

SENATE AGENDA

1:30 p.m., Friday, October 21, 2016
Room 1R40, Arts and Humanities Building

1. **Minutes of the Meeting of September 23, 2016**
2. Business Arising from the Minutes
3. Report of the President (A. Chakma)
4. Reports of Committees:
Operations/Agenda - **EXHIBIT I** (M. Milde)
Nominating – **EXHIBIT II** (A. Chakma)
Academic Policy and Awards – **EXHIBIT III** (S. Macfie)
University Planning - **EXHIBIT IV** (D. Laird)
5. Report from the Board of Governors – **EXHIBIT V** (J. Knowles/M. Wilson)
6. Report from the Academic Colleague - **EXHIBIT VI** (Erika Chamberlain)
7. Discussion and Question Period
8. New Business
9. Adjournment

Senate meetings are scheduled to begin at 1:30 p.m. and normally will end by 4:30 p.m. unless extended by a majority vote of those present.

APPROVAL OF MINUTES

REPORT OF THE PRESIDENT

OPERATIONS/AGENDA COMMITTEE

FOR ACTION

Revisions to the Terms of the Faculty of Information and Media Studies' Council

FOR INFORMATION

2015-2016 Annual Report of the Senate Review Board Academic
Candidates for Degrees and Diplomas – Autumn Convocation 2016
Report of the Senate ad hoc Committee on Renewal – Update on Implementation Plan

NOMINATING COMMITTEE

FOR ACTION

Selection Committee for the Associate Vice-President (Research)
Decanal Selection Committee – Faculty of Law

SENATE COMMITTEE ON ACADEMIC POLICY AND AWARDS (SCAPA)

FOR ACTION

Faculty of Information and Media Studies: Withdrawal of the Western/Fanshawe Combined Degree/Diploma Program in Media Theory and Production (MTP)
School of Graduate and Postdoctoral Studies:
 Revisions to the Master of Engineering (MEng) in Design and Manufacturing (Advanced Design and Manufacturing Institute/ADMI)
 Discontinuation of the Business Skills for Actuaries and Financial Professionals Graduate Diploma (GDip)

FOR INFORMATION

Revisions to the “Registration and Progression in Three-Year, Four-Year and Honors Programs – Breadth Requirements” Policy
SUPR-G Report: Cyclical Review of Political Science
SUPR-U Report: Cyclical Review of Economics
New Scholarships and Awards

SENATE COMMITTEE ON UNIVERSITY PLANNING (SCUP)

FOR INFORMATION

Final Draft Indigenous Strategic Plan

REPORT FROM THE BOARD OF GOVERNORS

FOR INFORMATION

Report on a meeting of the Board of Governors

REPORT FROM THE ACADEMIC COLLEAGUE

FOR INFORMATION

Standard Report

MINUTES OF THE MEETING OF SENATE

September 23, 2016

The meeting was held at 1:30 p.m. in Room 1R40, Arts and Humanities Building.

SENATORS: 81

E. Ansari	Y. Huang	I. Paul
A. Bachman	M. Jadd	B. Paxton
A. Bhatt	C. Jones	W. Pearson
I. Birrell	D. Jorgensen	A. Pero
P. Bishop	A. Katz	M. Pratt
A. Bowlus	R. Kennedy	S. Rodger
J. Capone	M. Knott	D. Rogers
A. Chakma	J. Knowles	L. Rosen
A. Chant	D. Laird	C. Roulston
K. Clark	K. Lawless	B. Rubin
K. Cole	S. MacDougall-Shackleton	J. Rylett
R. Collins	S. Macfie	J. Scarfone
E. Comor	E. Macpherson	P. Schmidt
B. Craig	L. McKivior	V. Schwean
M. Crossan	C. Mcleod	Z. Sinel
M. Crystal	B. Meharchand	A. Singh
C. Davidson	J. Michalski	W. Siqueira
J. Deakin	M. Milde	C. Steeves
C. Dean	L. Miller	S. Stewart
G. Dekaban	S. Mumm	M. Strong
P. Doyle	P. Nesbitt-Larking	M. Thomson
N. Dyer-Witheyford	G. Ng	J. Toswell
J. Emberley	V. Nielsen	S. Trosow
J. Garland	V. Nolte	T. Tucker
A. Grzyb	C. Olivier	C. Wang
C. Hardy	H. Orbach-Miller	B.A. Younker
A. Hrymak	G. Parraga	H. Zafari

Observers: E. Avila, A. Bigelow, K. Campbell, A. Di Sebastiano, J. Doerksen, T. Hinan, J. Sadler

By Invitation: J. O'Brien

S.16-169

MINUTES OF THE PREVIOUS MEETING

The minutes of the meeting of June 3, 2016 were approved with the inclusion of the following revision to the fifth paragraph of S.16-136: Report of the Senate ad hoc Committee on Renewal found on page 3: *“A member praised the report and asked whether the senior administration was supportive of the findings and recommendations of the Senate ad hoc Committee on Renewal. The President confirmed that the administration is supportive of the report and will work towards implementing the recommendations.”*

