutions.” There was not sufficient diversity among mandate statements, particularly when examined within each of the college and university sectors, to allow for identification of some institutions as leads.”

Page 6

Finally among the report’s summary recommendations (and first on the list!):

“Government must play a more active, assertive and purposeful role to drive system-level planning and change.”

Page 18

3. Another report in 2013 focused on differentiation of Ontario universities by research:


http://www.heqco.ca/SiteCollectionDocuments/HEQCO%20Diversity_ENG.pdf

Some items of note in this report:

“The data reveal a cluster of Ontario institutions that are not very involved in graduate education, especially at the PhD level, and that attract a lower level of research income. These institutions are mainly undergraduate universities and include: Algoma, OCADU, Nipissing, UOIT, Laurier, Trent, Brock, Lakehead and Laurentian. Two of these institutions – UOIT and OCADU – may be considered to have specialized mandates, and differentiation frameworks used in other jurisdictions sometimes establish a category of “special purpose universities” in such cases.”

Page 17
“Second, the current financial and policy environment for higher education in Ontario coupled with the clustering proposed here raises some immediate questions for government. For example, should PhD spots be preferentially allocated to the more research-intensive universities and, if so, to what degree? Should government attempt to minimize the number of PhD programs in mainly undergraduate universities? How should the funding of master’s programs, especially professional and course-based master’s programs, be allocated across the clusters?”

4. Somewhat recently, another report on differentiation by HEQCO which attempts to differentiate on a number of factors:

Hicks, M and Jonker, L. (2016). The Differentiation of the Ontario University System: Where are we now and where should we go? Higher Education Quality Council of Ontario (HEQCO).


Key recommendations:

- Recognize and fund equity of access as a significant differentiating feature
- Support the University of Toronto as Ontario’s flagship institution
- Concentrate research expansion for greater impact
- Build on the role of regional universities
- Strategic Mandate Agreements: seize opportunity for a bold strategy
- Drive differentiation through funding

Again, in this process, Brock is identified as largely an undergraduate institution. The challenge will lie in any potential future focus by the Ministry on concentration of research expansion within the identified research focused category (Toronto, Guelph, McMaster, Ottawa, Queen’s, Waterloo, and Western) of which Brock is not included.

These are interesting reads and again I encourage looking them over as background material on what might be the foundations of the SMA process adopted by the Ministry.”

**Future of Mandated Change**

It is clear that the provincial government wishes to push forward with mandated change, particularly with a focus on differentiation. However, the difficulty in this regard is unclear signals with respect to what differentiation is. At the same time, it appears that common performance measures by which university’ can and will be compared also on the agenda. Unfortunately the timelines set my government are frequently not consistent with academic governance and decision making in universities, and hence potential disruption in terms of institutional decision making/autonomy and elements of academic freedom.
References

There is an extensive literature related to mandated change and in particular the Ontario PSE sector including those referenced above. This list represents only a small component.


Ontario Confederation of University Faculty Associations. (2014). *OCUFA Policy Statement on University Differentiation in Ontario – May 2014* https://ocufa.on.ca/assets/OCUFA-Policy-Statement-on-Differentiation-20140216.pdf

MINUTES OF MEETING #657 (2017-2018)

SENATE

WEDNESDAY, FEBRUARY 14, 2018, 3:00 PM

DR. CHARLES A. SANKEY CHAMBER, MACKENZIE CHOWN COMPLEX

PRESENT:  Chair: Senator David Whitehead, Vice-Chair: Senator Roberto Nickel

Ex officio Members: Senators Ejaz Ahmed, Michele-Elise Burnett, Gary Comerford, Tom Dunk, Diane Dupont, Gervan Fearon, Greg Finn, Brian Hutchings, Tim Kenyon, Anna Lathrop, Ingrid Makus, James Mandigo, Carol Merriam, Michael Owen, Mark Robertson, Peter Tiidus, Thomas Winger

Elected Members: Senators Michael Berman, Kate Bezanson, Poling Bork, Jonah Butovsky, Mickey Calder, Christene Carpenter-Cleland, June Corman, Don Cyr, Spy Denomme-Welch, Nancy Francis, Ian Gibson, Allison Glazebrook, Emily Guertin, David Hutchison,Nota Klientrou, Linda Lowry, Phillip Mackintosh, Lynn McCleary, Christie Milliken, Bozidar Mitrovic, Laurie Morrison, Kingsley Nwogu, Shauna Pomerantz, Lynn Rempel, Tim Ribaric, William Rickers, Matthew Royal, Barbara Sainty, Larry Savage, Dennis Soron, David Stark, Susan Sydor, Tek Thongpapanl, Elisabeth Zimmermann

REGRETS: Senators Irene Blayer, Shirley Cheechoo, Tamara El-Hoss, Andrew Gaudes, Aidan Hibma, Geraldine Jones, James O’Brien, Zoya Rajput, Miriam Richards, Donna Szoke, Margaret Thompson (Recording Secretary of Senate), Terrance Wade, Michelle Webber, Vera Woloshyn

RESOURCE: Chabriol Colebatch (Secretary of Senate), Angela Magro (Recording Secretary)

ALSO PRESENT: Catherine Longboat (for item 10), Judith Brooder and Sarah Pennisi (for item 11), Susan Guenther, Pam Shanks, and other members of the Brock University community

1. Call to Order

The Chair welcomed Senators and guests and called the 657th meeting to order.

The Vice-Chair of the Undergraduate Student Affairs Committee recognized that we are on the traditional lands of the Haudenosaunee and Anishinabe peoples and traditional shared
hunting and gathering grounds of many nations.

2. Approval of Agenda

The Chair referred members to the Agenda and noted a request was received to lift the Report of the Academic Colleague from the consent agenda. The item will be considered prior to the generative discussion.

MOVED (Francis / Stark)

That the Agenda, including consent items, be approved as amended.

CARRIED

3. Business Arising from the Minutes - None

ACTION ITEMS

4. Reports of Standing Committees

4.1 Governance Committee

[The Report of the Governance Committee dated February 8, 2018 had been posted with the meeting materials.]

Senator Savage presented the Report of the Governance Committee.

a) Senate Election

MOVED (Savage/Mitrovic)

THAT Michelle Webber and Lynn Rempel be appointed as scrutineers for the 2018 Senate elections.

THAT David Whitehead, Larry Savage and Ian Gibson be appointed to serve on the 2018 Senate Election Sub-Committee.

CARRIED

b) Associate Vice-President, Research

Senator Savage provided an overview of the proposed recommendation to the President to amend Section 4 of the Faculty Handbook to include the position of Associate Vice-President, Research. Senators engaged in a comprehensive discussion regarding the proposed motion, including whether the process should be changed ad hoc or as part of a more comprehensive review of hiring processes, what kind of process is appropriate for an academic administrator who is not part of academic line management, what collegial processes entail and the implications of delaying the current hiring process.
MOVED (Savage/Berman)

THAT Senate recommend to President Fearon that he move immediately to ensure that the position of Associate Vice President Research be included in FHB Section 4: “Appointment/Reappointment Procedures under the purview of the President and at the pleasure of the Board” and that, consistent with other senior academic positions other than president, that the procedures include, at the very least, appointment of an Advisory Committee vetted and approved by the Governance Committee, open search procedures, and care that qualified women are given consideration.

CARRIED

5. Memo from the University Secretary – Senate Election Date
[A Memo from the University Secretary dated February 8, 2018 had been posted with the meeting materials.]

MOVED (Gibson / Tiidus)

THAT the election of representatives to fill Senate vacancies occurring at the end of Spring Convocation, with the exception of student representatives, take place on Monday, March 26, 2018.

CARRIED

DISCUSSION ITEMS

6. Report of the President and Vice-Chancellor
[The Report of the President dated February 5, 2018 had been posted with the meeting materials.]

The President referred Senators to his Report and provided clarification as requested on to the process underway in the development of the Institutional Strategic Plan.

7. Report of the Provost and Vice-President, Academic
[The Report of the Provost and Vice-President, Academic had been posted with the meeting materials, including Appendices 1-3 and Appendix 4 had been posted in SharePoint.]

The Provost provided an overview of his Report and congratulated Senator Hutchison on being recently awarded a 3M National Teaching Fellowship.

Senators engaged in discussion regarding the Engineering Taskforce during which the Provost received feedback from members regarding the initiative. Senator Dunk also requested that the Governance Committee recommend Senate representatives to serve on the
task force and the Chair of the Governance Committee confirmed that the Committee would do so.

8. **Report of the Vice-President, Research**  
[The Report of the Vice-President, Research dated February 6, 2018 had been posted with the meeting materials.]

The Vice-President, Research referred members to his Report, for the information of Senate.

9. **Research and Scholarship Policy Committee**  
[The Report of the Research and Scholarship Policy Committee dated February 6, 2018 had been posted with the meeting materials together with Appendices 1 and 2.]

Senator Corman provided an overview of the Research and Scholarship Policy Committee Report for the information of Senate.

10. **Two Row Council – Oral Update**

Dr. Catherine Longboat, member of the Two Row Council, provided an oral update on the activities of the Council. During her overview, she highlighted that the Council had previously met with the Senate guest speaker, Dr. Len Findlay to discuss Indigenization and that the Council is in the process of reviewing the draft position posting for the Indigenous lead at the University.

Agenda Item

18. **Report of the Academic Colleague (Item lifted from consent agenda)**  
[The Report of the Academic Colleague dated January 27, 2018 had been posted with the meeting materials together with Appendices 1-5.]

Senator Cyr provided an overview of the Report for the information of Senate.

11. **Generative Discussion – Accessibility and Academic Accommodation**  
[Information regarding the Generative Senate Discussion on Accessibility and Academic Accommodation had been posted with the meeting materials.]

Senator Lathrop provided an overview of the Report and prefaced the discussion by reading the following statement:

*Given the increased demand in academic accommodations and the expectations set out by the Ontario Human Right Commission regarding academic accommodations, a generative discussion was held by Senate and information and questions were gathered regarding shared obligations, challenges and opportunities. The discussion raised awareness and strategies were discussed that will support faculty, students and academic support staff as we operationalize accessibility and academic accommodation across the campus.*
Senators engaged in a comprehensive discussion on issues and challenges faced by students, instructors and faculty in accessibility and academic accommodations. During discussion, the following motion was put forward:

**MOVED** (Lathrop / Mandigo)

THAT Senate agree to hold an open question and answer session with legal counsel that will answer questions raised in this session and provide expert advice regarding the Ontario Human Rights Code and the Accessibility for Ontarians with Disabilities Act with respect to academic accommodations and accessibility.

During consideration of the motion, the following amendments were proposed and accepted:

- To strike out the text “and Senior Administration” following “Senate”; and
- To remove the text “jointly planned” and insert the text “an open” prior to “question and answer session”.

During discussion it was also noted that Senator Lathrop will liaise with the Senate Governance Committee on next steps regarding the session.

Question on the main motion, as amended **CARRIED**

12. **Other Business**

12.1 **Request for Early Diploma – In camera**

The Chair noted that a motion was required to move in camera to consider a request for the issuance of an early diploma.

On a motion by Senator McCleary, seconded by Senator Calder and carried, Senate moved in camera at 4:41 p.m. Non-Senators retired from the meeting.

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[During the in camera session, Senate approved a request for the early issuance of a degree diploma.]

Senate resumed open session at 4:43 p.m.

13. **Adjournment**
The meeting adjourned at 4:44 p.m.

CONSENT ITEMS

The following items had been received and/or approved by consent:

14. Minutes of Previous Meetings
[The Minutes of the 656th Meeting of Senate held on January 17, 2018 had been posted with the meeting materials.]

The Minutes of the 656th meeting of Senate held on January 17, 2018 were approved by consent.

15. Unfinished Business from the Last Meeting – None

16. Communications

16.1 Memo – BUSU 2018 Elections
[A Memo from BUSU Chief Returning Officer to the Chair of Senate dated February 7, 2018 regarding the Brock University Students’ Union February Election Cycle had been posted with the meeting materials.]

17. Report of the Chair
[The Report of the Chair of Senate dated February 7, 2018 had been posted with the meeting materials.]

18. Report of the Academic Colleague (Item had been lifted during discussion)
[The Report of the Academic Colleague dated January 27, 2018 had been posted with the meeting materials together with Appendices 1-5.]

19. Report of the Actions of the Board of Trustees - None

20. Reports of Standing Committees

20.1 Graduate Studies Committee
[The Report of the Graduate Studies Committee dated February 6, 2018 had been posted with the meeting materials together with Appendix 1.]

By way of approval of the consent Agenda, Senate approved motions 1-8 changes to the Graduate Calendar as outlined in the Report of the Graduate Studies Committee dated February 6, 2018.

20.2 Academic Review Committee
[The Report of the Academic Review Committee dated February 5, 2018 had been posted with the meeting materials.]
By way of approval of the consent Agenda, Senate approved the request for Major Modification to restructure courses in the Bachelor of Early Childhood Education program.

20.3 Undergraduate Program Committee
[The Report of the Undergraduate Program Committee dated February 8, 2018 had been posted with the meeting materials.]

By way of approval of the consent Agenda, Senate approved motions 1-53 regarding changes to the Undergraduate Calendar as outlined in the Report of the Undergraduate Program Committee dated February 8, 2018.

20.4 Planning, Priorities and Budget Advisory Committee
[The Report of the Planning, Priorities and Budget Advisory Committee dated February 6, 2018 had been posted with the meeting materials.]

20.5 Undergraduate Student Affairs Committee
[The Report of the Undergraduate Students Affairs Committee dated January 23, 2018 had been posted with the meeting materials.]

20.6 Information Technology and Infrastructure Committee
[The Report of the Information Technology and Infrastructure Committee dated February 6, 2018 had been posted with the meeting materials.]

20.7 Student Appeals Board
[The Report of the Student Appeals Board dated January 22, 2018 had been posted with the meeting materials.]
To: Chabriol Colebatch, Secretary of Senate
From: David Whitehead, Chair of Senate
Date: March 6, 2018

CHAIR’S REPORT TO SENATE 658, March 14, 2018

With the circulation of the senate electorate list, with the deadline for nominations to fill 18 vacancies on Senate fast approaching, and with the notice already given that the senate election will begin soon on March 19 and close on March 26, it is timely to review the issue of continuity and succession planning for Senate and Senate committees.

First, the Secretary of Senate has notified Senators whose current term on Senate will end after the spring convocation of that fact, has let them know that their “service on Senate has been very much appreciated,” and has invited them “to consider running again.” Let me also add my own appreciation for the service of all Senators whose current term is drawing to a close, and my own invitation to them to consider running again. Let me also add my own appreciation for the service of all other Senators, elected, ex officio, or appointed, who will also be leaving Senate after the spring convocation.

The issue of continuity and succession planning for Senate committees is dealt with, in part, by having *staggered three-year terms* for elected representatives to Senate.

FHB II: 3.1 provides as follows (emphasis added):

There shall be thirty-eight elected Senators, serving staggered three-year terms. . . For such members, rotation should be considered normal, but re-election is permissible.

Issues of continuity and succession planning are also addressed in other ways.

FHB II: 9.1.2 provides as follows (emphasis added):

A. Where possible, members of standing committees and sub-committees shall serve for a term of three years unless otherwise specified and may be reappointed. A Vice-Chair may, but does not necessarily, succeed to the chair at the completion of that term as Vice-Chair. . .

B. It is the responsibility of the Chair of a standing committee to convey documentation to his/her successor after the committee's term of office has expired. . .

C. Members of special committees shall normally serve until the committee is discharged.

FHB II 9.1.6 F provides as follows:

Each Committee shall have a Vice-Chair. The Vice-Chair will conduct Committee meetings in the absence of the Chair.

FHB II 9.2.2 provides as follows (emphasis added):
The terms of office of student representatives shall be the same as those of other members (see 9.1.2 above), except that on Committees that have two student representatives the terms shall normally be for two years and shall be staggered.

It is clear that it will be the Governance Committee of next academic year’s Senate that will be nominating the Chair and members of standing and special Committees of Senate.

FHB II 9.5.1 d) provides as follows (emphasis added):

(The Governance Committee) nominates the Chair and members of standing and special Committees of Senate or faculty representatives on other bodies, giving consideration to the importance of inclusion of equity seeking and underrepresented groups in such committees and bodies;

Against this background of FHB provisions, it is timely for all returning Senators to reflect on their Senate committee service during the current Senate and their wishes for committee service in the next Senate. It may also be timely for Chairs and Vice Chairs of Committees to consider issues of continuity and succession planning in the leadership of their committees and to facilitate a discussion of continuity and committee leadership by committee members.

In the context of reflecting on continuity and succession on Senate, I note that I have been privileged to have served on Senate for two three-year terms, including service as a member and Vice Chair of the Governance Committee, a Vice Chair and Chair of the Teaching and Learning Policy Committee, and, for the current Senate, as Chair of Senate. I have carefully considered standing for election to Senate again but, with considerable regret, I have opted instead, in the words of FHB II 3.1 quoted above, for the normal “rotation.” Serving as Chair of Senate this year has been, and continues to be, a peak experience of my career at Brock and I am very thankful to all Senators for the support I have received in this position.
A meeting of the COU Academic Colleagues was held on the evening of February 13th and the morning of February 14th, 2018 at the COU Offices in Toronto.

February 13th, 2018

On the evening of February 13th, 2018 several of the academic colleagues met over dinner and to engage in conversation with Ms. Julia Shin Doi (General Counsel and Secretary to the Board of Governors, Ryerson University) and Mr. Glenn Craney (Deputy Provost and Vice-Provost, University Planning Office - Ryerson University) with respect to board perspectives on government mandated change. This was the third and final academic colleagues’ meeting of a series in which prior guests were a university president and the president of a faculty association. The theme of these dinner meetings was to gather the perspectives of different university stakeholders with respect to “mandated change” within the Ontario Post-Secondary Education (PSE) system. The colleagues were also interested in a university board perspective on the role of the board and what issues fell under the purview of both boards and senates. Detailed notes are provided (Academic Colleagues Meeting Notes) from the meeting and outline the different issues touched on during the discussion.

The conversation also turned to the SMA process initiated by the Ontario government and what were the possible issues/goals and perspectives of the government in adopting this process. Mr. Glenn Craney had, in particular, spent two years (2016 – 2018) at the Ministry of Advanced Education and Skills Development (MAESD) as an expert lead on the postsecondary funding formula review, and as Assistant Deputy Minister. He was also a senior policy advisor with the Ministry from 1997-2000. Notes regarding this discussion are also included in the attached and I encourage senate colleagues to read these over. One interesting discussion point was regarding the impact of Ontario universities falling under the Freedom of Information and Protection of Privacy Act (FIPPA) in 2006 and ultimately the Broader Public Sector and Accountability Act. In some sense, this set the stage for additional control on the part of the government in terms of PSE and less autonomy on the part of universities.

February 14th, 2018

On the morning of the 14th the colleagues discussed the prior night’s meetings with the Ryerson representatives. Detailed notes of that discussion are included in the attachment. Much of the focus was on how the relatively recent government “mandated change” might impact academic freedom and self-governance.
Other items covered during the meeting of February 14th were:

**COU update (Peter Gooch, Senior Director, Policy and Analysis. COU)**

Peter Gooch provided an update on several issues. I encourage senators to read over the attached notes with respect to the various topics covered, including the ongoing activities of the COU with respect to influencing the 3rd Strategic Mandate Agreement (SMA3) process. Attached is a document (SMA3 Pilots Handout for Academic Colleagues) outlining the different projects that will/are being initiated by the Ontario Council of Academic Vice Presidents (OCAV) with the intent of informing the metrics that may be adopted by MAESD for SMA3.

**COU Committee Reports**

Updates were provided by academic colleagues that are members of various COU committees. In particular:

- Executive Committee – Note: The appointment of MPP Mtizie Hunter, (BA, MBA) as the new minister of MAESD.
- Highly Skilled Workforce Steering Committee
- Quality Council
- Government and Community Relations Committee
- Budget and Audit Committee
- Nominations Committee – Note: Brock University’s President Fearon has been appointed to the Budget and Audit Committee of the COU

Details are provided in the attached notes.

**Council Meeting Preparation**

The colleagues then deliberated what might be possible topics for discussion with executive heads in the upcoming April COU meetings. It was decided that further deliberation would take place over e-mail to refine the topic for discussion. This represents a second meeting with a new format whereby executive heads and academic colleagues openly discuss a set topic or question.