S.16-170 **REPORT OF THE PRESIDENT**

The President reported that the 2016-17 first-year undergraduate class, numbering just over 5,300, represents the largest-ever in Western's history. He also provided an update on provincial and federal government matters including the announcement that Western's BrainsCAN initiative will receive \$66 million from the Canada First Research Excellence Fund (CFREF) and that by the end of the month, Western should learn about its submission to the \$2-billion Post-Secondary Institutions Strategic Investment Fund (SIF). He reported that the Canada's Fundamental Science Review, launched on June 13, provides opportunities for feedback on a public website with the deadline being September 30. He reported that Western will participate in a Global Science Excellence Roundtable session. He announced that Council of Ontario Universities (COU) is launching an online survey seeking opinions from all Ontarians on how "we can work together to unlock the full potential of Ontario's future and all who live here."

On behalf of Senate, Dr. Chakma thanked Gitta Kulczycki, Vice-President (Resources & Operations), for her 12 years of service to Western. Ms. Kulczycki will be taking up the post of Vice-President (Finance & Administration) at the University of Alberta on November 1. During the search for a new Vice-President (Resources & Operations), no interim replacement will be appointed and the Associate Vice-Presidents will report directly to the President.

REPORT OF THE OPERATIONS/AGENDA COMMITTEE [Exhibit I]

S.16-171 **Senate Membership - Don Wright Faculty of Music**

It was moved by M. Milde, seconded by G. Parraga,

That Sophie Roland, representative of the Don Wright Faculty of Music, be granted a leave of absence from October 1 – December 31, 2016 and that Patrick Schmidt serve as her Alternate.

CARRIED

S.16-172 **Senate Membership – Faculty of Education**

It was moved by M. Milde, seconded by G. Parraga,

That Melody Viczko, representative of the Faculty of Education, be granted a leave of absence from September 1 – October 31, 2016 and that Shannon Stewart serve as her Alternate.

CARRIED

S.16-173 **Senate Membership – Faculty of Social Science**

It was moved by M. Milde, seconded by G. Parraga,

That Margaret McGlynn, representative of the Faculty of Social Science, be granted a leave of absence from July 1 – December 31, 2016 and that Scott MacDougall-Shackleton serve as her Alternate.

CARRIED

S.16-174 **Senate Membership – Graduate Student Constituency**

It was moved by M. Milde, seconded by G. Parraga,

That Ahmed Abuhussein, representative of the Graduate Student Constituency, be granted a leave of absence from July 1 – October 31, 2016 and that Gwynne Ng serve as his Alternate.

CARRIED

S.16-175 **Senate Membership – Undergraduate Students - At Large Constituency**

It was moved by M. Milde, seconded by G. Parraga,

That the seat held by Alexander Pearson, representative of the Undergraduate Students – At Large Constituency, be declared vacant as a result of his resignation and that Arman Bachman be elected to fill this vacancy.

CARRIED

S.16-176 **Nominating Committee – Alternate Member**

M. Jadd was elected to serve as an alternate member on the Senate Nominating Committee to replace H. Orbach-Miller who, as Chair of the Western Student Senators, is an *ex officio* member of the Committee.

S.16-177 **University Convocation Ceremony in Hong Kong**

It was moved by M. Milde, seconded by P. Bishop,

That the University Convocation Ceremony in Hong Kong be suspended.

CARRIED

S.16-178 **2017 Convocation Dates**

Senate received for information the following 2017 convocation dates:

Huron University College Theological Convocation
- Thursday, May 11

Schulich School of Medicine & Dentistry - MD Program
- Friday, May 12

MBA Spring Convocation
- Friday, June 9

Spring Convocation (309)
- Tuesday, June 13 to Friday, June 16 and
Monday, June 19 to Wednesday, June 21

Autumn Convocation (310)
- Thursday, October 26 and Friday, October 27

S.16-179 **Order of Ceremony – Spring Convocation 2017**

Senate received for information the order of ceremony for Spring Convocation 2017, detailed in Exhibit I, Appendix 1.

S.16-180 **Officers of Convocation**

The following Officers of Convocation have been appointed/reappointed (term: to June 30, 2018):

Donna Peterson, Director of Convocation
Dan Shrubsole, Marshal of Convocation
Angie Mandich, Assistant Director of Convocation
Shelley Clark, Chief Usher
Richard Semmens, Chief Public Orator
Laura Naus, Assistant Chief Usher (to replace Craig Reed)

A member remarked that these individuals, and other volunteers, give countless hours of their time to ensure that convocation is a success every year and that they deserved Senate's and the University's thanks for all that they do. The President agreed with the comment and encouraged members of Senate to volunteer or attend convocation. They would find it highly rewarding.