**Conversation with Harvey Weingarten, President and CEO, Higher Education Quality Council of Ontario (HECQO)**

Dr. Harvey Weingarten attended the last hour of the meeting and discussed with the academic colleagues his views on a number of issues with respect to the Ontario PSE sector. In particular institutional differentiation and the SMA process. It was a very interesting and frank discussion. Many of his views are detailed in the attached meeting notes which I encourage members of Senate to read. It is my belief that his perspective on institutional differentiation is still largely focused on graduate versus undergraduate programming – that some institutions should be primarily undergraduate or graduate in focus. I believe this might relate to his own experiences as the prior president at the University of Calgary and the Alberta PSE system.
As a bit of background – a number of us have seen the various reports by HEQCO but it might be of interest to consider them in sequence:

1. HEQCO produced a report in 2010 on differentiation that is an interesting read. Much of it would appear to be somewhat of a roadmap of where the “mandated change” might be heading. It also provides a succinct summary regarding differentiation/systems in different provinces and countries.


http://www.heqco.ca/SiteCollectionDocuments/DifferentiationENG.pdf

Note the following statements in the report:

“Now, more than ever, Ontario should strive to own the podium of higher education.”

Page 2

“Greater differentiation of the postsecondary sector is one of the most powerful levers available to government, especially in resource constrained times, to achieve its goals of greater quality, competitiveness, accountability and sustainability.”

Page 9

2. In 2013 HEQCO, at the request of the Ministry, established a peer review panel and published a report on the first series of SMA submissions:


Note the following within the introduction:

“The challenge is to provide a high quality postsecondary education in Ontario in spite of continued growth and diminishing resources. The current system is not sustainable if quality is to be preserved or enhanced. To meet this challenge, there is a need for the provincial government to adopt a more active role in system planning.”

Page 3

“The Panel does not feel it can fulfill one of the government’s stated intentions; specifically to use the SMAs to identify “lead institutions.” There was not sufficient diversity among mandate statements, particularly when examined within each of the college and university sectors, to allow for identification of some institutions as leads.”

Page 6

Finally, among the report’s summary recommendations (and first on the list!):
“Government must play a more active, assertive and purposeful role to drive system-level planning and change.”

3. Another report in 2013 focused on differentiation of Ontario universities by research:


http://www.heqco.ca/SiteCollectionDocuments/HEQCO%20Diversity_ENG.pdf

Some items of note in this report:

“The data reveal a cluster of Ontario institutions that are not very involved in graduate education, especially at the PhD level, and that attract a lower level of research income. These institutions are mainly undergraduate universities and include: Algoma, OCADU, Nipissing, UOIT, Laurier, Trent, Brock, Lakehead and Laurentian. Two of these institutions – UOIT and OCADU – may be considered to have specialized mandates, and differentiation frameworks used in other jurisdictions sometimes establish a category of “special purpose universities” in such cases.”

“Second, the current financial and policy environment for higher education in Ontario coupled with the clustering proposed here raises some immediate questions for government. For example, should PhD spots be preferentially allocated to the more research-intensive universities and, if so, to what degree? Should government attempt to minimize the number of PhD programs in mainly undergraduate universities? How should the funding of master’s programs, especially professional and course-based master’s programs, be allocated across the clusters?”

4. Somewhat recently, another report on differentiation by HEQCO which attempts to differentiate on a number of factors:

Hicks, M and Jonker, L. (2016). The Differentiation of the Ontario University System: Where are we now and where should we go? Higher Education Quality Council of Ontario (HEQCO).


Key recommendations:

- Recognize and fund equity of access as a significant differentiating feature
- Support the University of Toronto as Ontario’s flagship institution
Again, in this process, Brock is identified as largely an undergraduate institution. The challenge will lie in any potential future focus by the Ministry on concentration of research expansion within the identified research focused category (Toronto, Guelph, McMaster, Ottawa, Queen’s, Waterloo, and Western) of which Brock is not included.

These are interesting reads and again I encourage looking them over as background material on what might be the foundations of the SMA process adopted by the Ministry.

**Next Meeting**

The next meeting of the academic colleagues is April 12 and 13th at Windsor University and will be held at the same time as the larger COU meetings with the executive heads.

Appendix 1 – Academic Colleagues meeting notes February 13 – 14, 2018
Appendix 2 – OCAV Task Force on Quality Indicators: Pilot Projects for Possible SMA3 Metrics
Dinner meeting, February 13, 2018

Academic Colleagues met with Julia Shin Doi (General Counsel and Secretary to the Board of Governors, Ryerson University) and Glenn Craney (Deputy Provost and Vice-Provost, University Planning Office, Ryerson University) to discuss governing board perspectives on government-mandated change initiatives. A summary of comments is included below:

- Colleagues indicated interest in learning more about the issues that fall under the purview of the board and senate; the role of faculty associations; the extent to which board membership reflects local communities or society; and the role of Executive Heads, particularly when there is disagreement between key stakeholders.
- It may be helpful to think about boards as providing direction, but not controlling institutions.
- Board secretariats often serve to help communication between stakeholders so that conflicts can be addressed, and works to ensure a collegial relationship between executive heads and board members. All board members act in the best interests of the institution.
- Communication is important at all levels. Part of good communications is managing expectations. When expectations are met, trust can be established and sustained.
  - Communication between senates and boards is very important; the executive head helps keep communication lines open.
- Colleagues asked what types of topics would be discussed at the board level. For example, would the expansion of experiential learning be a board agenda item? It was discussed that while boards may have talked about this issue (and others like it), they would not get into detail.
- Communication was also emphasized in the discussion regarding government initiatives—in particular, it is important that government consult extensively with universities.
- Communication with government can at times be challenging; one reason for this is the timelines typically involved (often there is not much time for consultation). Communication is also constrained because of the political process; there are some limitations on what government can talk with universities about.
- Colleagues discussed the SMA process. It was noted that the SMA process was intended to start a longer conversation between government and universities; a pathway for clear communications is needed. Working toward SMA3 is one way to keep moving toward a strategic conversation with government.
• Differentiation is also an important issue—the government is working to set up broad priorities, and universities need space to pursue them in their own ways. The approach which utilizes some common and some differentiated metrics is one approach to thinking about broad principles and differentiation.

• Colleagues also discussed the ways in which government is a funder for higher education, but has no formal funding contract (as in k-12 education). There is no government mandate to fund postsecondary education; government funds PSE because it is good public policy. PSE funding is the third largest transfer payment in Ontario, after health care and k-12 education.

• Since 2006, there has been a shift in how universities are viewed by the public; universities are currently viewed as part of government (or the broader public sector). This may account for some of the ways government seems to be involved in university business.

• Boards and senates are both involved in the SMAs, but from different perspectives. One of the perspectives boards bring to SMA considerations is risk and risk mitigation.

• The five priority areas included in the SMAs are also priorities for institutions generally (boards and senates).

• Some advice was offered regarding working productively with government, including:
  o Keep conversation with government active;
  o Work to understand what the government is focused on;
  o Consider a holistic approach, including a focus on opportunities rather than threats.

• Colleagues noted that government seems interested in managing the university sector as a system, but universities seek autonomy and differentiation. This may lead to tensions.

• Stability is also important—when performance measures change frequently, that’s when challenges arise. In some cases, government can move faster than universities are able.

• Experiential education is an important initiative government is focused on. One reason for this is because it is an issue with respect to the economy and the ways graduates get jobs. Universities, however, are increasingly asked to provide entry-level job preparation while employers are reducing training programs and activities. This shift is important because it shapes university work in very significant ways.

• Colleagues talked about the values that are important to maintain in spite of the shifting context, including academic freedom, shared governance, and the important influences/changes a university education can bring to graduates. Colleagues also discussed the fact that academic freedom may be eroding as government initiatives increasingly shape university work. (Some government initiatives are not aligned with institutional values).
  o Accreditation also influences the ways in which some programs teach and/or design programs.

February 14, 2018

Dinner meeting debrief: Colleagues discussed and reviewed some of the highlights of the dinner conversation. A brief summary is provided below:
• Government intentions are important to consider, but how interventions are interpreted is also important (as well as how they are filtered down through the system).
• Three concepts may be important to remember given the changing environment, and as possible tools in resistance to government interventions: academic freedom, values, and self-governance.
• Some mandated changes are incremental, and some are episodic (one-offs). And while government may have good intentions, sometimes the effects are not positive.
• As we get closer to SMA3, the risks may be higher for universities, as funding will likely be tied to metrics.
• Colleagues agree that SMA3 will change things for universities, likely at all levels. As faculty and departments are influenced, more faculty engagement may be needed.

COU update

• **Strategic Engagement campaign**: The full report on the strategic engagement campaign is available on the website ([www.ontariosuniversities.ca](http://www.ontariosuniversities.ca)). Notes on specific issues are also included on the site. COU’s communications and government relations teams are also working on materials that universities might use in conversations with candidates. Strategies and tactics for working with a new government are a focus for COU, and will likely be brought to the Council meeting in April.

• **Provincial budget**: The federal budget will be released on February 27 and will be a factor in the provincial budget. The provincial budget will be the liberal election platform. COU is advocating for investments for universities, but with recent announcements (STEM and AI expansion, expansion of OSAP, the career ready funding, and costs associated with the equal pay for equal work legislation), we do not expect big investments to be included. (Note: While applications for admission to universities have not increased dramatically, applications to OSAP have increased. This is likely to create some cost pressures for government).

• **SMAs**: Universities are able to post their own SMA2 agreements, but government has not indicated when they will post. COU has learned that government will not post university targets side-by-side.
  - COU is starting to think about SMA3 agreements. A technical table will be organized, and the group will provide options and advice. Two task forces are already underway (the OCAV Task Force, focused on access and equity; and the OCUR Task Force, focused on research metrics, community engagement, and innovation) and are exploring possible metrics. The task forces will circle back with COU members to consult on any proposed metrics.
  - The OCAV Task Force has worked to develop a set of pilot projects, which all universities are engaged in. The pilot projects are focused on the collection and development of metrics for SMA3 (see attached descriptions). The goal is to evaluate the proposed/pilot metrics, consider whether they are scalable, and discuss how they might be used in funding. MAESD has signaled some funding support for these projects ($1M to be distributed across universities).
- **Vector Institute**: The province has invested $30M for the expansion of artificial intelligence (AI) graduates; this funding is aimed at industry (The Vector Institute) rather than universities. Vector (and government) is focused on 1,000 additional AI master's graduates. Funding will likely be directed to students as scholarships. Some funding may be used to support infrastructure to develop internships.
  - Three types of activity are expected:
    - Support for existing programs that could be modified to include an AI focus;
    - New program development (using a cost-recovery model); and
    - The development of collaborative programs, with universities working together to deliver AI programs.
  - Vector has initiated a working group to develop minimum specifications for what may be considered an AI program. The Quality Council will be involved in these discussions.
  - No new graduate spaces will be allocated, so if universities intend to increase enrolments and do not have room to grow, some reallocation of existing spaces will be needed.
  - Enrolments can be expanded through cost-recovery programs.
    - Currently, there are no policy parameters regarding cost-recovery programs. Increased demand is likely, so more consideration will be needed. The ministry may be willing to talk about OSAP eligibility for students in cost-recovery programs.
  - Vector is working to award scholarships starting in Fall 2018.

- **STEM expansion**: the funding for AI sits within a context of STEM expansion. Because of recent enrolment growth in STEM, universities are well on the way to achieving the targeted growth. MAESD has no funding to support expansion; this will likely be negotiated as part of SMA3. Specific targets moving forward will not be decided until the budget is determined.

- **Fair Workplaces Act**: The recent legislation (formerly Bill 148) provides amendments to several acts, including the Labor Relations Act. The most significant impact is likely associated with the equal pay for equal work provision. Colleges and universities are exposed on this issue because of how the academic workforce is structured. The full impact of the legislation will not be known until universities work through contract negotiations and grievance processes. It is estimated that new requirements will costs at least $60M (not including the equal pay for equal work changes).
  - COU has launched a process with a few universities to gather information related to risks and potential costs. A report with some aggregated data will be used to estimate sector costs.

- **Capital Strategy**: The ministry has developed a capital strategy, with increased funding for facilities renewal. Details may be included in the provincial budget.

- **Greenhouse Gas initiative**: Government has allocated $300M to universities as part of the greenhouse gas initiative. Some universities are participating in the cap and trade process, and others are not (depending on emissions levels). Some funding opportunities may be provided to
non-participating universities (for example, through a competitive innovation fund, or interest free loan).

- **Internationalization**: The ministry is developing an internationalization strategy for PSE. COU has worked to shape the development of the strategy; COU suggests that the strategy should be framed as an Ontario initiative, with an emphasis on economic development and growth.
  - COU has received clear signals from government that it will not seek tuition regulation, and will not be initiating enrolment caps for international students.
  - Government may be seeking assurances that universities are providing clear information to incoming international students regarding tuition increases while they are in-program.
- **Peter’s retirement**: Peter Gooch also announced his retirement from COU (Colleagues will have received an email with this news). Peter plans to step down in June, 2018.

**Committee Reports**

**Executive Committee**: The Executive Committee discussed MAESD’s developing internationalization strategy (described above in the COU update). In addition, representatives from MAESD (Deputy Minister Greg Orencsak and Acting ADM Kelly Shields) provided information regarding staffing changes, including a new Minister (Minister Mitzi Hunter). Updates were also provided on Bill 148, SMAs, and the Student Voices on Sexual Violence climate survey. The Committee also discussed the new French language university. An implementation committee has formed for the new university, and the committee has reached out to the Quality Council, OUAC and COU.

**Highly Skilled Workforce Steering Committee**: The committee debriefed regarding the recent exchange forum and initiated discussions regarding next steps. The committee will continue to meet and will focus on experiential learning.

- The Treasury Board Secretary approached COU to discuss streamlining experiential learning in Ontario. A representative from the Treasury Board will attend the next committee meeting to discuss. In conversation with government, the committee will continue to emphasize costs of EL and the variety of EL options available.
- The committee will also explore the development of a framework that recognizes common skills (competencies); degree level expectations and their relationship to EL competencies also need to be discussed.

**Quality Council**: The Quality Council is working toward its first external review, scheduled for this spring. Universities (through provost offices) and other stakeholders will be invited to provide written submissions and/or meet with external reviewers.

**Government and Community Relations Committee**: The GCRC committee met in late January, and focused on the upcoming election. The following questions were part of the discussion:

- What do universities as a sector need to communicate to political leaders or campaigns?
Mental health is likely to be important for all political parties; it may be important to focus on the economic impact of universities and help candidates understand how universities help graduates prepare for jobs of the future.

- **What do universities want a new government to know about us?**
  Universities may emphasize that we are partners in building a better future and preparing graduates for the global economy; we may also emphasize how graduate students contribute to the economy and innovation.

- **What are our top three issues?**
  Deferred maintenance (infrastructure investments are needed); the SMA process and performance-based funding; and universities’ commitment to Indigenous and international students.

- **Should our advocacy differ depending on the party?**
  It will be important to align our strategy with the priorities of any new government. We should be prepared to offer advice and engage with government.

**Budget and Audit Committee:** The committee met and discussed the COU budget. No deficits are expected. The committee recommended some additional discussion regarding risk management strategies.

The nurse practitioner consortium has faced budget cuts and is working to develop a mitigation strategy.

**Nominations Committee:** As reported to Colleagues over email, the nominations committee has approved the following nominations to for the remainder of the 2017-18 year and the 2018-19 year:

- Appoint Franco Vaccarino, Guelph, to the Committee on Nominations;
- Appoint Gervan Fearon, Brock, to the Budget and Audit Committee; and
- Appoint Pierre Zundel, Laurentian, as OUA Liaison.

**Council Meeting preparation**

Colleagues discussed an approach to the Council Meeting, scheduled for April 11 and 12 (University of Windsor). Members agreed that the discussion format was useful; it was suggested that a roundtable format (with approximately 6 at each table) may be preferred. Colleagues agreed to provide one question (rather than a series) for discussion.

Colleagues expressed interest in focusing on department and/or school level changes that may result from the SMA process. Executive Heads may not be anticipating changes that happen at the department or school level. A discussion of possible responses to SMAs may be important and enlightening. It may also be important to focus on changes that could impact student experiences.
Colleagues agreed to work via email to refine a question. The question will be proposed to the Executive Committee.

Following the meeting, Colleagues discussed possible questions via email and agreed on the following: To what extent and in what ways will individual faculty members, academic departments and senior management have to function differently as a result of the objectives negotiated in the SMAs?

**Conversation with Harvey Weingarten, President and CEO, Higher Education Quality Council of Ontario**

Harvey met with colleagues to discuss current issues in the postsecondary sector, including change management. A summary of the discussion is provided below:

- Institutional change is an important topic because a high-quality postsecondary sector is critical for economic progress and civil society. Institutions must be able to adapt and change (and improve). Harvey indicated that the PSE system in Ontario should refocus on quality. Funding is often the issue universities talk about, but quality should be the central focus.
- While institutions do change, programs are reasonably stable. A big change in the sector is the ways in which government is intervening today—more so in other jurisdictions in North America and the UK, but also in Ontario.
- Change is difficult for many reasons, including:
  - Universities are not always motivated to change, and the conditions that might support change are not always available;
  - Universities may have faculty members who are less engaged than others, but this issue is not easy to address; and
  - A framework for change is needed, but there is often the assumption that change takes place organically.
- Without change in the PSE system, it is possible that quality will diminish.
- The decisions that impact quality include:
  - Decreased funding for capital;
  - Larger classes; and
  - Not measuring student learning outcomes.
- Universities may focus on questions such as:
  - Are our universities best positioned (in organization and programs) to offer the highest quality programs and graduates?
  - Do our students have the skills and competencies necessary for the future?
  - What do our graduates need to look like, and what do they need to know (or do)?

Attachments:

- SMA3 Pilot Projects Handout

Next meeting: April 12, 2018 (Council Meeting), University of Windsor
OCAV Task Force on Quality Indicators: Pilot Projects for Possible SMA3 Metrics

Background

In fall 2017 OCAV approved the task force’s proposal for a selective piloting of new initiatives to establish proof of concept, process development and best practices for the collection of quality metrics for SMAs in a number of areas relating to student experience and quality of teaching and learning.

To capitalize upon the sector’s policy momentum and opportunity for leadership with government, the task force has proposed a series of exploratory pilot projects to develop an evidentiary base and help the sector make informed decisions about the development and selection of metrics for SMA3 and beyond. Although there is expected to only be a small handful of system-wide metrics, the broad piloting is necessary to support informed decision-making.

Pilot projects

Metric pilots: Projects based on known concepts that are expected to generate serviceable metrics.

1. Tagging undergraduate courses for EL: Volunteer institutions will undertake a project to compile an inventory of undergraduate curricular EL, in accordance with the MAESD and governance definitions of EL. The institutions will then tag a sample of undergraduate courses for EL.

2. Tagging a graduate program for EL: Volunteer institutions will undertake a project to compile an inventory of graduate curricular EL, in accordance with the MAESD and governance definitions of EL. Each institution will then tag the courses of one or more professional master’s program(s) of their choice.

3. Tagging courses for another HIP: Volunteer institutions will tag a sample of undergraduate courses for a second HIP of their choice, focusing NSSE HIPs or other practices such as entrepreneurialism, internationalization, first year seminar, undergraduate research, etc.

4. Co-curricular EL: Volunteer institutions will track out-of-classroom, not-for-credit EL experiences that fit within the MAESD definition of EL (if possible) using Co-Curricular Record and/or ePortfolio software. A special focus of the project could be on leadership experiences.

5. Graduate student experience: As SMA2 had a strong undergraduate focus, volunteer institutions will explore the feasibility of metrics around the graduate student experience, such as time to completion and milestones, data related to PD opportunities, proxies for graduate research impact, data on where graduates are employed, or possible use of GPOS data.

6. Inventory of student community engagement: Volunteer institutions will compile an inventory and develop metrics related to student community engagement and outreach initiatives. The focus will be on student outreach and community impact, including academic and non-academic activities, both on and off campus.
Research and proof of concept: Projects intended for method and process development of “untested” concepts.

1. **VALUE Institute Assessment of Learning Outcomes:** Volunteer institutions will internally assess student artifacts (assignments) for learning outcomes (against their own or VALUE rubrics), and will then submit them to the VALUE Institute (AAC&U/Indiana) for external assessment of learning outcomes in the areas of written communication, critical thinking, and quantitative reasoning.

2. **University of Victoria Competency Framework:** Volunteer institutions will pilot the University of Victoria competency framework for a basic arts and science program, asking students to state their learning objectives and complete mid-term and final competency assessments during a co-op semester or other authenticated curricular EL opportunity.

3. **Demonstration of job readiness:** Volunteer institutions will undertake a project to explore the viability of tracking and measuring ways, and developing scans and process narratives, of demonstrating undergraduate and graduate students’ professional development and job readiness in addition to disciplinary knowledge.

4. **Student views and priorities: Text analytics:** Volunteer institutions that have an nVivo, IBM-SPSS Text Analytics or comparable software license will undertake a text analytics pilot of the written inputs from students on undergraduate surveys (NSSE/NBGOS) and graduate surveys (CGPSS/GPOS). The purpose would be to define a ranked set of “student views and priorities” at the sector and institutional level that would inform the narrative (and possible metrics) of universities’ demonstration of responsiveness to student voices.

5. **Student-ready campus:** This project flips the traditional notion of “university-ready” students on its head, focusing instead on what universities do to ensure student success. Volunteer institutions will collaborate to develop a “student-ready campus” checklist tool for the Ontario sector, to demonstrate evidence of institutional commitments to student success.

6. **Student affairs: Addressing high-needs populations:** Volunteer institutions will use explanatory models developed from the 2014 NSSE National data file to design and pilot programs/services that address the engagement needs of specific populations, including underrepresented groups (visible minority, Indigenous, disabilities, first generation) and/or students at risk of attrition. Pilots might include increasing visible minority student participation in HIPs, linking attrition to specific dimensions of under-engagement, etc. Analysis will be performed and the results presented to participating institutions by Queen’s University.

7. **Employer feedback:** Volunteer institutions that have established processes for conducting surveys or focus groups with the major employers of their graduating students, will collaborate to develop best practices for collecting employer feedback on graduate hire performance, and “closing the loop” on employer feedback.
Process and timelines

The pilot projects range in theme, scope and complexity to allow for inclusivity of participation. All projects will be self-evaluated by participating institutions for feasibility, scalability, replicability and financial sustainability, and the utility of metrics and other actionable items that emerge from them. This will be accompanied by task force debrief on all the pilot projects.

Universities will launch the pilots in early 2018 and self-evaluations be completed very early in 2019. The results of the projects will be analyzed to develop recommendations for a possible suite of standardized SMA3 metrics. Metrics agreed to by the sector will be submitted to MAESD in spring 2019.

Contact

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December 12, 2017
The Board of Trustees held a special meeting on January 11, 2018. During the meeting, the Board:

- elected Sophia Aggelonitis as a community member of the Board of Trustees for a partial three-year term ending June 30, 2020, effective immediately
- awarded the DEEP – Cogeneration Engine and Chiller construction contract to E.S. Fox Ltd. for a value of $2,819,996.00 (plus HST) and approved that the President and Vice-President, Administration be authorized to execute the related contract on behalf of the University

The Board of Trustees held its third regular meeting of the 2017-18 academic year on March 8, 2018. Below are highlights of the actions taken by the Board during the meeting:

- received the Reports of the Chair of the Board
- received the Report of the President and Vice-Chancellor
- received the Report of the Provost and Vice-President, Academic
- accepted the Report of the Audit Committee, and
  - approved the new University Risk Management Policy
  - approved amendments to the Safe Disclosure Policy
- accepted the Report of the Capital Infrastructure Committee, and
  - approved amendments to the IT Service Provider Policy, the Cloud / Hosted / SaaS Policy and the Technology Support Policy
  - approved the Space Management Policy
  - subject to a successful BUSU referendum to fund the Zone expansion:
    1) approved the Zone expansion as a capital project and its inclusion in the 2018-19 Long Term Capital Plan
    2) authorized the President and the Vice-President Administration to execute the related contracts, including construction contracts and an agreement with BUSU, associated with the Zone expansion project
- accepted the Report of the Financial Planning and Investment Committee, and
  - approved the 2018-19 Fiscal Framework Update
  - authorized the Vice-President Administration to enter into a multi-year agreement with GardaWorld for Security Services
  - subject to a successful BUSU referendum to fund the Zone expansion:
    approved the internal financing of the zone expansion be repaid through the BUSU referendum over a period of approximately seven years
  - approved that Brock University enter into a two-year contract with Morneau Sheppell for Student Counselling Services, with an option to renew for up to three one-year terms
  - approved the Accounts Receivable and Credit Risk Policy
- accepted the Report of the Human Resources Committee, and
  - approved the amended Sexual Assault and Harassment Policy
  - approved the revised Employment Equity Policy
  - approved the revised Accessibility Policy
- accepted the Report of the Strategic Planning Committee, and
  - approved amendments to the Institutional Brand Identity Policy
accepted the Report of the Governance/Nominating Committee, and
- approved amendments to the Board Nominating Strategy
- received the Institutional Strategic Plan Update
- received a presentation from the Dean of the Faculty of Mathematics and Science

BOARD ACTIONS TAKEN VIA CONSENT AGENDA:

- approved the Minutes of the previous meetings held on November 30, 2017 and January 11, 2018
- received the Report of the Actions of the University Senate; and
- on the recommendation of the Financial Planning and Investment Committee:
  - approved that no changes are required to the Payment Card Policy and the next review date be changed to 2021
  - approved that no changes are required to the Fair Dealing Policy and the next review date be changed to February 2020
- on the recommendation of the Governance/Nominating Committee:
  - approved the amended Access to Information and Protection of Privacy Policy

THIS SUMMARY CONSTITUTES AN UNOFFICIAL RECORD UNTIL SUCH TIME AS THE MINUTES OF THE MEETING ARE APPROVED. Detailed information is available on the University Secretariat website at https://www.brocku.ca/university-secretariat/board-of-trustees

Margaret A. Thompson, Associate Secretary March 9, 2018
TO: Chabriol Colebatch, Secretary to the University and General Counsel
Brock University

FROM: Professor Lynn McCleary
Chair, Senate Graduate Studies Committee

DATE: March 5, 2018

REPORT TO SENATE 658, March 14, 2018

ACTION ITEMS

None

DISCUSSION ITEMS

The Committee continues to discuss the impact of graduate student student poverty, an issue raised by graduate students at the Committee and in Senate. The Chair met with Senator Emily Guertin (Graduate Student Association representative) for more information and reported back to the Committee. We reviewed Brock results of the 2016 Canadian Graduate and Professional Student Survey (see: https://brocku.ca/institutional-analysis/wp-content/uploads/sites/90/BROCK_CGPSS_2016_REPORT_ALL_v2.pdf) and noted indicators that graduate student poverty has an impact on the academic success of students. One third of respondents (31.7%) indicated that work/financial commitments were a major obstacle to their academic success. Almost half of the respondents (45.2%) indicated that financial support in the form of admissions funding packages was greatly important to their ability to complete their program. The Committee looks forward to hearing the results of a forthcoming GSA survey of graduate students.

CONSENT ITEMS - FOR APPROVAL

Changes to the Graduate Calendar.

1. Professional Accounting

MOVED (McCleary/ )

THAT Approval be granted for changes in the 2018-2019 Graduate Calendar (Professional Accounting) to core faculty and staff listings, change to TOEFL iBT requirement for admission requirements, updating list of required courses, updating description of MPAC 5N90. All detailed in the Appendix.

Rationale: Updating information. Making co-op preparation course description consistent with other identical courses in the Calendar.
2. **Accounting**

MOVED (McCleary/ )
THAT Approval be granted for changes in the 2018-2019 Graduate Calendar (Accounting) to list of fields of specialization, core faculty and staff listings, revision of program description, updating list of required courses and admission requirements. All detailed in the Appendix.
Rationale: Updating information.

3. **Applied Linguistics**

MOVED (McCleary/ )
THAT Approval be granted for changes in the 2018-2019 Graduate Calendar (Applied Linguistics) to core faculty and staff listings, updating list of core courses, and name change LING 5P08 Vocabulary: Theory, Research and Practice. All detailed in the Appendix.
Rationale: Updating information and specifying course name.

4. **Faculty Structure**

MOVED (McCleary/ )
THAT Approval be granted for changes in the 2018-2019 Graduate Calendar Faculty Structure Section to update list of faculty and staff. All detailed in the Appendix.
Rationale: Correcting and updating faculty and staff list.

5. **Academic Regulations**

MOVED (McCleary/ )
THAT Approval be granted for changes in the 2018-2019 Graduate Calendar Academic Regulations section as detailed in the Appendix.

**CONSENT ITEMS - FOR INFORMATION**

None.
## Submission Details:

| Program Changes Proposal: | 1. Updates the Faculty Members  
2. Change to Co-op MPAC 5P90 course name and description |
|----------------------------|--------------------------------------------------------------------------------|
| Program Changes Explanation: | 1. Updates based on hiring and promotions.  
2. As provided by Co-op office, "Co-op students are required to register and complete the compulsory Co-op Professional Preparation Course (5N90) with a “Satisfactory” grade prior to the search of their first co-op work term. The primary goal of this course is to provide graduate students with the tools, resources and skills to maximize co-op employment and professional development opportunities - both while at Brock and after graduation. All graduate co-op students are required to pass this course with a “Satisfaction” grade prior to the start of their co-op job search term. The 5N90 course is designed to meet higher Degree Level of Expectations for Master’s degree students. This is a non-credit course and grade will be evaluated based on class participation including attendance and completion of professional projects.” |
| Course Revisions: | MPAC 5N90 - Co-op Professional Preparation Course (was “Co-op Pre-Employment Training and Development”) |
| Status: | Awaiting submission by sub-committee editor; before sub-committee meeting. |
| Comments: | Submitted by Carrie Kelly on January 22, 2018 at 10:43:17 AM  
Submitted by Carrie Kelly on January 22, 2018 at 10:49:24 AM  
Submitted by Narongsak Thongpapanl on January 22, 2018 at 11:03:25 AM  
Submitted by Mwinchande Chande on February 9, 2018 at 09:06:39 AM  
Edited by Liz Keenan on February 15, 2018 at 02:04:41 PM: |
Master of Professional Accounting

Master of Professional Accounting (International Student Pathway)
https://bus.brocku.ca/mpacc

Dean
Andrew Gaudes
Goodman School of Business
Associate Dean, Research and Graduate Programs
Narongsak (Tek) Thongpapanl
Goodman School of Business
Core Faculty
Professor
Darlene Bay (Accounting), Ernest Biktimirov (Finance, Operations and Information Systems), Fayez A. Elayan (Accounting), Hemantha Herath (Accounting), Eugene Kaciak (Finance, Operations and Information Systems), Jingyu (Jennifer) Li (Accounting), Alex Nikitkov (Accounting), Raafat R. Roubi (Accounting), Samir Trabelsi (Accounting)
Associate Professors
Ian Adamson (Accounting), Walid Ben Omrane (Finance, Operations and Information Systems), Kareen Brown (Accounting) Gail L. Cook (Accounting), Louis Culumovic (Accounting), Maureen Donnelly (Accounting), Sohyung Kim (Accounting), Pascale Lapointe-Antunes (Accounting), Jingyu (Jennifer) Li (Accounting), Zhefeng (Frank) Liu (Accounting), Parunchana Pacharn (Accounting), Barbara Sainty (Accounting), Paul Scarbrough (Accounting), Anamitra Shome (Accounting), Tashfeen Sohail (Accounting), Linda Stillabower (Accounting), Tanya Tang (Accounting), Samir Trabelsi (Accounting), Allister Young (Accounting)
Assistant Professors
Yun Ke (Accounting), Staci Kenno (Accounting), Michelle Lau (Accounting)
Participating Faculty

Lecturers
Norman Chasse (Accounting), Michael Espinoza (Accounting), Sangeeta Hollo (Accounting), Omar Roubi (Accounting), Glenn Skrubbeltrang (Accounting), Xia (Celine) Zhang (Accounting)

Goodman School of Business, Graduate Program Office
Director, Operations, Graduate Programs,
Carrie Kelly
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Graduate Academic Coordinator
Brendan Barrett
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Taro 456
International Co-ordinator, Graduate Programs
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MC A236
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Laurie Redford
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Taro 468
Graduate International Recruitment/Admissions Officer
Rachel Bessette
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Taro 468
International Recruitment/Admissions Officer
Jason Barfoot
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Taro 433
Graduate Office Assistant
Stephanie McIntosh
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Taro 468
Administrative Assistant, Graduate Programs
Brittany Massey
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Taro 461
Director, Co-op Programs
Cara Boese

Fields of Specialization

Program Description

The Master of Professional Accounting (MPAcc) program provides international students, who have studied accounting outside of North America, with a broad background in all aspects of Canadian accounting. The MPAcc program enables students to assimilate advanced knowledge in accounting and related aspects of business. The program encourages the development of critical thinking, analytic and communication skills. It is a lock-step program that includes: an intensive English language study program (1 month in August), followed by three academic terms (12 months).

The program combines academic learning with practical experience through an optional co-op work term. The MPAcc Co-op allows students to apply their knowledge to private and public business settings and to develop highly specialized professional skills. The work experience, along with valuable networking contacts, makes a difference to students when preparing to enter the competitive career market.

At the end of the program, graduates are awarded a Master of Professional Accounting degree. Although the MPAcc program does not lead directly to a Canadian accounting designation, students interested in pursuing a Canadian accounting designation may submit their post-secondary transcripts (in English) to CPA Ontario for an assessment to determine course equivalencies in the CPA program.

Admission Requirements

Successful completion of a four year Bachelor’s degree, or equivalent, with a substantial number of accounting courses, and at least the equivalent of a 75% (mid-B) average. Prior courses taken in finance, macro and micro-economics, statistics and business strategy are strongly recommended.
Proof of English language proficiency will be required from all applicants. The minimum required score for entry is 80 on the TOEFL iBT (with minimum 21 on speaking and 21 on writing, no section under 19), 6.5 on the IELTS (no section under 6.0), or equivalent. For a full listing of accepted tests, see https://brocku.ca/nextstep/international-students/english-language-proficiency/.

The program is offered full-time only and is completed over three terms (Fall, Winter, Spring)

**Degree Requirements**

**Business English and Skills Transition Program**

All students entering the MPAcc program must complete a non-credit Business English and Skills Transition (BEST) program with satisfactory standing (70%) in all courses. Students who do not achieve satisfactory standing may be withdrawn from the MPAcc program by the Associate Dean, Research and Graduate Programs in consultation with the MPAcc Committee. The Business English and Skills Transition program takes place over four weeks in August. The objective of the program is to prepare students for graduate studies in Canada and enable development of English language skill in a business context, prior to proceeding to the graduate courses. The program utilizes real world examples from the North American business and academic environment.

Successful completion is required in the following courses:

- **MPAC 5N85** Strategies for Success
- **MPAC 5N86** Business Communication

A total of fifteen half-credit courses are required to complete the degree requirements.

- **MPAC 5P01** Financial Accounting I
- **MPAC 5P02** Financial Accounting II
- **MPAC 5P03** Managerial Accounting
- **MPAC 5P10** Analysis and Problem Solving
- **MPAC 5P24** Business Law
- **MPAC 5P30** Assurance I
- **MPAC 5P31** Advanced Management Accounting
- **MPAC 5P36** Financial Accounting III
- **MPAC 5P37** Assurance II
- **MPAC 5P38** Taxation I
- **MPAC 5P39** Taxation II
- **MPAC 5P41** Financial Statement Analysis

**MPAC 5P51 Information Technology and Systems**

**MPAC 5P51 RBA Modeling and ADRF for Financial Reporting**

**MPAC 5P61** Corporate Governance

**MPAC 5P91** Corporate Finance for Accounting

Admission to the co-op option is on a competitive basis. Students may be admitted to the co-op option at the time of admission or following the first term of MPAcc courses. Co-op students will be required to maintain a 75% overall average and achieve appropriate English language proficiency. Admission to the co-op option is on the basis of marks, a review of a personal résumé and employer availability. An interview may be required. In addition to the current tuition fees, co-op students are assessed a co-op administrative fee.

Co-op students take part in work-placement seminars (MPAC 5N90), comprised of lectures, presentations and industry specific information, for two hours each week prior to the first co-op work term. Attendance is mandatory. MPAcc students will complete all of their academic terms prior to the co-op work term.

**Course Descriptions**
Students must check to ensure that prerequisites are met. Students may be
deregistered, at the request of the instructor, from any course for which
prerequisites and/or restrictions have not been met.

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<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td><strong>MPAC 5N11</strong></td>
<td>Co-op Employment I</td>
</tr>
<tr>
<td>Co-op work term (four months) with an approved employer providing a work integrated learning experience related to the student's chosen area of concentration. The co-op employment is full time with 35 to 40 hours per week for 12 to 16 weeks. Students are required to meet all the work term deliverables successfully (learning objective, work site visit, work term report and work term evaluation) and fulfill their employment contract in order to receive a “Satisfactory” grade for the work term. Restriction: Open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office.</td>
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<tr>
<td><strong>MPAC 5N12</strong></td>
<td>Co-op Employment II</td>
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<tr>
<td>Co-op work term (four months) with an approved employer providing a work integrated learning experience related to the student's chosen area of concentration. The co-op employment is full time with 35 to 40 hours per week for 12 to 16 weeks. Students are required to meet all the work term deliverables successfully (learning objective, work site visit, work term report and work term evaluation) and fulfill their employment contract in order to receive a “Satisfactory” grade for the work term. Restriction: Open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office.</td>
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<tr>
<td><strong>MPAC 5N13</strong></td>
<td>Co-op Employment III</td>
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<tr>
<td>Co-op work term (four months) with an approved employer providing a work integrated learning experience related to the student's chosen area of concentration. The co-op employment is full time with 35 to 40 hours per week for 12 to 16 weeks. Students are required to meet all the work term deliverables successfully (learning objective, work site visit, work term report and work term evaluation) and fulfill their employment contract in order to receive a “Satisfactory” grade for the work term. Restriction: Open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office.</td>
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<tr>
<td><strong>MPAC 5N14</strong></td>
<td>Co-op Employment IV</td>
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<tr>
<td>Co-op work term (four months) with an approved employer providing a work integrated learning experience related to the student's chosen area of concentration. The co-op employment is full time with 35 to 40 hours per week for 12 to 16 weeks. Students are required to meet all the work term deliverables successfully (learning objective, work site visit, work term report and work term evaluation) and fulfill their employment contract in order to receive a “Satisfactory” grade for the work term. Restriction: Open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office.</td>
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<tr>
<td><strong>MPAC 5N85</strong></td>
<td>Strategies for Success</td>
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<tr>
<td>(also offered as MBAB 5N85)</td>
<td>Workshops, seminars and presentations to assist in providing international students with a smooth transition to graduate studies in business. Restriction: Open to MPAcc students.</td>
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<tr>
<td><strong>MPAC 5N86</strong></td>
<td>Business Communication</td>
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<tr>
<td>(also offered as MBAB 5N86)</td>
<td>Emphasis on language skills required to perform in an English-speaking business context. Restriction: open to MPAcc students.</td>
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<tr>
<td>MPAC 5P01</td>
<td>Financial Accounting I</td>
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</table>
Financial Accounting III
(also offered as MBAB 5P36)
The theory and practice of financial statement preparation in accordance with generally accepted accounting principles with emphasis on accounting for complex business organizations and not-for-profit organizations.
Prerequisite(s): MPAC 5P02.

MPAC 5P37
Assurance II
(also offered as MBAB 5P37)
Generally accepted auditing standards, risk, materiality and the planning and execution of the audit. Emphasis on the overall audit plan, evaluation of results, testing and sampling, audit reports, review engagements, internal controls, and the audit of different transaction cycles. Integration of auditing across the organization.
Prerequisite(s): MPAC 5P30.

MPAC 5P38
Taxation I
(also offered as MBAB 5P38)

MPAC 5P39
Taxation II
(also offered as MBAB 5P39)
Topics include computation of taxable income and taxes payable for corporations. Tax implications of changes in corporate structures, corporate distributions, rollovers, shareholder/manager remuneration. Trusts and Partnerships. Determination of the effects of federal income taxes on decision-making. Discussion of taxation issues that integrate across businesses and for individuals.
Prerequisite(s): MPAC 5P38.

MPAC 5P51
Information Technology and Systems
(also offered as MACC 5P51)
Current issues in developing and managing accounting information systems. Fundamentals of value chain modeling, business process modeling and database implementation using REA. Fundamentals of business reporting and information management using XBRL.
Restriction: open to MAcc and MPAcc students.

MPAC 5P61
Corporate Governance
Using examples drawn from current business practices, investigates financial reporting matters, the role and function of auditing and the board of directors, ethics, management policy and leadership. Focuses on developing critical thinking and research skills.

MPAC 5P91
Corporate Finance for Accounting
Examination of corporate financing and investment decisions with emphasis on the accounting treatments and the financial reporting implications via a case approach; in depth analysis of financial planning, treasury management, capital budgeting, valuation, financial risk management, and corporate finance transactions.

CO-OP COURSE

MPAC 5N90
Co-op Professional Preparation Course-Employment Training and Development
An in-depth series of workshops and interactions to prepare learners for their success in the co-op program. The primary goal of training will help learners understand how to conduct job search, the expectations of the course is to provide graduate students with the tools, resources and skills to maximize co-op employment and professional development opportunities - both while at Brock and after graduation. Topics include resume writing, interview skills, networking training, employer events and industry panel discussion. This course is a pre-requisite for any co-op students who wish to participate in co-op job search and employment. Students are required to meet all the workshop deliverables outlined in the course outline in order to receive a “Satisfactory” grade will be evaluated based on class participation including attendance and completion of professional projects. for the training and continue on with the co-op program.

Restriction: open to graduate business co-op students with permission of the Goodman School of Business Graduate Programs Office.
Submission Details:

| Program Changes Proposal:          | 1. Update Faculty list          |
|                                   | 2. Change to Co-op MACC 5P90 course name and description |

| Program Changes Explanation:      | 1. Update Faculty based on hiring and promotions. |
|                                   | 2. As provided by Co-op office, “Co-op students are required to register and complete the compulsory Co-op Professional Preparation Course (5N90) with a “Satisfactory” grade prior to the search of their first co-op work term. The primary goal of this course is to provide graduate students with the tools, resources and skills to maximize co-op employment and professional development opportunities - both while at Brock and after graduation. All graduate co-op students are required to pass this course with a “Satisfaction” grade prior to the start of their co-op job search term. The 5N90 course is designed to meet higher Degree Level of Expectations for Master’s degree students. This is a non-credit course and grade will be evaluated based on class participation including attendance and completion of professional projects.” |

| Course Revisions:                | MACC 5N90 - Co-op Professional Preparation Course (was "Co-op Pre-Employment Training and Development") |

| Status:                         | Awaiting submission by sub-committee editor; before sub-committee meeting. |

| Comments:                       | Submitted by Carrie Kelly on January 22, 2018 at 10:48:21 AM |
|                                | Submitted by Carrie Kelly on January 22, 2018 at 10:49:37 AM |
|                                | Submitted by Narongsak Thongpapanl on January 22, 2018 at 11:04:07 AM |
|                                | Submitted by Mwinchande Chande on February 9, 2018 at 09:06:29 AM |
|                                | Edited by Liz Keenan on February 15, 2018 at 02:00:24 PM: |
Accounting

Master of Accountancy
bus.brocku.ca/macc
Graduate Diploma in Accountancy
brocku.ca/business/future/graduate/diploma/accounting

Fields of Specialization
General (CPA Pathway)
Information Assurance (not offered in 2017/18)
Taxation (not offered in 2017/18)

Dean
Andrew Gaudes
Goodman School of Business

Associate Dean, Research and Graduate Programs
Narongsak (Tek) Thongpapanl

Goodman School of Business

Core Faculty
Professor
Darlene Bay (Accounting), Ernest Biktimirov (Finance, Operations and Information Systems), Fayez A. Elayan (Accounting), Hemantha Herath (Accounting), Eugene Kaciak (Finance, Operations and Information Systems), Jingyu (Jennifer) Li (Accounting), Alex Nikitkov (Accounting), Raaafat R. Roubi (Accounting), Samir Trabelsi (Accounting)

Associate Professors

Assistant Professors
Yun Ke (Accounting), Staci Kenno (Accounting), Michelle Lau (Accounting)

Participating Faculty
Lecturers
M. Sharon Broderick (Marketing, International Business and Strategy), Norman Chasse (Accounting), Michael Espinoza (Accounting), Jacqueline
Glenney (Marketing, International Business and Strategy), Sangeeta Hollo (Accounting), Omar Roubi (Accounting), Glenn Skrubbeltrang (Accounting), Xia (Celine) Zhang (Accounting)
Goodman School of Business, Graduate Program Office
Director, Operations, Graduate Programs,
Carrie Kelly
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Taro 461A
Graduate Academic Coordinator
Brendan Barrett
905-688-5550, extension 5871
Taro 456
International Co-ordinator, Graduate Programs
Jingtao (Teresa) Feng
905-688-5550, extension 4157
Taro 448
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Luiza Guimaraes
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MC A236
Graduate Recruitment/Admissions Officer
Laurie Redford
905-688-5550, extension 5362
Graduate Admissions/Scholarships Coordinator
Laurie Redford
905-688-5550, extension 6169
Taro 468
Graduate International Recruitment Coordinator/Admissions Officer
Rachel Bessette
905-688-5550, extension 5362
MC E221
International Recruitment/Admissions Officer
Jason Barfoot
905-688-5550, extension 5936
Taro 433
Graduate Office Assistant
Stephanie McIntosh
905-688-5550, extension 3535
Taro 468
Administrative Assistant, Graduate Programs
Brittany Massey
905-688-5550, extension 4156
Taro 461
Director, Co-op Programs
Cara Boese

Master of Accountancy

Program Description

The Master of Accountancy (MAcc) program (a two term program with an optional four month co-op work term) is part of the Goodman School of Business BAcc/MAcc CPA Pathway. The Goodman School of Business is accredited by the Chartered Professional Accountants of Ontario and eligible graduates of the MAcc can proceed to write the Common Final Evaluation (CFE) in the September immediately following the program. Students who have not completed the Goodman BAcc (Bachelor of Accounting) degree may be eligible for the CPA Pathway. Contact the Goodman School of Business, Graduate Programs Office for an individual assessment.
For students interested in obtaining the CPA designation, the MAcc program enables them to complete the CPA PEP program in seven months of full-time study, rather than two years of part-time study. Students will complete all four CPA elective modules (Assurance, Tax, Finance and Performance Management) and will exceed the elective requirements of CPA Ontario. Additionally, students will complete two integrated capstone modules designed to prepare them for the CFE.

In addition to fulfilling CPA exam requirements, the MAcc enables students to assimilate advanced knowledge in accounting and related aspects of business. The program encourages the development of critical thinking, analytic and communication skills.

Students will select the General (CPA Pathway) or the Taxation or Information Assurance specialization. In all options, students must complete one or more electives or specialty courses in other business topics or in approved topics offered by programs outside the business school. The opportunity to earn a designated minor in Business Analytics, Finance, Human resource management or Marketing is also available.

Note: In 2018/19/19 the Information Assurance and Taxation specialization courses will not be offered.

The MAcc program combines academic learning with practical experience through an optional co-op work term. The MAcc co-op option provides students with the opportunity to apply their knowledge in private and public business settings and to develop professional skills. The MAcc co-op work experience can be used toward the CPA practical work experience requirement.

**Admission Requirements**

Successful completion of a four year Canadian Bachelor’s degree, or equivalent, with an accounting concentration including courses in advanced financial accounting, cost and management accounting, advanced auditing, advanced personal and corporate taxation, business/management information systems, corporate finance, economics, Canadian business law and integration and problem solving with an average of not less than 75% (mid-B) over the last two years of full-time undergraduate study.

For students who must provide proof of English Language Proficiency, a minimum Academic IELTS score of 7.5 or TOEFL iBT score of 105 (or equivalent) is required. For a full listing of accepted tests see: https://brocku.ca/nextstep/international-students/english-language-proficiency/

The Graduate Admissions Committee will review all applications and recommend admission for a limited number of suitable candidates.

Part-time study is available. However, applicants should consult with the Graduate Program Office regarding course sequencing and availability.

Students must take MACC 5P11 and MACC 5P12 concurrently and in the final term of the program.

All MAcc students will be required to have a PC-based laptop as the CPA Securexam software runs on PC-based computer only. No Apple/Power PC/Macintosh computer would be acceptable, even if it runs Windows. Securexam will run on Microsoft Windows Vista, Windows 7, 8 or 10 operating systems. More information about Securexam, please refer to the CPA website.

**Degree Requirements (Subject to Senate Approval)**

The Master of Accountancy is normally completed in two terms (Winter and Spring).

Students must complete a total of ten half-credit required courses and electives.

**Required Courses**

- MACC 5P21 Strategic Performance Management
- MACC 5P41 Advanced Topics in Taxation
- MACC 5P71 Advanced Topics in Assurance
MACC 5P91 Advanced Topics in Corporate Finance
MACC 5P11 Integration and Team Management
MACC 5P12 Integration and Analysis
MACC 5P51 Information Technology and Systems
MACC 5P57 KEA Modeling and Analysis for Financial Reporting
MACC 5P61 Corporate Governance

**General CPA Pathway**
The CPA Pathway is accredited by CPA Ontario and is primarily focused on the body of knowledge required for the CPA PEP program. Completion of the MAcc (CPA pathway) will provide students with advanced standing in CPA PEP to the end of Capstone 2. Students are encouraged to complete the Common Final Examination (CFE) in the September immediately following the completion of the MAcc degree.

In addition to the required courses, students must complete two half-credit course electives. The elective courses are normally selected from other graduate courses offered in the Goodman School of Business. Requests to take electives from upper year undergraduate offerings and/or graduate courses outside of the Goodman School of Business may also be considered on a case-by-case basis.

Students in the CPA Pathway who successfully complete three or more half-credit electives from one of the functional areas of business will fulfill the requirements of a minor that will be notated on their official transcript. (Note: this will require students take an additional course over the required course load.) A minor may be pursued in: Business Analytics, Finance, Human Resource Management, Operations Management and Marketing.
(Note that courses may not be offered in a given year if there is insufficient student interest.)

**Tax Specialization**
The tax specialization provides students the opportunity to develop advanced knowledge in taxation and an ability to research tax issues and communicate results efficiently and effectively.

In addition to the required courses, students in the tax specialization take MACC 5P42, (Tax Research and Statutory Interpretation and Practice) MACC 5P43 (Tax Policy), and MACC 5P45 (International Taxation: The Canada/United States Model) and one half-credit elective. The elective half-credit course is normally selected from other graduate courses offered in the Goodman School of Business. Requests to take electives from upper year undergraduate offerings and/or graduate courses outside of the Goodman School of Business may also be considered on a case-by-case basis.

Note: In 2018/19/18 the Taxation specialization will not be offered

**Information Assurance specialization**
The information assurance specialization provides students with the opportunity to develop advanced expertise in accounting information system assurance and technology, a strong understanding of the strategic role of information systems and their review and design.

In addition to the required courses, students in the information assurance specialty stream will take MACC 5P52 (E-Commerce), MACC 5P53 (Accounting Database Design), MBAB 5P15 (Introduction to Information Assurance) and MBAB 5P16 (Enterprise Infrastructure Architecture).

Note: In 2018/19/18 the Information Assurance stream will not be offered.

**Co-op Option**
Admission to the co-op option is on a competitive basis. Students may be admitted to the co-op option at the time of admission or following the first term of MAcc courses. Co-op students must maintain a 75% overall average and achieve appropriate English Language Proficiency. Admission to the co-op option is on the basis of marks, a review of a personal resume and employer availability. An interview may be required.
Co-op students complete (MACC 5N90) work-placement seminars, that include lectures, presentations and industry specific information, for two hours each week prior to the first co-op work term. Attendance is mandatory. The co-op option is available to full-time students. Students will complete year one of their program prior to the co-op work term.

**Graduate Diploma in Accountancy**

**Program Description**

The Graduate Diploma in Accountancy (GDACC) program (a one term program) is part of the Goodman School of Business BAcc/MAcc CPA Pathway and consists of the first term of the MAcc program. The Goodman School of Business is accredited by the Chartered Professional Accountants of Ontario and eligible graduates of GDACC can proceed with the MAcc program and subsequently to write the common Final Evaluation (CFE) in the September immediately following the program.

Students who have not completed the Goodman BAcc (Bachelor of Accounting) degree may be eligible for the CPA Pathway. Contact the Goodman School of Business Graduate Programs Office for an individual assessment.

For students interested in obtaining the CPA designation, the GDACC program enables them to complete two CPA Electives in four months of full-time study. In addition to fulfilling CPA exam requirements, the GDACC enables students to assimilate advanced knowledge in accounting and related aspects of business. The program encourages the development of critical thinking, analytic, and communication skills.

**Admission Requirements**

Successful completion of a four year Canadian Bachelor's degree, or equivalent, with an accounting concentration including courses in advanced financial accounting, cost and management accounting, advanced auditing, advanced personal and corporate taxation, business/management information systems, corporate finance, economics, Canadian business law and integration and problem solving with an average of not less than 75% (mid-B) over the last two years of full-time undergraduate study.

For students who must provide proof of English Language Proficiency, a minimum Academic IELTS score of 7.5 or TOEFL iBT score of 105 (or equivalent) is required. For a full listing of accepted tests see: https://brocku.ca/nextstep/international-students/english-language-proficiency/
The Graduate Admissions Committee will review all applications and recommend admission for a limited number of suitable candidates.

**Degree Requirements**

The Graduate Diploma in Accountancy is normally completed in one term (Winter). Students must complete a total of five half-credit required courses and electives: MAcc 5P21, 5P41, 5P71, 5P91 and one half-credit elective selected from MBAB 5P11-5P83.

**Course Descriptions**

Note that not all courses are offered in every session. Refer to the applicable timetable for details.

Students must check to ensure that prerequisites are met. Students may be deregistered, at the request of the instructor, from any course for which prerequisites and/or restrictions have not been met.

MACC 5F91
Independent Study
Research and/or consulting project carried out in collaboration with a faculty adviser and relevant resource personnel. Development of knowledge in a specialized discipline and development of ability to apply the knowledge to particular issues and/or situations.
Restriction: open to MAcc students in the general stream.

MACC 5N11
Applied Linguistics

Master of Arts in Applied Linguistics (TESL)
Field of Specialization
Teaching English as a Subsequent Language
Interim Dean
Ingrid Makus
Faculty of Social Sciences
Associate Dean
Diane Dupont
Faculty of Social Sciences
Core Faculty
Professors
Associate Professors
Cheng Luo (Applied Linguistics), David Hayes (Applied Linguistics), Ron Thomson (Applied Linguistics)
Graduate Program Director
Ron Thomson
ron.thomson@brocku.ca
Graduate Program Assistant
Mae Leong
Lorraine Mook
905-688-5550, extension 5165
Mackenzie Chown C414
gradapplingseli@brocku.ca
https://brocku.ca/social-sciences/departments-and-centres/applied-linguistics/graduate-program-al

Program Description
Teaching English as a Subsequent Language is a complex process, with a knowledge base combining such diverse areas as applied linguistics, language-teaching methodology, curriculum design, and testing. This MA program is designed to integrate these important elements in an educational experience promoting a high level of expertise and professionalism. Faculty teaching in the program bring a valuable range of attributes, including extensive international experience, hands-on proficiency in ESL teaching right here in Canada, capacity in a range of different languages beyond English, and energetic research and scholarship published and presented around the world. Graduates of this dynamic program will be well prepared as Teaching English as a Subsequent Language professionals working in Canada or abroad and those who have completed a thesis will be well prepared for further graduate study at the doctoral level.

There are two program options: a 12-month Direct Entry Program and a unique 14-month Bridged Entry Program especially for students for whom English is a subsequent language. The Bridged Entry Program includes a non-credit summer bridging segment (LING 5N01) as well as academic writing mentoring throughout the academic year. However, all students, in both programs, choose courses from the same course bank and all students study the credit courses together in the same classes.

Candidates entering the Direct Entry Program should anticipate commencing courses in early September. Course work will normally be completed by the end of April, with the major research paper to be completed by the end of August (3 terms). Thesis-route students will normally complete the degree by the end of December (4 terms).

Applicants admitted into the Bridged Entry Program should anticipate commencing the bridging session in the month of July, with regular credit courses beginning in the following September. Course work will normally be completed by the end of April, with the major research paper finished by the end of August. Thus, the time commitment will be approximately 14 months.

The Applied Linguistics - Bridged Entry program is not eligible for OSAP funding. For more information contact the Student Awards and Financial Aid Office at safi@brocku.ca.

Admission Requirements
Successful completion of a four year Bachelor's degree, or equivalent, in a relevant discipline with a minimum average of 75%. Applicants who do not meet the minimum requirements for admission, who believe they may be eligible for admission, should contact the Graduate Program Director to discuss their admission qualifications.

Applicants should have a four year Bachelor's degree (or equivalent) undergraduate background which includes English linguistics, TESL, or a comparable field, with courses relevant to the theory and practice of Teaching English as a Subsequent Language (e.g. general linguistics, syntax, phonology, discourse analysis, or other linguistics courses with a focus on English; educational psychology or similar courses related to ESL learning; ESL teaching methodology; or ESL practice teaching). Applicants without the required subject background at the undergraduate level, but with a minimum overall average of 75%, may be admitted if they show strong
academic performance on a graduate certificate in TESL from a recognized university and have relevant teaching experience.

Strong English language skills are essential for all applicants. For Direct Entry, candidates whose first language is not English and who have not completed 3 or more years of full-time study at a Canadian post-secondary institution are required to provide proof of English language proficiency as follows: TOEFL PBT 630/CBT 267/iBT 109, TWE 5.5 and TSE 55, or IELTS 8 and writing band 8, (no individual score under 7.5).

For Bridged Entry, the following English language proficiency scores are required: TOEFL PBT 550/CBT 213/iBT 80, TWE 4.5 and TSE 45, IELTS 6.5 and writing band 6.5, (no individual score under 5.5).

Applicants who submit TOEFL or IELTS, scores may be asked to submit a writing sample.

Even with excellent language skills, applicants without a thorough undergraduate grounding in TESL-relevant courses are very unlikely to be admitted to the Direct Entry Program. In those circumstances, native speakers or others with a near-native command of English are advised to consider, in consultation with the Graduate Program Director, applying for the undergraduate TESL Certificate program also offered by the Department of Applied Linguistics. TESL Certificate graduates with a strong ‘B’ average (mid-70 or higher) are well-placed to apply for admission to the MA-level study of TESL at Brock or elsewhere.


The Graduate Admissions Committee will review all applications and recommend admission for a limited number of suitable candidates.

Part-time students will be admitted only in exceptional circumstances.

**Degree Requirements**

Students will consult with the Graduate Program Director when planning their programs of study. Graduate students follow either Scheme A or Scheme B. Scheme A candidates must submit a preliminary thesis proposal and find a supervisor as advised by the Graduate Program Director. Bridged Entry students may only complete Scheme B. For either scheme, supervisory responsibilities will be assigned within the proposed supervisor’s and second reader’s area of interest and expertise, with reasonable attention to equitable distribution of supervisory assignments and under the overall guidance of the Graduate Program Committee.

**Scheme A: Course Work and Thesis**

Students must successfully complete the two core courses, and a minimum of two additional courses, as determined in consultation with the supervisor and Graduate Program Director, and the MA thesis.

**Core Courses**

LING 5P07 Topics in Subsequent Language Acquisition Theory and Research
LING 5P85 Research Issues and Methodology in Subsequent Language Acquisition

Additional Courses (minimum of two of the following, in consultation with the supervisor and Graduate Program Director), depending on availability.
LING 5P00 Foundations of Language Teaching and Learning
LING 5P01 Sociolinguistics Applied to Language Teaching and Learning
LING 5P02 Pedagogical Grammar: Theory, Research and Practice
LING 5P03 Oral/Aural Skills in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P04 Reading in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P05 Writing in Teaching English as a Subsequent Language: Theory, Research and Practice

**LING 5P08 Vocabulary: Theory, Research and Practice**
LING 5P10 Independent Study (approval of the Graduate Committee required)
LING 5P60 Teaching English to Young Learners
LING 5V60-69 Special Topics in Applied Linguistics

Thesis
LING 5F90 MA Research and Thesis

Scheme B: Course Work and Major Research Paper
Students must successfully complete the two core courses, six additional courses, and the major research paper.

Core Courses
LING 5P07 Topics in Subsequent Language Acquisition Theory and Research
LING 5P85 Research Issues and Methodology in Subsequent Language Acquisition
Additional Courses (six of the following, not all courses are offered every year)
LING 5P00 Foundations of Language Teaching and Learning
LING 5P01 Sociolinguistics Applied to Language Teaching and Learning
LING 5P02 Pedagogical Grammar: Theory, Research and Practice
LING 5P03 Oral/Aural Skills in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P04 Reading in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P05 Writing in Teaching English as a Subsequent Language: Theory, Research and Practice
LING 5P08 Vocabulary: Theory, Research and Practice
LING 5P10 Independent Study (approval of the Graduate Committee required)
LING 5P60 Teaching English to Young Learners
LING 5V60-69 Special Issues in Applied Linguistics

Major Research Paper
LING 5F89 Major Research Paper

Course Descriptions
Note that not all courses are offered in every session. Refer to the applicable timetable for details.
Students must check to ensure that prerequisites are met. Students may be deregistered, at the request of the instructor, from any course for which prerequisites and/or restrictions have not been met.

LING 5F89
Major Research Paper
Major Research Paper, under the supervision of a faculty supervisor, on a specific issue in subsequent language teaching, curriculum design, professional development, student assessment, program evaluation, or a related area. Prerequisite: Completion of all course work; approval of the Major Research Paper topic by the supervisor.

LING 5F90
MA Research and Thesis
A research project involving the preparation and defence of a thesis on a topic in subsequent language teaching, curriculum design, professional development, student assessment, program evaluation, or a related area, demonstrating capacity for independent work. Research to be conducted under the supervision of a faculty supervisor and defended at an oral examination. Prerequisite(s): Completion of all course work; approval of the thesis proposal by the MA Program Committee.

LING 5N01
Academic and Cultural Orientation for Bridged Graduate Students in Applied Linguistics
**Academic and cultural orientation appropriate to academic context.**

Foundations and development of advanced academic skills in library research, note-taking, essay writing, seminar and workshop presentations, based on concepts and terminology in Applied Linguistics. Guidance in individual and group assignments. Familiarization with and use of electronic library databases and other e-resources.

**LING 5P00**

**Foundations of Language Teaching and Learning**

Linguistic, educational and social foundations of subsequent language teaching in the Canadian context as well as in international settings. Models of curriculum design and student assessment. Current trends in language teaching, program development, professional development, and related areas.

**LING 5P01**

**Sociolinguistics Applied to Language Teaching and Learning**

Theoretical concepts and research findings in sociolinguistics applied to the teaching and learning of English as a subsequent language. Focus on the social and cultural aspects of language, on the collaborative and social aspects of language learning, on the link between language and personal or social identity, and on the influence of the social world on language use, learning and teaching.

**LING 5P02**

**Pedagogical Grammar: Theory, Research and Practice**

Models of pedagogical grammar and their relationship to theories of subsequent language acquisition. Focus on issues arising in classroom learning. Application of grammar analyses to learning/teaching situations. Survey and critique of selected Information Technology tools available for the development of grammar skills.

**LING 5P03**

**Oral/Aural Skills in Teaching English as a Subsequent Language: Theory, Research and Practice**

Theoretical insights and research findings relevant to the pedagogy of speaking and listening, including models of oral interaction and of listening comprehension, and trends in speaking/listening instruction. Canadian Language Benchmarks for speaking and listening.

**LING 5P04**

**Reading in Teaching English as a Second Language: Theory, Research, and Practice**

Practical and theoretical foundations for decisions regarding materials design and instructional methodology, including genre theory, contrastive rhetoric, feedback and assessment, Information Technology.

**LING 5P05**

**Writing in Teaching English as a Subsequent Language: Theory, Research, and Practice**

Theoretical models of writing and instructional practices. Current issues in ESL writing research and teaching, including genre theory, contrastive rhetoric, feedback, assessment and critique of assessment tools (e.g. CLBs, IELTS), Information Technology.

**LING 5P07**

**Subsequent Language Acquisition Theory and Research**

Critical examination of current theories and key issues in subsequent language acquisition research, from various perspectives (linguistic, psycholinguistic, sociolinguistic, etc.). Integration of theoretical models, research evidence and practice.

**LING 5P08**

**Vocabulary: Theory, Research and Practice**

Theoretical models and research findings regarding how words are represented and processed in the mind. Focus will be on the consequences...
of research findings for second language acquisition, bilingualism, and the teaching and learning of English as a Second Language.

**LING 5P10**
Independent Study
Research project carried out in collaboration with a faculty member. Enrichment of theoretical knowledge in a particular area of TESL, and development of the ability to apply that knowledge practically.
Note: Approval of the Graduate Committee is required for registration in this course.

**LING 5P60**
Teaching English to Young Learners
Theoretical insights and research findings relevant to ESL pedagogy of young learners as applicable to classroom teaching in both Canadian and international contexts.

**LING 5P85**
Research Issues and Methodology in Subsequent Language Acquisition
Research methods and issues in subsequent language teaching, curriculum design, professional development, student assessment, program evaluation, and related areas.

**LING 5V60-5V69**
Special Topics in Applied Linguistics
Selected issues or topics in the theory and practice of applied linguistics according to the specific areas of instructional expertise.
Faculty Structure

Faculty of Graduate Studies
Interim Dean, Diane Dupont, BA Carleton, MA Toronto, PhD British Columbia
Director, Gail Pepper, BA, MEd
Acting Director, Charlotte Sheridan, BA, MEd

Academic Faculties
Faculty of Applied Health Sciences
Dean, Peter Tiidus, BSc, MSc York, PhD Waterloo
Associate Dean, Research and Graduate Studies, Nota Klentrou, BSc Athens, MSc, PhD Montreal
Graduate Programs: MA, MSc, MPH, MPK, PhD, Applied Health Sciences
Goodman School of Business
Dean, Andrew Gaudes, B.E.S., M.F.M., PhD University of Manitoba
Associate Dean, Graduate Programs and Research, Narongsak (Tek) Thonpapanl, BSc, MBA, PhD Rensselaer Polytechnic Institute
Graduate Degrees: MBA, MAcc, Master of Professional Accounting, MBE, MSc Management, Diploma in Accountancy, Diploma in Business Administration
Faculty of Education
Dean, Michael Owen, BA Carleton, MEd Alberta, PhD Toronto
Associate Dean, Research and International Initiatives, Michael O'Sullivan, BA Saint Mary's, BEd, MA Regina, MEd, EdD OISE/UT
Graduate Degrees: MEd, PhD in Educational Studies (Joint Program)
Faculty of Humanities
Dean, Carol U. Merriam, BA, MA Queen's, PhD Ohio State
Associate Dean, Michael Carter, BA, MA Queen's, PhD McMaster
Graduate Degrees: MA, Canadian-American Studies, Classics, English, History, Philosophy, Studies in Comparative Literature and Arts, PhD in Interdisciplinary Humanities
Faculty of Mathematics & Science
Interim Dean, **Alan Castle**, E. Ejaz Ahmed, BSc Karachi, Pakistan, MSc Guelph, PhD Western Ontario
Associate Dean, Graduate Studies and Research, **Cheryl McCormick**, BA U of Western Ontario
Graduate Degrees: MSc, Biological Sciences, Biotechnology, Chemistry, Computer Science, Earth Sciences, Materials Science, Mathematics and Statistics, Physics, PhD in Biological Sciences, Biotechnology, Chemistry, Physics

Faculty of Social Sciences
Interim Dean, **Ingrid Makus**, BA Winnipeg, PhD Toronto
Associate Dean, Graduate Studies and Research, **Dawn Zinga**, Brock, MA Carleton, PhD British Columbia

**Graduate Programs**
The following graduate programs are currently offered at Brock University:

**Doctoral Programs:**
- PhD in Applied Health Sciences
- PhD in Biological Sciences
- PhD in Biotechnology
- PhD in Chemistry
- PhD in Child and Youth Studies
- PhD in Educational Studies
- PhD in Interdisciplinary Humanities
- PhD in Physics
- PhD in Psychology

**Master’s Programs:**
- Master of Accountancy (MACc)
- Master of Applied Disability Studies (MADS)
- Master of Business Administration (MBA)
- Master of Arts (MA)
- Applied Disability Studies
- Applied Health Sciences
- Applied Linguistics (Teaching English as a Subsequent Language)
- Canadian-American Studies
- Child and Youth Studies
- Classics
- Critical Sociology
- English
- Geography
- History
- Philosophy
- Political Science
- Popular Culture
- Psychology
- Social Justice and Equity Studies
- Studies in Comparative Literature and Arts
- Master of Business Economics (MBE) Master of Education (MEd)
- Master of Professional Accounting (MPAC)
- Master of Professional Kinesiology (MPK)
- Master of Public Health (MPH)
- Master of Science (MSc)
- Applied Health Sciences
Biological Sciences
Biotechnology
Chemistry
Computer Science
Earth Sciences
Management
Material Science
Mathematics and Statistics
Physics

Master of Sustainability (MS)

Diploma
Diploma in Accountancy
Diploma in Applied Disability Studies
Diploma in Business Administration

Degrees offered through Concordia Lutheran Theological Seminary (an affiliated theological college of the University)
Master of Divinity (MDiv)
Master of Theological Studies (MTS)
### Submission Details:

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Academic Regulations and University Policies

I. Confidentiality and Release of Student Records

A. Protection of Privacy

Brock University collects and retains student and alumni personal information under the authority of The Brock University Act, 1964. This information is related directly to and needed by the University for the purposes of admission, registration, graduation and other activities related to its programs, being a member of the Brock University community and attending a public post-secondary institution in the Province of Ontario.

The information will be used to admit, register and graduate students, record management achievement, issue student identification cards, and administer and operate academic, athletic, recreational, residences and other University programs.

Information on admission, registration and academic achievement may also be disclosed and used for statistical and research purposes by the University, other post-secondary educational institutions and the provincial government.

Personal information provided for admission and registration and any other information placed into the student record will be collected, protected, used, disclosed and retained in compliance with Ontario’s Freedom of Information and Protection of Privacy Act (R.S.O. 1990, c.F.31).

B. Student Access

Students have the right to inspect all documents contained in their own record, with the exception of evaluations and letters of reference supplied to the University with the understanding that they be kept confidential.

Students have the right to request that erroneous information contained in their records be corrected and that recipients, of any information found to be in error, be advised of the correction.

Students wishing to inspect their record must make an appointment with the Director or Associate Director of Graduate Studies.

All official transcripts will be complete and unabridged. Partial transcripts cannot be issued.

Transcripts issued directly to students bear the notation “Issued to Student”.

Documents pertaining to a student’s achievement at another institution, which may have been received by the University, will not normally be released or redirected to another institution.

C. Employee and Student Organization Access

Employees of the University are permitted access to information contained in student records, if they need to know the information in order to perform their official duties. As a general rule, only employees involved in some aspect of academic administration or student affairs are given access to the contents of student records.

In addition to collecting personal information for its own purposes the University collects specific and limited personal information on behalf of the Graduate Students’ Association (GSA), as well as constituent organizations authorized by the GSA. The GSA uses this information for the purposes of membership administration, elections, annual general meetings, transit passes, health plan and for other authorized purposes. Information provided is released by the Faculty of Graduate Studies to GSA upon entering into a written confidentiality and privacy agreement outlining the terms, conditions and purpose for the release.

D. Third Party Access

It is University policy to make a minimum of information freely available to all inquirers. The University will disclose information about students who have graduated, which is considered to be public information as follows:

degree(s) obtained and the dates conferred by the University, and in most circumstances, scholarships and the dates awarded.

Except as specified below other information contained in the record (including current registration status and program of study) will be disclosed only with the student’s written consent. This restriction applies to requests from parents, spouses, credit bureaus, police, CSIS and immigration and other government agencies. Specified records or portions thereof may be provided to persons or agencies pursuant to a court order, summons or subpoena directing the University to release information; to Statistics Canada and the Ministry of Education in connection with enrolment audits; or in accordance with the requirements of duly constituted professional licensing and certification bodies.

In emergency situations involving the health and safety of an individual, or in compassionate situations, the Director of Graduate Studies or designate may, if it is considered to be in the
E. Notification of Disclosure of Personal Information

I. Statistics Canada

Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education. It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at post-secondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand 'outcomes'. In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student's name, student ID number, Social Insurance Number), student contact information (address and telephone number), student demographic characteristics, enrolment information, previous education, and labour force activity. The Federal Statistics Act provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the Statistics Act prevent the information from being released in any way that would identify a student.

Students who do not wish to have their information used are able to ask Statistics Canada to remove their identification and contact information from the national database. On request by a student, Statistics Canada will delete an individual’s contact information (name, address, or other personal identifiers) from the PSIS database. To make such a request, please contact:

By email: statcan.PSIS-SIEP. _contact@statcan.t@canada.ca
By telephone: 1-800-307-3382 or 1-613-951-7608
By mail: Institutional Surveys Section, Centre for Education Statistics, Statistics Canada, Main Building, SC 2100-K, Tunney's Pasture, Ottawa, ON K1A 0T6.

II. Ministry of Training, Colleges and Universities

The University is required to report student-level enrolment-related data to the Ministry of Advanced Education and Skills Development (MTCU) as a condition of receipt of its operating grant funding. The Ministry collects this enrolment data, which includes limited personal information such as the Ontario Education numbers, student characteristics and educational outcomes, in order to administer government post-secondary funding, policies and programs, including planning, evaluation and monitoring activities.

Brock University is required to disclose personal information such as Ontario Education Numbers, student characteristics and educational outcomes to the Ministry of Advanced Education and Skills Development (MTCU) under s. 15 of the Ministry of Advanced Education and Skills Development Act, R.S.O., 1990, Chapter M. 19, as amended. The Ministry collects this data for purposes such as planning, allocating and administering public funding to colleges, universities and other post-secondary educational and training institutions and to conduct research and analysis, including longitudinal studies, and statistical activities conducted by or on behalf of the ministry for purposes that relate to post-secondary education and training.

Further information on the collection and use of student-level enrolment-related data can be obtained from the Ministry of Advanced Education and Skills Development (MTCU) website: http://www.tcu.gov.on.ca/ or by writing to the Director, Postsecondary Finance Branch, Postsecondary Education Division, 7th Floor, Mowat Block, 900 Bay Street, Toronto, ON M7A 1L2.

F. Name Changes

As Brock is committed to the integrity of its student records, each student is required to provide, either on application for admission or in personal data required for registration, his/her legal name. Any requests to change a name, by means of alteration or deletion, substitution or addition, must be accompanied by appropriate supporting documentation. Upon making application for graduation a student may be asked to provide proof of his/her name.

G. Transcripts

Copies of student transcripts will be issued at the student’s request, subject to reasonable notice. Requests should be submitted in person or by writing to the Office of the Registrar. In accordance with the University's Policy on Access to Student Records, the student’s signature is required for the release of records. Transcripts issued directly to the student are stamped “Issued to Student”. Partial
transcripts cannot be issued. The Office of the Registrar cannot be responsible for transcripts lost or delayed in the mail.

**H. Withholding of Degree or Grades**

Only the Faculty of Graduate Studies may release final grades. No student owing the University fees or fines will receive a diploma, certificate, transcript or a statement of final grades or have any such statements communicated to parties outside the University, until such time as the debts have been cleared to the satisfaction of the University.

**II. Student Status**

Graduate students must be identified as completing their graduate program on either a full-time or part-time basis and must be registered on a continuous basis from the point of admission to completion of the graduate program unless they have applied for and received approval for inactive status or a leave of absence.

Each graduate program determines whether a particular graduate program may be taken at Brock on a full-time or part-time basis.

Students are defined as having either full-time or part-time status at the time of admission and are expected to complete their degree under the admission status. Requests for changes to status will be reviewed, and only approved in extenuating circumstances by the graduate program and the Faculty of Graduate Studies.

Students admitted to graduate studies at Brock may not pursue two degrees concurrently (at Brock or elsewhere).

**Definitions**

**Full-time Students**

Full-time graduate students are defined as students whose main purpose is graduate study for the purpose of obtaining a graduate degree. Graduate study differs from undergraduate study in that it is for most students an activity that is highly concentrated, demanding and all-consuming.

Full-time graduate students are defined according to regulations as follows:

- they must be pursuing their studies as a full-time occupation and identify themselves as full-time graduate students in all documentation;
- they must be considered by the University to be in full-time study;
- they must maintain regular contact with their graduate program director and supervisor;
- they must be geographically available and visit the campus regularly. Without forfeiting full-time status, a graduate student, while under supervision, may be absent from the university (e.g. visiting libraries, doing field work, attending a graduate course at another institution, etc.) provided that, if any such absence exceeds four weeks in any one term, written approval of the student’s absence by the Graduate Program Director is forwarded to the Faculty of Graduate Studies and approved by the Dean of Graduate Studies (or designate); (see [https://brocku.ca/graduate-studies/newcurrent-students/student-forms](https://brocku.ca/graduate-studies/newcurrent-students/student-forms))

It is advisable for full-time graduate students to notify their Graduate Program Director and supervisor of any employment undertaken outside the University; they must limit University employment to an average of no more than ten hours a week of University paid work in a given term. This ten hour a week rule applies to paid employment on campus and includes Graduate Teaching Assistantships and Research Assistantships. Approval to work on campus for more than an average of ten hours per week requires the approval of the graduate supervisor, the Graduate Program Director, and the Dean of Graduate Studies.

**Part-time Students**

Students who are admitted to part-time studies are restricted to a less than full-time program of study. There is no restriction with respect to time spent on paid employment. Part-time students may register in a maximum of 1.0 credit per term, excluding thesis and MRP registration. (A part-time MEd student may register in a maximum of 1.0 credit in each of the Spring and Summer MEd terms.) Not all programs offer the option to study part-time.

Part-time students should consult with their Graduate Program Director regarding course selection and course load per term.

**Inactive Students**

If, for some acceptable reason, a student is unable to take courses in a specific term, inactive status must be approved by the Graduate Program Director and the Faculty of Graduate Studies. Permission must be obtained before the start of the academic term for which the student is seeking inactive status (via the Request for Inactive Term Form found at: [https://brocku.ca/graduate-studies/newcurrent-students/student-forms](https://brocku.ca/graduate-studies/newcurrent-students/student-forms)). During an inactive term, the student pays the inactive
fee and retains library privileges. Inactive terms do not extend the final completion date by which degree requirements must be completed. Normally, inactive terms may not be consecutive and no more than two inactive terms may be taken during any graduate degree program. Students on inactive status will not be eligible to receive University fellowship support or other financial support from the University.

Leave of Absence Students

A leave of absence from a graduate program will be granted only in exceptional circumstances such as parental and maternity leave, medical leave, work leave that requires the student to leave the geographic area or compassionate grounds. Cases will be considered on an individual basis and must have the approval of the graduate supervisor (if applicable) and the Graduate Program Director before they are submitted to the Faculty of Graduate Studies for approval. A graduate student granted a leave of absence will not be registered and will not be required to pay fees for the duration of the leave. Students on leave will not be eligible to receive University fellowship support or other financial support from the University. In the case of funding by an external agency, the regulations of the granting agency will apply. The length of time for completion of the degree will be extended by the duration of the leave. A graduate student's status regarding eligibility for employment on campus as a Teaching Assistant changes when on a Leave of Absence. Please refer to the CUPE 4207 Collective Agreement for specific information. Leaves of absence are for a minimum of two consecutive terms and a maximum of three consecutive terms. Normally, a student will not be granted more than one leave of absence during a degree program. A leave of absence cannot be followed by an inactive term.

Request for Leave of Absence Forms are available from the Faculty of Graduate Studies or the Graduate Studies website at https://brocku.ca/graduate-studies/newcurrent-students/student-forms

III. Residency Requirement

The residency requirement of a graduate degree program is the minimum number of terms in which the student must be registered prior to degree completion. For Master's degrees except MBA and MAcc, the minimum requirement is 3 terms (one year) of full-time registration. For part-time students 6 terms (two years) of study is required to fulfill the residency requirement. The minimum requirement for MAcc students is 2 terms of full-time registration. The requirement for MBA students is 2 terms of full-time registration or 4 terms of part-time registration. A Doctoral degree requires a minimum of 9 terms (three years) of full-time study after a Bachelor's degree or 6 terms (two years) after a Master's degree.

IV. Degree Requirements

Each graduate program specifies and outlines the graduate program degree requirements in their graduate program entry within the Graduate Calendar. Links to the graduate program calendar entries are found at: brocku.ca/webcal

Course Substitutions

A Graduate Program Director may approve degree requirement course substitutions up to a maximum of 25% of program requirements (excluding the thesis or major research paper). Such course substitutions must be reported to the Faculty of Graduate Studies, preferably at the time of course registration. Questions regarding program/degree requirements should be addressed to the graduate program.

V. Applicable Calendar

Students who have maintained enrolment in each calendar year (May to April) may complete the degree program using the Academic Regulations section and program degree requirements operative in the year in which that program was entered, or any subsequent Calendar published while enrolled. Students who interrupt their studies for more than one calendar year (by not enrolling in at least 1 credit) become subject to the Calendar regulations in effect at the time of their re-registration.

VI. Degree Completion Time Limits

Each graduate program has a defined time to completion which is the number of graduate terms normally required to complete the program. Graduate funding periods are typically tied to the program's defined time to completion and are specified in the graduate program calendar entry. Additionally, there are university maximum time limits for the completion of graduate degree programs.

University Maximum Time Limits
Master's Degrees
Full-time students
Full-time students must complete all degree requirements within three years from the date of first registration.
Part-time students
All part-time master's students, except MBA, must complete all degree requirements within five years from the date of first registration.
Part-time MBA students must complete all degree requirements within six years from the date of first registration.

Doctoral Degrees
Full-time students
Full-time students must complete all degree requirements within six years from the date of first registration.
Part-time students
Part-time students must complete all degree requirements within eight years from the date of first registration.
Where a student is permitted to change status from full-time to part-time, or vice versa, the fraction of time remaining under the previous status will apply to the new status.

Extension of Degree Time Limits
In exceptional circumstances, an extension of time permitting further registration may be granted. Extension requests, detailing the exceptional circumstances, must be received by the Faculty of Graduate Studies within the first month of the term in which the completion date expires, and all requests must be approved by the student's supervisor (if applicable), the Graduate Program Director and the Dean of Graduate Studies. An extension will only be granted if approved by the graduate program concerned. A request for Extension of Degree Time Limits form can be found at: https://brocku.ca/graduate-studies/current-student-forms

VII. Registration Policies and Procedures
All graduate students must maintain continuous registration in each successive term from the time of initial registration until degree requirements are complete. Students are responsible for ensuring that they register at the appropriate time for each term, as indicated in the Schedule of Important Dates. brocku.ca/webcal Select Current Graduate Calendar.
Students must remain continuously registered to the end of the term in which they complete the degree requirements. Completion means that all corrections have been made to the thesis or major research paper and the final approved copy has been submitted to the graduate program or uploaded to the Digital Repository. Should the Graduate Record Form not be received by the last day for late registration in a given term, the student will be required to register for that term. If registration lapses, the student will be withdrawn from the program.

Final Stage Status
Students approved for Final Stage Status by their graduate program must have completed all coursework, and must have a complete draft of their Major Research Paper or Thesis, that their supervisory committee agrees requires no further research or additional chapters/sections. Students approved for Final Stage Status must be able to complete their exit requirement within the subsequent term. Final Stage Status may be awarded only once and for only one term. The Final Stage Status Form is found at: brocku.ca/graduate-studies/current-students/student-forms
Credit will be given only for those courses for which the student is formally registered. A student will receive no credit for any work completed during a term in which the student was not properly registered.
It is the responsibility of students to ensure that they are registered by the appropriate deadline date. Students who fail to register by the deadline date will be charged a late registration fee. Students will not be allowed to register after the official registration count dates of November 1, February 1 and June 30.
Students must check their student account via Student Self-Serve for fees owing. To access and check a student financial account, sign into the University portal, my.brocku.ca, click on Student Self-Serve, then from the list of options click on Financial History. It is important for students to check their Brock email regularly, for messages from the Student Accounts Finance Office regarding their financial account. Graduate funding information is available through the my.brocku.ca Student Self-Serve, click on GradStuFunding. Via this screen, students have the capability to see all graduate
student funding items processed by the Faculty of Graduate Studies, that have been paid, per term, as well as funding committed for the current academic year. Students who fail to register for any term, and who have not applied for inactive status or been granted a leave of absence, will be withdrawn from their program of study. The student will be required to apply for reinstatement into the program. The request for reinstatement must be approved by the graduate program and the Faculty of Graduate Studies. The program may also make recommendations regarding the retention of previous course credits. A reinstatement application fee is charged. If enrolment is allowed to lapse a second time, the student will not be reinstated. The Request for Reinstatement Form can be found at: brocku.ca/graduate-studies/current-students/student-forms/

Master of Accountancy
All students are required to register for both the Winter (January - April) and Fall (September - December) terms, unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Professional Accountancy
All students are required to register for the Spring Business English and Skills Transition program (1 month - August) and the Fall (September-December), Winter (January-April) and Spring (May-August) terms, unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Business Administration and MBA ISP
MBA students are required to register for both the Fall (September-December) and Winter (January-April) terms, ISP students must also register for the Spring Business English and Skills Transition program (1 month - August), unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Applied Disability Studies (MADS)
All MADS students are required to register for each of the three academic terms Fall, Winter, Spring) unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Arts, Master of Business Economics, Master of Professional Kinesiology, Master of Public Health, Master of Science, Master of Sustainability and Doctoral programs
All MA, MBE, MPH, MPK, MSc, MS and PhD students are required to register for each of the three academic terms (Fall, Winter, Spring) unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Master of Education
MEd students are required to register in three academic terms per year: Spring (May-June) or Summer (July-August), Fall (September-December) and Winter (January-April) unless they have received approval from the graduate program and the Faculty of Graduate Studies for interruption of their program.

Extra Courses
A full-time graduate student, with the permission of his/her Graduate Program Director, may take up to one extra graduate or undergraduate credit course (including audit status courses) that are not directly related to their graduate degree program. Students must declare a course to be Extra prior to the last day of withdrawal; however the declaration is typically made at the point of registration. No additional fee above that charged for the graduate program degree requirements will be levied for these courses. Extra courses are subject to the same regulations as courses required for the degree but cannot be used for credit toward the degree.

Audit Courses
Graduate students wishing to attend courses without completing assignments and writing examinations must register as auditing the course. Students must have approval from the instructor of the course and their Graduate Program Director. No credit or assessment of performance will be awarded. Changes from audit to degree status or vice versa, are accepted by the Faculty of Graduate Studies no later than the last day to add a course (of that term). All audit courses are coded as extra courses.

Repeating a Course for which a Passing Grade has been Awarded
Students may repeat a course for which they have received a passing grade. The grade awarded for a repeated course will supersede the grade from the first attempt at the course regardless of
whether it is higher or lower. Both grades will remain on the student's transcript but the second grade, whether higher or lower, will be used in the computation of the student's average. No course may be repeated more than once.

**Repeating a Failed Course**

Students may repeat a failed course, but no course may be repeated more than once. Both grades will remain on the student's transcript but the second grade will be used in the computation of the student's average.

A student may repeat no more than a total of one credit.

**Ontario Visiting Graduate Student Plan (OVGS)**

The Ontario Visiting Graduate Student Plan allows graduate students of an Ontario university to take graduate courses at another Ontario university while remaining registered at their own university. The plan allows students to bypass the usual application for admission procedures. Registration is not complete until prior approval has been received from both the host and the home universities. A student who is classified as an Ontario Visiting Graduate Student will register and pay fees to the home university but will pay no fees to the host university. A description of the course must be attached to the form (course outline if available). No more than one credit (two half credit courses) will be allowed as OVGS credit. The course(s) selected must be at the graduate level and required for the student's degree program and not available at the home (Brock) university. Such courses may not be "extra" or "audit" courses for the student. **Ontario Visiting Graduate Student forms** are available from the Faculty of Graduate Studies or the Graduate Studies website [https://brocku.ca/graduate-studies/current-students/student-forms](https://brocku.ca/graduate-studies/current-students/student-forms).

**Letters of Permission**

A student may request a Letter of Permission from the Faculty of Graduate Studies in order to take a course or courses at another university (outside of Ontario) as a visiting student. The student must be in good standing, that is, having successfully completed a minimum of two graduate credits with a minimum overall B average. Brock credit will not be granted to students who Challenge for Credit, on a Letter of Permission, at the host institution. The student must indicate the specific course(s) he/she wishes to take and provide the Faculty of Graduate Studies with the course description(s) from the calendar of the host university. Course(s) requested should be relevant to a student's degree program and must be approved by both the student's academic department/program and the Dean of Graduate Studies. Approval shall be at the discretion of the department/program and Dean, who shall base the decision on the applicant's overall academic record, the appropriateness of the particular course to the applicant's program and on any other factors deemed relevant.

If a letter of permission is granted to a currently registered student, it will be provisional pending successful completion of the progression requirements for that session. On return to the Faculty of Graduate Studies of the approved application, the Faculty of Graduate Studies will forward a Letter of Permission to the host university. Students should contact the host university to determine any course access limitations imposed on visiting students. Students must formally request that the host university forward an official transcript to Brock. The transcript must be received within eight weeks of the course end date as specified on the application for the Letter of Permission. Failure to provide an official transcript will result in the automatic assignment of a failing (F) grade in each course attempted on the Letter of Permission. Not more than one credit (two half credit courses) may be taken at other universities on a Letter of Permission to fulfill graduation requirements for any graduate program at Brock.

Courses taken on a Letter of Permission will not be included in the calculation of the graduate student's Brock University average.

Credit will be granted only when the course is completed successfully with a minimum grade of "B" or 70% at the host institution. Course credit will be granted equal in value to the course weight assigned by the host institution. Any course attempted under a letter of permission shall be recorded on the Brock University transcript as a Pass/Fail grade. The exact name and title of the course(s) taken, the name of the host institution, and the grade assigned by the host institution, will appear as a notation on the Brock University transcript.

If the selected course is dropped after the commencement of classes, notification in writing, and an official transcript or statement, must be submitted immediately by the student to the Faculty of Graduate Studies at Brock University.

Students granted permission to take the final course(s) of their program on a Letter of Permission must ensure that grades, in the form of an official transcript, are received by the Faculty of
Graduates Studies by April 25 for those wanting to graduate at Spring Convocation and September 5 for those wanting to graduate at Fall Convocation.

Drop/Withdrawal of Courses
Students wishing to change their course registrations during the drop period may do so through the Web until the system closes for the session. After the system closes, students must submit the Registration Course Add/Drop Form to the Faculty of Graduate Studies by the withdrawal deadline date as published in the Schedule of Important Dates.

While it is a courtesy to inform the instructor of withdrawal from a course, this does not constitute official withdrawal from either a course or the University. The date of withdrawal from a course, following the course change period, will be recorded on the student's official transcript.

Grades will be recorded on students' transcripts for all courses in which they have officially registered and from which they have not officially withdrawn.

A student who drops or withdraws in good standing may be entitled to a refund of tuition fees in accordance with the refund schedule. See: brocku.ca/finance/studentfinance/graduate/

Voluntary Program Withdrawal
Graduate students wishing to voluntarily withdraw from a graduate program must consult with the program of study concerned and submit the Notice of Voluntary Withdrawal Form to the Faculty of Graduate Studies. The form is available from the Graduate Studies website https://brocku.ca/graduate-studies/current-students/student-forms

Required Withdrawal from Course
Graduate students may be required to withdraw from a graduate course(s) due to academic or non-academic misconduct.

Required Withdrawal from Graduate Program
Graduate students may be required to withdraw from a graduate program due to unsatisfactory performance or academic or non-academic misconduct.

Personal Time Off
Students may take up to two weeks per year (14 calendar days) in personal time off, plus statutory and non-statutory holidays during which the University is closed. This personal time off must be negotiated between student and supervisor and/or Graduate Program Director. Time off should not compromise the progress of a student's studies, including the fulfillment of course requirements. Students must ensure that laboratory activities and experimentation are either completed or arrangements made for others to continue ongoing work. Time sensitive deadlines must be taken into consideration. Time off cannot be carried forward from year to year. Time off should be requested as far in advance as possible.

Academic Accommodation for Religious Obligations
Brock University acknowledges the pluralistic nature of the student community such that accommodations will be made for students who, by reason of religious obligation, must miss an examination, test, assignment deadline, laboratory or other compulsory academic event. Students requesting academic accommodation on the basis of religious obligation should make a formal, written request to their instructor(s) for alternative dates and/or means of satisfying requirements. Such requests should be made during the first two weeks of any given academic term, or as soon as possible after a need for accommodation is known to exist (i.e., posting of the examination schedule), but in no case later than the second-last week of classes in that term.

When a student's presence is required prior to the date on which classes begin, any student who cannot meet this expectation of attendance for reasons of religious obligation should notify the Faculty of Graduate Studies, in advance.

Accommodation is to be worked out directly on an individual basis between the student and the instructor(s) involved. Instructors will make accommodation in a way that avoids academic disadvantage to the student. The type of accommodation granted will vary depending on the nature, weight and timing of the work for which accommodation is sought. In cases regarding academic accommodation of students on the basis of religious obligation, any dispute unresolved by discussion between the student and instructor may be appealed, first to the Graduate Program Director and thereafter to the Dean of the Faculty in which the student is registered. If the student is not satisfied with the decision of the Faculty Dean, the student may then appeal to the Dean of Graduate Studies. If the student is not satisfied with the decision of the Dean of Graduate Studies, the student may then appeal to the Student Appeals Board.

A current list of major religious observance days is posted at https://brocku.ca/registrar
VIII. Research Policies and Procedures

As Brock University has signed the Agreement on the Administration of Agency Grants and Awards by Research Institutions with the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council of Canada, and the Social Sciences and Humanities Research Council of Canada, being the agencies of the Government of Canada charged with promoting and funding research and research training in Canada, all students must comply with the Agreement including all related Policies, Frameworks, Regulations, and Guidelines with respect to areas such as conflict of interest in research, integrity in research, research involving humans and animals, biohazardous materials, etc. For further information, we encourage students to visit http://www.science.gc.ca/Research_Funding_Collaboration/Policies_and_Guidelines/Institutional_Agreement-W556BB7BE5-1_En.htm

Research Involving Human Participants

At Brock University, human research refers to activities where data from human participants are used as part of an undertaking intended to extend knowledge through a disciplined inquiry or systematic investigation. Human participants are those individuals whose data, or responses to interventions, stimuli, or questions by the researcher, are relevant to answering the research question. The definition of human participant research also extends to secondary and/or non-public sources of information; identifiable, private information about an individual(s) such as that found in health records; and research involving human biological materials from persons living or dead. All human participant research must undergo ethics review prior to commencing and receive clearance from a Brock University Research Ethics Board (REB) regardless of whether the procedures used are invasive or non-invasive. This policy applies to funded and non-funded research involving human participants conducted in any location on or off campus by Brock University faculty, staff, graduate students, undergraduate students and to anyone conducting research under the auspices or within the jurisdiction of Brock University. If you are in doubt as to whether your research requires REB review, please contact the Research Ethics Office reb@brocku.ca or (905) 688 5550, extension 3035 for advice.

As part of the application for human ethics clearance, graduate students must provide a certificate of completion for the Course on Research Ethics (CORE) on-line tutorial. Graduate students who conduct human participant studies strictly based on secondary analysis of a) human tissue or bodily fluids; or b) data from non-public sources—provided there is no involvement or interaction with human participants, are encouraged to complete the entire CORE tutorial. However, at minimum, these students must complete modules 1 (core principles), 2 (defining research), and 5 (privacy and confidentiality) before submitting a research ethics application.

Failure on behalf of researchers to adhere to Brock University’s human research ethics policies and procedures will result in an investigation according to REB compliance procedures and may constitute misconduct under the Brock University Research and Scholarship Integrity Policy. Please see: https://brocku.ca/research/ethics-and-research-reviews/human-ethics for additional information and the procedures you must follow to obtain research ethics clearance at Brock. For further information on research ethics guidelines in Canada, we encourage students to visit the Government of Canada’s Panel on Research Ethics website http://ethics.gc.ca/eng/index/

Research Involving Animals

All research that involves the use of animals must be reviewed and approved by the Brock University Animal Care and Use Committee prior to the initiation of such research or instruction. Please note that no work with animals can be ordered or obtained prior to approval of animal protocol by Brock Animal Care and Use Committee. See: http://brocku.ca/research/ethics-and-research-reviews/animals for additional information.

Radiation and Biohazard Safety

At Brock University, safety is everyone’s responsibility. All members of the university community should be thoroughly familiar with their safety responsibilities, strive to follow safety practices at all times, act proactively to prevent accidents and injuries, communicate hazards to supervisors, and be prepared for emergencies that may occur in the workplace or on campus. Brock University requires that health and safety be a primary objective in every area of operation and that all personnel utilizing University premises comply with procedures, regulations and standards relating to health and safety. See brocku.ca/hr-ehs/environment-health-safety/academic-safety for additional information.

Field Safety
Brock University is committed to ensuring that scholarship and research is carried out in a safe and responsible manner. In particular, Brock recognizes the importance of encouraging faculty members, staff and students to engage in research beyond the campus walls. However, while all research involves the assessment and management of risk, the level of risk can vary with scholarship. Risk in field research may include, but is not limited to, the risk to physical health emotional well-being and personal safety. The risks may arise because of the nature of the research itself, from the physical climate, or from the political, social, economic and cultural environment of the fieldwork location.

It is the policy of the University to encourage such activities as may be appropriate to the scholarly needs of the research program of its faculty members, students, affiliated research personnel, and staff and to take every reasonable precaution to protect the personal health, safety and security of its participating members.

In practice, responsibility for safety in field research rests primarily upon the persons who directly supervise and carry out the research on location. Such persons are expected at all times to exercise good judgement and must take all reasonable care in the circumstances to protect the personal health and safety of participating team members. See: https://brocku.ca/university-secretariat/facultyhandbook/section3#C_3 to review the Policy on Safety and Liability for Field Research and the related forms/appendices. See brocku.ca/hr-ehs/environment-health-safety/academic-safety for additional information.

**Integrity in Research and Scholarship**

Integrity is fundamental to the process of research and scholarship and misconduct damages the entire academic enterprise. While responsibility for maintaining standards of conduct in research and scholarship resides with all members of a research team, it is the responsibility of the university to provide an atmosphere which fosters the highest standards of integrity.

Accordingly, Brock University acknowledges and accepts responsibility for maintaining ethical standards in research and scholarship, and agrees to investigate and resolve promptly and fairly all instances of alleged misconduct.

It is the purpose of this policy to set down principles that promote integrity in research and scholarship, to define categories of misconduct in research and scholarship, and to establish procedures to investigate allegations of research misconduct.

It is expected that all faculty, other employees, including those employed on grants and contracts, and students who engage in research at or under the auspices of Brock University will acquaint themselves with this Policy and all existing regulations and codes of conduct before commencing or continuing with any further research (Section III: 8 Research Ethics, Faculty Handbook; Article 11 - Academic Freedom, Article 12 - Rights and Responsibilities of Faculty Members, Article 14 - Integrity in Research and Scholarship Article 18 - Conflict of Interest, Article 38 - Patents, and Article 39 - Copyright of the BUFA/Brock Agreement on the Terms and Conditions of Employment for Faculty; Academic Regulations and other appropriate sections of the Graduate Calendar; and all future policies and regulations or codes of conduct respecting research and scholarship that may be introduced at Brock University). See: brocku.ca/university-secretariat/facultyhandbook and https://brocku.ca/webfm_send/21442 for additional information.

**Intellectual Property**

For work done by a student, research assistant or post doctoral fellow, Brock has the following guidelines related to the interpretation of copyright and other aspects of intellectual property rights. These guidelines distinguish, in general, between items done solely by the student and those undertaken as part of a joint research effort. In the former case, the intellectual property is primarily the student's, but the University reserves certain rights as detailed in the remainder of this section. In the latter case, the intellectual property rights involve the student, the research supervisor (and possibly other individuals as well), the University, and on occasion the financial sponsor of the research. (If the work is anticipated to have commercial possibilities, it is required that the parties involved agree in writing beforehand on the sharing of any financial returns.) While no policy can anticipate or cover all possible situations, the University Policy on Integrity in Research and Scholarship and these guidelines are intended to cover the rights of current and former Brock students, research assistants and postdoctoral fellows both while attending the University, and after they leave the University, whether with or without a degree.

Similarly, while it is difficult to provide a definitive definition of intellectual property (IP), the Government of Canada (Consumer and Corporate Affairs Canada: “Intellectual Property: What It Means To You”) indicates that there are at least six types of IP:

- Patents, for inventions and the creation of new kinds of technology;
Copyrights, for literary, educational, artistic, dramatic and musical works;
Trademarks, for words, symbols or pictures used to distinguish the goods or services of one person
from those of another;
Industrial Designs, for the shape, pattern or ornamentation of an industrially produced object;
Integrated Circuit Topographies;
Plant Breeders Rights.

At Brock, given our mission and types of undergraduate and graduate programs, the most likely types
of intellectual property to be created includes theses, dissertations, cognate essays, research papers, books, poems, plays, scripts, essays, articles, dictionaries, maps, lyrics, musical scores, sculptures, paintings, photographs, films, videos, tapes, computer software, databases, records, tapes, cassettes, educational materials, web-based materials and inventions (new kinds of technology). To be protected by law, an item must satisfy three criteria: a) it must be an original creation; b) it must be a specific expression of an idea, not the idea itself; and c) the item must be fixed in a physical form. These creations may occur via term papers, theses or dissertations, research or cognate essays, course projects, cases, studio or laboratory assignments, etc.

Examinations, Reports and Papers Done as Part of Course Requirements
When work that is eligible for copyright is submitted to meet a requirement of a course, the University acknowledges the student's ownership of the copyright, but places the following conditions on the submission of the work to meet course requirements.
The original physical document becomes the property of the University. This applies particularly to examination answer scripts, and may also be applied to term papers and other course work.
Except for examination answer scripts, the University receives a royalty free, non-exclusive licence to make copies of the work for internal use within the University, and to circulate the work as part of the University library collection.

Theses and Project Reports
As with other papers, the University recognizes that the student holds copyright to the finished thesis. Copies of the thesis shall have on them in a prominent place on the title page the international copyright notice. The student is required to sign a licence to the University library and an additional licence to the National Library. These licences grant the two libraries permission to reproduce the thesis and to circulate it, but do not affect ownership of the copyright.
However, the University also recognizes that the ideas in the thesis will often arise from interaction with others. In some cases, this interaction will have been solely with the thesis supervisor; in other cases, a larger research team will have been involved. For this reason, it is understood that the copyright refers only to the written document of the thesis. The ideas themselves including any advances in theory, data, patentable ideas, or commercial exploitation of the work may or may not be the exclusive property of the student.
For the student who has worked closely with a supervisor, or as part of a research group, the rights to publish, patent or commercially exploit the results of the research are shared with the supervisor and/or the research group, and with the University. In those cases in which the work has been supported in part by research grants or contracts, there may be other conditions affecting any patent or commercial exploitation. The student should be made aware that such conditions might apply before work begins and bears some responsibility to enquire as to details if they have any concerns.

Computer Programs
Computer programs written as part of employment duties, as for example by a teaching assistant, are the property of the employer, as specified in the Copyright Act. Computer programs written as part of course work, a project or a thesis may also have value as a potentially marketable intellectual property.
The University recognizes that such software may arise in two different ways, and accordingly has two policies. In setting forth these policies, it is understood that in those cases in which software development draws upon other software owned or licenced by the University, the terms and conditions of the licence or purchase must be followed.
Where a student develops such software at the direct request of a supervisor, and under supervision, it is assumed that there is joint ownership of the intellectual property rights. In such cases, it is recommended that the individuals involved co-author a working paper documenting the software, rather than including it as an appendix to a thesis or report. Prior agreement between the student and supervisor that this is to be the case would be helpful.
Where a student develops such software on his/her own, as for example for an independent project in a course, copyright remains with the student. As a condition of using University computing facilities, the student is required to grant the University a royalty-free licence to use the software. This includes the right of the University to distribute copies of the software to Brock faculty, staff and students for the University's administration, education and research activities. This licence does not include the right to use the software for commercial purposes.

Further, Graduate Studies encourages all graduate students to have a thorough conversation with their graduate supervisor about intellectual property in an attempt to navigate any potential intellectual property issues in advance. Graduate Studies has created an IP Checklist to help students begin a conversation with their graduate supervisors about intellectual property matters (a copy of which can be found at: brocku.ca/graduate-studies/ new/current-students/ regulations-and-intellectual-property)

Research Data
As with computer software, the University recognizes that research is conducted and data are acquired in two different fashions. When the data are acquired as part of a joint or collaborative effort, such as one relying on the equipment within a laboratory, they are not solely the property of the student, although some of the data may ultimately appear in tables or appendices in a completed thesis.

As a general rule, such data are the joint property of the student and the research supervisor, either of whom has the right to make it available to other individuals. Both student and supervisor are responsible for insuring that proper acknowledgment of the contributions of the student, supervisor, and other members of the research team is made when the data is released in any form. When the data is acquired through the student's individual effort, and without the use of University laboratories or funding, then it is usually the property of the student making that effort. However, exceptions may occur when the student collects data using research instruments including interview schedules and questionnaires developed wholly or in part by the research supervisor or by some other person or agency. In such instances the right to ownership and/or use of the data may be shared among the parties involved.

Given the range of possible alternatives it is not possible to set absolute guidelines in advance covering all such situations. Consequently, it is strongly recommended that students and supervisors make clear agreements in advance concerning the ownership and use of data collected in this fashion. Ownership of data may also be affected by the terms of a research contract that has supported the work.

Equipment
If University resources have been applied to the construction or design of equipment, it is not the property of the student, but of the University. Equipment constructed or designed as part of course or thesis work is the property of the student if the work, materials, and workroom space have been provided by the student or other non-University source. Ownership of newly constructed equipment may also be specified in a research contract that has supported the work.

Graduate Student Intellectual Property Form
All graduate students must read and familiarize themselves with the Intellectual Property guidelines and policies of the university (as described above). In addition, the Policy on Integrity in Research and Scholarship requires graduate students and their graduate supervisors to sign an Intellectual Property Form indicating their agreement with the University policies and guidelines or indicating any specific arrangements that have been made that differ from these policies an. guidelines. Please see https://www.brocku.ca/graduate-studies/new/current-students/regulations-and-policies/student-forms

Further, Graduate Studies encourages all graduate students to have a thorough conversation with their graduate supervisor about intellectual property in an attempt to navigate any potential intellectual property issues in advance. Graduate Studies has created an IP checklist to help students begin a conversation with their graduate supervisors about intellectual property matters (a copy of which can be found at: http://www.brocku.ca/graduate-studies/new/current-students/regulations-and-policies/student-forms>

IX. Examinations
Graduate instructors will indicate on the course outline and grading scheme whether formal or informal scheduled examinations are required.
Examination scripts must clearly identify the requirements for completing the examination. The duration in hours and minutes, if relevant, must also be identified. The following statements will
routinely be placed on final examination scripts: No examination aids other than those specified on the examination scripts are permitted (this regulation does not preclude special arrangements being made for students with disabilities). Translation dictionaries (e.g. English-French) or other dictionaries (thesaurus, definitions, technical) are not allowed unless specified by the instructor and indicated on the examination paper. Use or possession of unauthorized materials, or electronic devices, will result in a charge of academic misconduct under the university's academic integrity policy.

When an instructor transmits grades for a course to the Faculty of Graduate Studies, the examination scripts shall be kept by the instructor for a period of time not less than six months. After that time, they must be shredded. Students have the right to inspect their examination paper under faculty supervision.

If a student is unable to write a formally scheduled examination, or having begun the exam is unable to complete it for reasons of ill-health, a deferred examination will be granted provided adequate supportive documentation has been submitted. Requests made on the basis of compassionate grounds, religious obligations, or other extenuating circumstances will be judged on a case-by-case basis.

Any medical request for a Deferred Examination must be supported by a completed Brock University Student Medical Certificate (and include any relevant medical documentation) certifying that the student was not capable of attempting the examination at the scheduled date and time. A student must first contact the instructor for permission to write a Deferred Examination. Any such application must be accompanied by required supporting documentation and must be submitted within seven working days following the examination.

If the student is not able to contact the course instructor or if the course instructor is not willing to give the student permission to write a Deferred Examination, the student may contact the Director of the Graduate Program, within ten working days following the examination, to submit a request for a Deferred Examination. The Graduate Program Director will forward the request and his/her recommendation to the department Chair (for department based graduate programs) or the Faculty Dean (for programs not located within a department) for consideration and decision.

If not satisfied with the outcome of the request, the student may then refer the matter to the Dean of the Faculty offering the course. If the student is not satisfied with the decision of the Dean of the Faculty, the student may then refer the matter to the Dean of Graduate Studies. If the student is not satisfied with the decision of the Dean of Graduate Studies, the student may appeal to the Student Appeals Board.

Deferred examinations will normally be written no later than the end of the subsequent graduate term.

**X. Evaluation of Student Performance**

**Grades**

The following grades are awarded for graduate courses:

- **A+** - 90-100
- **A** - 80-89
- **B** - 70-79
- **C** - 60-69
- **F** - 59 or lower

Grading Scheme used prior to 2010-2011

- **A** - 80, 82, 85, 88, 90, 92, 95, 98, 100
- **B** - 70, 72, 75, 78
- **C** - 60, 62, 65, 68
- **F** - 58 or lower

**IN (Incomplete)** is a temporary grade granted to a student, in exceptional circumstances who has been unable to complete some part of the term work in a course. A grade must be submitted no later than 56 days from the last day of classes in each term. In the case of the thesis, major essay or project, an IN grade should only be granted when the thesis or major research paper is essentially complete (only minor revision or thesis defence scheduling required). If the IN is not replaced by a letter grade within 56 days, the IN will be changed to the default grade.

**IP (In Progress)**

A grade of IP may be awarded if a student fails to complete all course requirements within the prescribed time limit. A student who receives an IP grade for a course, must re-register for that course in the term following that for which an IP grade is received. With the exception of the
thesis, major research paper or proposal courses, no half-credit graduate course shall be denoted IP for more than one term.

Pass/Fail

A grade of P or F will be awarded for courses completed on Letter of Permission (LOP). The actual grade awarded and the institution that awarded it will be noted at the bottom of the official Brock transcript. Pass/Fail is also used for the evaluation of thesis courses.

AG (Aegrotat standing)

Aegrotat standing is the granting of credit for a course(s), based on the course work already completed, when no further assessment - for example, a deferred examination - is considered feasible because of illness or other extenuating circumstances beyond the student's control. Students may only be granted Aegrotat Standing with the approval of the Dean of the Faculty offering the course.

SP (Deferred examination)

A deferred examination has been granted.

CR (Credit)

The satisfactory completion of a graduate credit course for which letter and percentage grading is not feasible.

NC (No-Credit)

The unsatisfactory completion of a graduate credit course for which letter and percentage grading is not feasible.

SA (Satisfactory)

Used for co-op work terms, internship options and non-credit courses.

UN (Unsatisfactory)

Used for co-op work terms, internship options and non-credit courses.

W (Withdrawn)

Where xx is the week of withdrawal.

NR (Not reported)

NW (Not withdrawn)

For graduate courses the grades A+, A, B, C, F, IN (Incomplete), IP (In Progress), Pass/Fail, CR/NC (Credit/No-Credit), SA/UN (Satisfactory/Unsatisfactory), NW (Not Withdrawn), or AG (Aegrotat standing) will be recorded on the transcript.

For all graduate programs except the MBA, graduate credit is only earned for courses in which a grade of A+, A or B is awarded.

For graduate courses in the MBA program, the grades A+, A, B, C, F, In (Incomplete), IP (In Progress), Pass/Fail, CR/NC (Credit/No-Credit), SA/UN Satisfactory/Unsatisfactory, NW (Not Withdrawn), or AG (Aegrotat standing) will be recorded on the transcript. Grades A+, A, B, and C are considered to be passing grades and eligible for graduate credit. However, of the twenty half-credits required to complete degree requirements, a maximum of two-half credits at the C level may be used for degree credit and the student must achieve an overall minimum B average in the twenty half-credits that comprise degree requirements to be eligible to graduate.

For graduate courses in the MACC program, the grades A+, A, B, C, F, In (Incomplete), IP (In Progress), Pass/Fail, CR/NC (Credit/No-Credit), SA/UN Satisfactory/Unsatisfactory, NW (Not Withdrawn), or AG (Aegrotat standing) will be recorded on the transcript. Grades A+, A, B, and C are considered to be passing grades and eligible for graduate credit. However, of the ten half-credits required to complete degree requirements, a maximum of one-half credit at the C level may be used for degree credit and the student must achieve an overall minimum B average in the ten half-credits that comprise degree requirements to be eligible to graduate.

Major research paper or project grades shall be reported to the Faculty of Graduate Studies in the usual fashion with letter and numerical grades. If a failing grade is awarded for a major research paper or project, the student will be withdrawn from the program.

Thesis grades for master's and doctoral programs shall be reported to the Faculty of Graduate Studies as either a Pass or Fail grade. A Passing grade must be further differentiated as one of: Acceptable as is, Acceptable with minor revisions, Acceptable with major revisions. A failing grade will be awarded if two or more committee members find the thesis unacceptable or if the External Examiner does not approve the thesis. If a failing grade is awarded for a thesis, the student will be withdrawn from the program.

No graduate student can fulfill more than 25% of the minimum degree requirements by courses utilizing the Credit/No-Credit method of evaluation.

**Grading Procedure**
Each instructor shall make available to the class at the beginning of the term, the method by which student performance shall be evaluated.

Grade Changes
After grades have been submitted to the Faculty of Graduate Studies they may not be changed except by submission of a Request to Change a Grade Form (found at: https://www.brocku.ca/graduatesudies/students-forms) signed by the instructor and the Graduate Program Director. Requests made for changes of grade beyond 180 days from the end of the term in which the grade was assigned, must also include the signature of the Faculty Dean.

Academic Performance Information
Student academic performance information is available following the end of each term of study via mybrocku.ca/portal
Final grades may only be released by the Faculty of Graduate Studies.

Minimum Academic Performance and Academic Probation
Graduate students must achieve and maintain satisfactory academic performance to be eligible to continue in a graduate program. Graduate program committees will review the performance of their enrolled graduate students on a regular basis, preferably each term. At minimum, graduate programs will ensure that there is a formal meeting of each PhD supervisory committee at least once within the academic year (May-April). Each PhD supervisory committee must report annually on the student’s progress and the Graduate Program Director must forward such reports to the Faculty of Graduate Studies. The report will formally document the supervisory committee’s assessment of the progress of the student in the program. Graduate students must maintain a minimum cumulative average of at least a B- (70 per cent) during each term of study. If a graduate student falls below the minimum cumulative average the student will be automatically placed on academic probation for the subsequent term by the Faculty of Graduate Studies. Additionally, a graduate program may recommend required program withdrawal. A probationary student must achieve the required minimum cumulative average, normally during the probationary term, to be eligible to continue as a graduate student.
In graduate programs with a research exit requirement (thesis, major research paper) satisfactory academic progress during the research phase will be determined through academic progress reviews by the graduate program committee (normally once per term) as outlined in the program’s Graduate Handbook. An unsatisfactory academic progress decision, as determined by the graduate program committee, may result in a program’s decision to place the student on academic probation for the subsequent term or a request for required program withdrawal.
An unsatisfactory academic progress decision, as determined by the graduate program committee at any point during the student’s graduate program, may result in a program’s decision to place the student on academic probation for the subsequent term or a request for required program withdrawal.

Calculation of Averages
The average which is used to determine academic standing is computed by dividing the sum of the numeric grades assigned to credits by the total number of credits attempted.
*Average = The sum (credit weight x grades) divided by the Total number of credits attempted
**See regulations on repeated courses.
Only courses taken at Brock University and on OVGAS as part of the graduate degree will be used in determining a student’s average. Courses taken on a Letter of Permission will be marked as Pass/Fail and will not be used in determining any student average. The exact name and title of the course taken on Letter of Permission, including the grade received at the offering institution, will be included as a note on the student’s transcript. Courses designated as Extra will not be used in determining any student average. Courses awarded as Advanced Standing or Transfer Credit will not be used in determining any student average.
For the purposes of calculating averages, a value of 45 percent is used for all “F” grades of 45 or lower.

XI. Graduate Supervision and Supervisory Committees
The role of a supervisor is threefold: to advise, to monitor and to mentor. Supervisors not only provide guidance, instruction and encouragement in the research activities of their students, but also take part in the ongoing evaluation and examination of their students’ progress and performance. Supervisors and students have a mutual obligation to meet on a regular basis. The frequency of such meetings will depend on the discipline/field of study, type of program, and the
students' progress. At least one, preferably several, meetings should be arranged in each academic term. Supervisors should also be reasonably accessible for meetings requested by their students. The Policy on Integrity in Research and Scholarship requires graduate students and their graduate supervisor to sign an Intellectual Property Form indicating their agreement with University policies and guidelines or indicating any specific arrangements made that differ from these policies and guidelines.

The graduate supervisor should discuss with graduate students under their supervision, at an early stage of their program, authorship practices within the discipline and encourage the dissemination of research results by publication in scholarly and research journals, presentations at conferences, and seminars.

The graduate supervisor should discuss with graduate students under their supervision other relevant university policies, including the Respectful Work and Learning Environment Policy and the Occupational Health and Safety Policy.

Each graduate program will ensure that a graduate supervisor and supervisory committee are designated for each graduate student completing a required major essay, project or thesis requirement.

The graduate supervisor in consultation with the graduate student will propose the supervisory committee composition. The committee composition must be approved by the Graduate Program Director and must be in place and operational by no later than the proposal stage of the major essay, project or thesis.

A thesis supervisory committee must at minimum comprise three members, the graduate supervisor and two additional faculty members. At least one of these must be a full-time Brock University faculty member. A project or major essay supervisory committee must at minimum comprise the graduate supervisor and a second reader. Any changes to the composition of the supervisory committee must be made in consultation with the graduate student and the Graduate Program Director. The student or any member of the supervisory committee may, with just cause, request in writing a change in the composition of the supervisory committee.

If either the graduate student or supervisor wishes to initiate a change in supervisor and the change cannot be resolved at the graduate program level, a request must be presented in writing, with explanation, to the Graduate Program Director, and approved by the Faculty Dean and the Dean of Graduate Studies in consultation with the Graduate Program Director.

The graduate supervisor will inform graduate students under their supervision, and the Graduate Program Director, of any anticipated extended supervisor absence. In cases where the absence will be for a period of one month or more, supervisors will arrange for suitable communication methods and/or interim supervision e.g. through the use of supervisory committee members. Such arrangements will be communicated, by the supervisor, to graduate students under their supervision, and the Graduate Program Director.

If a student's graduate supervisor leaves Brock University during the student's program, the Graduate Program Director has the responsibility to ensure that the student can exercise one of the following options:

Remain at Brock and change supervisor and perhaps major research paper, project or thesis topic.

Remain at Brock and complete the existing major research paper, project or thesis even though the appropriate expertise may not be available at Brock for supervision. In this case, the supervisory committee may seek advice from experts off campus, or may arrange for the student to work off campus. It will be the responsibility of the supervisory committee (augmented, if necessary, by outside expertise), to advise the student on all matters regarding the major essay, project or thesis preparation. The student is not precluded from seeking advice from the former Brock faculty member, but the former Brock faculty member has no privileged position with respect to the major research paper, project or thesis. The supervisory committee will take precedence in all cases.

Apply to transfer to the university to which the student's former supervisor has moved.

Any special arrangements described in ii) or iii) above must be approved by the Faculty Dean and the Dean of Graduate Studies.

XII. Admission to Doctoral Candidacy

Each graduate program offering a doctoral degree is responsible for establishing detailed doctoral candidacy requirements. These requirements must be outlined as part of the graduate program's procedures. Admission to doctoral candidacy is a judgment by the supervisory committee and graduate program that the student is prepared to complete successfully the requirements of the
doctoral degree. Doctoral students must normally complete all candidacy requirements within 36 months of first registration.

To be admitted to candidacy the student must successfully achieve the following:

- Complete all course requirements (non-thesis) as outlined in the graduate program's Calendar entry;
- Complete any other program-specific candidacy requirements, such as language or seminar requirements, as outlined in the graduate programs' Calendar entry;
- Complete a thesis proposal that is approved by the supervisory committee; and
- Satisfy the requirements of breadth and depth knowledge in the field(s) of study, as specified by the graduate program. If the supervisory committee or program identifies that a student must undertake remedial or additional work related to any of the above candidacy requirements, that remedial or additional work must be completed before the student may be admitted to candidacy.

Once a student is admitted to candidacy, the student cannot be required to undertake additional required course work. Graduate programs will notify the Faculty of Graduate Studies when admission to candidacy requirements have been fulfilled and the notation will be added to the graduate students' record.

**XIII. Graduate Research Proposals**

Graduate students completing a major research paper, project or thesis must submit and have approved by their supervisory committee a proposal of research in accordance with their graduate program's procedures. Following approval of the research design, human or animal ethics approval (or any other necessary approval) must be secured prior to the commencement of the research study. As part of the application for human ethics clearance, graduate students must provide a certificate of completion verifying that they have completed the Course on Research Ethics (CORE) on-line tutorial. The on-line tutorial is found at: http://www.pre.ethics.gc.ca/eng/education/tutorial-didacticiel/

Although CORE training is not mandatory for students who do not intend to engage in research with human participants, these students are still encouraged to complete the tutorial to learn more about identifying ethical issues in the design, conduct and oversight of research.

**XIV. Graduate Theses, Major Research Paper Documents**

Master's and doctoral thesis documents must adhere to the Faculty of Graduate Studies minimum format requirements and any program specific format requirements. The format requirements for major research paper or project documents are specified and outlined by individual graduate programs.

If a thesis or major research paper or project is to be edited by a professional editor, the student must obtain written permission from the students' supervisor and Graduate Program Director. The extent of editing provided must not exceed the guidelines set out by the Editors' Association of Canada in its Guidelines for Ethical Editing of Theses/Dissertations. Found at: http://www.editors.ca/hire/guidelines-editing-theses. Graduate programs may require the student to submit a marked-up copy of the major research paper, project or thesis along with the final version to demonstrate the editing that has occurred. If an editor is used, specific acknowledgement must be included in the major research paper, project or thesis.

**XV. Thesis Defences**

Graduate thesis defences will normally be open defences. A request for a closed defence must be approved by the Dean of Graduate Studies and will be based on certified medical or compassionate grounds.

The arrangements for a thesis defence will commence once all members of the supervisory committee have signed off indicating their approval that the student and the thesis are ready for defence.

The examination committee of a master's thesis defence will minimally comprise the supervisory committee and an external examiner from outside the university or from outside the program but within the University The approval of the external examiner is the responsibility of the Faculty Dean or designate. In exceptional circumstances, an external examiner who is external to the supervisory committee but internal to the program may be appointed. Such an examiner will have to be approved by both the Faculty Dean and the Dean of Graduate Studies.

The examination committee of a doctoral defence will minimally comprise the supervisory committee, an internal examiner (from outside the graduate program but within Brock University)
and an external examiner. The approval of the external examiner is the responsibility of the Dean of Graduate Studies or designate.

Typically a thesis defence will occur four to six weeks following the external examiner’s receipt of the thesis document. External examiners shall submit their report no later than one week prior to the defence. External examiners shall, as part of their report, identify whether the thesis is ready for defence and whether the thesis is to be recommended for submission to internal/external thesis award competitions.

If the external examiner reports that the thesis is not ready for defence, the student must revise the thesis within a reasonable period of time in response to the examiner’s comments and the thesis will then be resubmitted to the external examiner. A decision by the external examiner that the thesis is not ready for defence is binding.

A change of external examiner, in exceptional circumstances, must be justified in writing to the Faculty Dean or designate for a master’s thesis and the Dean of Graduate Studies or designate for a doctoral thesis.

The external examiner’s report will be shared with the examination committee and the graduate student prior to the defence.

The recommended format and procedures for a master’s thesis defence are outlined by the Faculty of Graduate Studies. Each graduate program will publish their approved master’s defence procedures. The Faculty Dean or designate will chair master's defences.

The required format and procedures for a doctoral defence are outlined by the Faculty of Graduate Studies. The Dean of Graduate Studies or designate will chair doctoral defences. If a student is unable to attend the defence, or having begun the defence is unable to complete it for reasons of ill-health, a deferred defence will be granted provided adequate supporting documentation has been submitted. Requests for a deferral of a defence will be considered on the basis of compassionate grounds or other extenuating circumstances and will be judged on a case-by-case basis by the Dean of Graduate Studies. The defence will normally be re-scheduled within one month of the original defence date.

Students should typically be given two to four weeks to complete minor revisions which are to be approved by the graduate supervisor and four to twelve weeks to complete major revisions which are to be approved by the graduate supervisor and the chair of the defence. Extraordinary exceptions to thesis defence procedures must be approved by the Dean of Graduate Studies.

XVI. Submission and Deposit of Thesis

Submission of thesis
When the thesis is in its final form (following defence), has been approved by the graduate program, and meets FGS Thesis Format Specifications, the student will submit the thesis to the Brock University Digital Repository for review by FGS. The student must also submit to the Faculty of Graduate Studies the Certificate of Approval, the Library and Archives Canada (LAC) Non-Exclusive License to Reproduce Theses, and the Brock University thesis and Major Research Paper Copyright Licence. Under certain circumstances (e.g. to protect confidential commercial information, patentable material, pending application, or where immediate commercial publication is anticipated) a graduate student may request a restriction on the circulation of the thesis for up to a period of twelve months.

XVII. Academic Integrity/Academic Misconduct

brocku.ca/academic-integrity
Brock University encourages the pursuit of knowledge and scholarship through the provision of academic programs and a learning environment of the highest quality. Academic Integrity is a core value that supports the University's mission.

It is expected that graduate students shall demonstrate competency in the acknowledgment of the work of others and an understanding of the rigour of academic study, by acting ethically and with integrity in all academic work as well as in the conducting of research and the reporting of research results. The trust Brock University bestows on its graduate students demands a higher standard of care be taken in the pursuit of graduate scholarship.

All graduate students have the responsibility to familiarize themselves with the Academic Integrity Policy as well as any policy related to their participation as a member of the University community, brocku.ca/webfm_send/28409 (Code of Student Academic Conduct).
See the Policy for specific information regarding the determination of academic misconduct offences and outcomes.

**XVIII. Graduate Student Appeals**

All graduate students have the right to appeal academic decisions. An appeal is a request that an academic decision (e.g., a grade or standing in a program) be changed, based on the evidence supplied by the student or that a regulation be waived on compassionate grounds or because of extenuating circumstances.

Appeal decisions (at all stages) will normally be made within 10 working days following receipt of the appeal and communicated electronically to the student as soon as possible. If the decision cannot be made in the posted timeframe, the student will be contacted to discuss an appropriate time frame for the decision and response.

The procedure of appeal varies according to the type of the appeal. The various procedures are outlined below.

Graduate students are entitled to bring one faculty, staff or student member of Brock University to any appeals meetings.

**Types of Appeals**

**Appeal of Grades**

Students who have a question regarding an academic decision in a course (including grades) must first discuss the matter with the course instructor or their supervisor (in the case of their thesis or major research paper), and the Graduate Program Director. If not satisfied with the decision/result of the appeal, the student may then refer the matter to the Faculty Dean and the Dean of Graduate Studies who will render a joint decision. If the student is not satisfied with the decision of the Deans, the student may then appeal to the Senate Student Appeals Board.

Appeals of final grades, including the assignment of a failing grade for non-attendance in a course, must be made within 30 days of the posting of grades by the Faculty of Graduate Studies. Failure of a course itself is not a valid reason for appeal. If the absence of the instructor or other factors make an appeal within 30 days impossible, the intention to appeal should be indicated to the Graduate Program Director within 30 days of the posting of grades by the Faculty of Graduate Studies.

**Appeals Related to Academic Requirements/Decisions**

A request for an exemption to a graduate program degree requirement must be directed to the Graduate Program Director of the student's program. If not satisfied with the outcome of the request, the student may then refer the matter to the Faculty Dean and the Dean of Graduate Studies. If the student is not satisfied with the joint decision of the Deans, the student may then appeal to the Senate Student Appeals Board.

A request for an exemption to a University degree requirement must be directed to the Faculty Dean and the Dean of Graduate Studies. If the student is not satisfied with the joint decision of the Dean of Graduate Studies, the student may then appeal to the Senate Student Appeals Board.

**Appeals of academic decisions made by the Graduate Program Committee and/or Graduate Program Director (e.g., required program withdrawal) must be directed first to the Graduate Program Committee or Graduate Program Director who made the decision. If not satisfied with the outcome of the request, the student may then refer the matter to the Faculty Dean and the Dean of Graduate Studies. If the student is not satisfied with the joint decision of the Deans, the student may then appeal to the Senate Student Appeals Board.**

**Requests for Retroactive Registration and Backdated Withdrawal**

Within 30 days of the last day of classes, a backdated withdrawal will be considered upon the receipt of a request to the Faculty of Graduate Studies which is supported by documentation verifying medical reasons (Brock University Medical Certificate) or compassionate grounds that prevented the student from withdrawing by the required date for doing so. Requests submitted without supporting documentation will not be considered.

Prior to the last day of the course duration, a request for retroactive registration will be considered by the Faculty of Graduate Studies upon the receipt of supporting documentation that outline the reason(s) why formal registration did not occur. This documentation must be accompanied by Registration Form signed and dated by the course instructor, and Graduate Program Director, verifying that the student has been in continuous attendance.

Requests under C. i) and C. ii) are considered by, and a decision rendered by, the Director of Graduate Studies (or designate). There is no charge for this request.
Students wishing to appeal the decision of the Director of the Faculty of Graduate Studies may refer the matter to the Dean of Graduate Studies. If the student is not satisfied with the decision of the Dean of Graduate Studies, the student may then appeal to the Senate Student Appeals Board.

Appeals of Charges of Academic Misconduct
All appeals of academic misconduct decisions made jointly by the Faculty Dean and Dean of Graduate Studies may be appealed to the Senate Student Appeals Board within 30 days of the date of the letter informing the student of the decision and/or penalty.

Medical Appeals
The University endeavours to accommodate students whose studies become interrupted, or who may be unable to complete academic work, or write a test or examination, due to an incapacitating medical condition. In these situations, the student must complete the Brock University Medical Certificate and include any relevant medical documentation to support his/her request for academic accommodation based on medical grounds. The University may, at its discretion, request more detailed documentation in certain cases.

Appeals Procedures

Method of Appeal to the Student Appeals Board
All appeals directed to the Student Appeals Board must be received in type-written form. Submissions not received in this form will be returned to the student without decision. Appeals should be submitted to the Associate Registrar, Academic Information and Protocol, Office of the Registrar and must provide any additional documentation not submitted to the Dean of Graduate Studies and must be accompanied by the appeal fee.

Appeals must clearly state the arguments and expectations of the student. The responsibility is on the student to demonstrate the validity of their appeal and to provide full and appropriate supporting documentation. Dissatisfaction with, or ignorance or neglect of University policy or published deadlines shall not constitute sufficient grounds for appeal.

Appeals of academic decisions must be made within 30 days of the date of the letter informing the student of the academic decision or within 30 days of the posting date of grades which informs the student of the academic decision and/or final grade.

Appeals of a charge of academic misconduct must be made within 30 days of the date of the letter informing the student of the decision of the Dean of Graduate Studies.

A student may abandon an appeal at any time during the appeal process.

Hearings at the Student Appeals Board
Meetings of the Student Appeals Board are held in camera.

In accordance with the rules of natural justice, students appealing to the Student Appeals Board have a right to a fair hearing. This includes the right to be notified of the date at which the student's appeal will be considered, the right to attend and present oral arguments and the right to question the Dean of Graduate Studies (or the person designated by the Dean).

Students must inform the Associate Registrar, Academic Information and Protocol, Office of the Registrar, of their intention to attend the meeting.

Students are entitled to bring one faculty, staff or student member of Brock University (who shall act as an advisor) to the meeting of the Student Appeals Board.

Where a member of the University community has a close personal relationship, defined as any relationship, arising from being a member of immediate or extended family (parent, guardian, partner, sibling, aunt, uncle, cousin, or in-law) with a student; that person shall not participate in or contribute to that student's appeals hearing.

Where a member of the University community and the student are engaged in activities (academic work, research projects, teaching programs, employment situations, etc) where the member of the University community is a Faculty supervisor, manager, or in a position of authority; that person shall not participate in or contribute to that student's appeals hearing.

In situations where the relationship of a member of the University community and a student may pose a real, apparent, or potential conflict of interest; both parties must formally disclose in writing the conflict of interest, upon discovery, to the Administrative Co-ordinator, Student Appeals Board prior to the hearing.

If a student has asked to attend the meeting of the Student Appeals Board, the Dean (or the person designated by the Dean) whose decision is being appealed will be invited to attend the meeting of the Student Appeals Board.

The Student Appeals Board may request the attendance of appropriate individuals to appear before the Board to provide information pertinent to the appeal.
Where the appeal is against an assigned final grade, the faculty member named in the appeal will be invited to attend the meeting of the Student Appeals Board. In instances where a faculty member, Graduate Program Director, or Faculty Dean is named in an appeal, the student’s submission will be available to the individual named. At the request of the student, the written response of the faculty member, Graduate Program Director, Faculty Dean, or the Dean of Graduate Studies to an appeal will be made available to the student.

The student and the Dean of Graduate Studies, and where applicable the Graduate Program Director, faculty member, or Faculty Dean, will be informed, in writing, of the decision of the Student Appeals Board.

The decision of the Student Appeals Board is final.

XIX. Degree Completion

Degree Audit

The graduate program submits to the Faculty of Graduate Studies the completed Graduate Record Form indicating that all degree requirements have been satisfactorily completed. The completion of graduate degree requirements outlined on the Graduate Record Form will be reviewed and approved by the Dean of Graduate Studies (or designate). If academic documentation for graduation is not submitted by the student’s program at least one month prior to the convocation date, the student will be required to postpone graduation to the following convocation.

Intention to Graduate

Intention to Graduate is processed online via the University portal, my.brocku.ca, click on Student Self Serve, then from the list of options click on GraduationApp. Payment is made online and the application can be tracked through the various processing stages. Application deadlines are July 1 for Fall Convocation and February 1 for Spring Convocation. Details regarding the convocation ceremonies go to https://brocku.ca/registrar/grad

Candidates should note that in addition to the Intention to Graduate Form, all degree requirements must be completed by the dates published in the academic calendar before any degree will be awarded.

The convocation ceremony is physically accessible for both graduands and their guests.

Diplomas

Diplomas are prepared for students who have completed degree requirements as prescribed by Senate. Diplomas are presented at Convocation to students graduating from a degree program.

Degree program graduates who are not able to attend Convocation will have their diploma/certificate mailed to the address indicated on their Brock account.

Diplomas will be designed to indicate the degree name on the first line, the program and/or field of specialization (where applicable) on the second line, and Co-op designation (where applicable) on the third line.

Replacement of Diploma

Graduates may request, with payment of the required fee, a duplicate or reprinted diploma or certificate. A “duplicate copy” of a student’s diploma or certificate will be issued 1) when a student requires a second copy of their diploma or certificate; 2) when, on request for a new diploma, the first copy of the diploma is not returned; and 3) when a statutory declaration (stating that the diploma or certificate has been lost, destroyed) is not submitted. A diploma or certificate will be “reissued” (noting the date of reissue) when the first diploma or certificate is returned or a statutory declaration is submitted. The words “duplicate copy” or “reissued” will be affixed to all diplomas and certificates requested in this manner.
TO: Chabriol Colebatch, Secretary to the University and General Counsel  
Brock University

FROM: Professor Susan Sydor  
Chair, Senate Undergraduate Program Committee

DATE: March 7, 2018

REPORT TO SENATE 658, March 14, 2018

CONSENT ITEMS - FOR APPROVAL

The following items are recommended for inclusion in the academic calendar

1. MOVED: SYDOR/

    THAT Senate approved the addition of MATH 3P94 to the Undergraduate course calendar.

Rationale: will strengthen ours and Physics’ undergrad program.

MATH 3P94 Symmetry Groups, Matrix Representations and Applications Symmetry groups, their invariants and matrix representations. Permutation groups, rotation groups. Representations of discrete and continuous groups by linear transformations (matrices). General properties and constructions of group representations. Representations of specific groups. Lie groups and Lie algebras. Applications in various areas of Mathematics and Theoretical Physics. Prerequisite(s): MATH 2P12 or permission of the instructor.

2. MOVED: SYDOR/

    THAT Senate approved the program change in Kinesiology.

Rationale: Splitting HLSC 2F95 into HLSC 2P95 and HLSC 2P96, and noting the overlap of content in KINE 1P90 and HLSC 2P95 and KINE 1P98 and HLSC 2P96 the program change gives majors in Kinesiology and Health Sciences programs greater access to courses. More students will receive service and pressure on scheduling and sharing resources will be eased.

3. MOVED: SYDOR/

    THAT Senate approved the program change in Performance Concentration.

Rationale: the inclusion of 2P11 in Year 2 ensures that prerequisites are met.
4. **MOVED: SYDOR/**

   THAT Senate approve the revised exclusion in KNE 1P90.

   **Rationale:** Fit with program change.
   KINE 1P9 Human Systems Anatomy
   Completion of this course will replace previous assigned grade and credit obtained in PEKN 1P90, BIOL 2P97 and HLSC 2P95.
To: Chabriol Colebatch,  
University Secretariat

From: Laurie Morrison  
Chair, Teaching and Learning Policy Committee

Date: March 6th, 2018

Report to Senate 658, March 14th, 2018

INFORMATION

Teaching and Learning Policy Committee is continuing to work on items outlined in the work plan submitted to Senate in September 2017. This report outlines the progress to date.

1. Course Evaluations: A subcommittee of T&LP continues to investigate a path forward for Brock to adopt institution wide questions to be added to all departmental course evaluations. The committee intends to submit to the Senate Governance Committee a briefing on course evaluations to be presented at the April meeting of Senate for a generative discussion.

2. The Chair has distributed and received feedback on an addition to the Faculty Handbook on accommodation from relevant Senate committees. The section is now being reviewed by the Office of Human Rights and Equity Services. The new section is expected to come before Senate in April.

3. Open Education Resources: The Chair has been in conversation with stakeholders at Brock who will be initiating an OER Working Committee and establishing an OER Interest Group. The membership will include representation from T&LP Committee.

4. The committee is in support of the Teaching Culture Survey initiated by Jill Grose from the Centre of Pedagogical Innovation. The data collection began earlier in March. This survey was created in partnership with 9 Canadian universities and is funded by the Social Sciences and Humanities Council (SSHRC). It seeks to explore how instructors, staff members and students perceive teaching at their institutions. A report will be shared with Senate in the future. More information can be found here.

5. Indigenous Teaching and Learning: A subcommittee reviewed the recommendations from the Indigenous Education Advisory Committee and the T&LP committee continues to discuss pathways for moving forward.
TO: Chabriol Colebatch, University Secretary & General Counsel Brock University

FROM: Professor Nota Karentrou
Chair, Information, Technology and Infrastructure Committee

DATE: March 6, 2018

REPORT TO SENATE 658, March 14, 2018

INFORMATION

1) The Bring Your Own Device (BYOD) project through a VDI solution is underway and will allow students to run projects from their own devices from anywhere. The software is currently available only in ITS computer labs. [VDI/BYOD](#)

2) IT Security: Several projects (Chief Information Officer, Other IT Security Projects, PCI, Cyber Security Awareness Program) are underway and detailed information on each are in this [report](#).

3) Information Technology Services and Human Resources had planned to release Lynda.com to the Brock Community at the end of February. The information is to be disseminated via Brock News and SharePoint.

4) The Aboriginal Education Council is scheduled to meet the last week of March and discussion of indigenous art on campus will take place.