S.16-181 **Senate Election Schedule 2017**

The Senate Election Schedule for 2017, detailed in Exhibit I, Appendix 2, was received for information.

S.16-182 **Report of the Senate ad hoc Committee on Renewal – Update on Implementation Plan**

M. Milde noted that the Report of the ad hoc Committee on Renewal contains 24 recommendations in all. Some of them are inter-related, some can be dealt with in a relatively short time frame, others require further investigation and input, yet others have resource implications (budgetary or time). Bearing in mind that Senate has not yet considered and approved the various recommendations individually, OAC has begun a preliminary review of the recommendations and will continue to do so at its next meeting. The table contained in Exhibit I, Appendix 3, represents the committee's thinking thus far. It provides an indication of who would have responsibility for formulating a proposal for Senate's consideration or for taking action, and what the next steps would be in the process of bringing forward each recommendation to Senate. He stressed that OAC's work was not dispositive; Senate would be the final decision maker in each case.

Discussion focussed on the following:

- (a) Bringing major issues to Senate early in the decision-making process

Referring to recommendation 5(a) in the ad hoc Committee's report, a member expressed concern that the proposed solution of using the Discussion & Question period at the end of each meeting to surface issues was not satisfactory. Major issues would be visible to senior administrators much sooner than they would to individual members of Senate. Senior administrators identify issues on their horizon for events such as deans' retreats and they could do the same for Senate. The intent of this recommendation is that such issues should come to Senate for discussion earlier rather than later.

Dr. Milde remarked that one of the questions raised at the Operations/Agenda Committee was how "major issues" was to be defined. Some, such as the budget, would be regular and easy to identify, but that would not always be the case. Two members noted recent examples of issues that might have benefited from early discussion at Senate prior to decisions being taken: the research clusters process and the process for distributing earnings from the \$5 million endowment for research in the arts, humanities, and social sciences.

A member suggested that it was unrealistic for Senate to expect that it would be at the front end of key strategic decisions. That did not represent good governance. Detailed discussion of strategic priorities requires the preparation of good materials which takes time. An alternative might be to use the President's Report, which is at the beginning of the meeting, as an opportunity to flag key issues for feedback.

(b) Open committee meetings/posting agendas

In support of open meetings, it was noted that while some issues would need to be dealt with confidentially in committees, whether meetings were open or closed should not be a binary proposition. Open committee meetings would enhance transparency and a sense of participation for all Senators. It was suggested that the Operations/Agenda Committee look to the municipal model where the default is to have open meetings with specified exceptions for moving *in camera*. Also in the municipal system, publicly-posted agendas list confidential items to be discussed in the *in camera* sessions so that the public is aware of all issues under discussion.

Dr. Milde took under advisement a request that the Operations/Agenda Committee open those sections of its meetings where it would be deliberating the recommendations of the ad hoc committee.

(c) Educating and informing the university community about Senate

- (i) It was noted that while encouraging all members of the university to attend Senate meetings was laudable, it was not realistic for many administrative staff who currently would not have the freedom to leave their desks to attend. It was suggested that Human Resources be engaged in discussions about this.
- (ii) It was suggested that Senate meetings might be live-streamed.
- (iii) It was suggested that the President's Report be written rather than just delivered orally. This would allow members more time to reflect on the issues being raised.

In closing, Dr. Milde reiterated that the Operations/Agenda Committee would not be acting as a gatekeeper for any of these issues and would be bringing regular progress reports to Senate meetings. The final decision on each proposal would be Senate's to make. In answer to a question he noted that recommendations would come forward to Senate as they were ready.

REPORT OF THE SENATE NOMINATING COMMITTEE [Exhibit II]

S.16-183

Selection Committee for the Vice-President (Resources and Operations)

The following individuals were elected to the Selection Committee for the Vice-President (Resources & Operations): Audra Bowlus (SS), Jane Rylett (Schulich), Tony Straatman (Engg), Rebecca Amoah (Student).

S.16-184

Board of Governors

Pam Bishop (Educ) was elected by Senate to serve on the Board of Governors to complete the term of Brian Timney who has resigned (term: July 1, 2016 - June 30, 2018).

Concern was expressed that members did not have an earlier opportunity for input on a position as important as the election of a member of the Board of Governors. The Nominating Committee was asked to take steps to make members more aware of vacancies and encourage nominations.

S.16-185 **Operations/Agenda Committee**

The following Senators were elected to serve on the Senate Operations/Agenda Committee: Viktor Staroverov (October 1 – December 31, 2016) and Anita Kothari (HS) (July 1 – December 31, 2016).

S.16-186 **Senate Review Board Academic**

Joel Armstrong was elected to complete the term of Ahmed Abuhussein who is on a leave of absence (term to June 30, 2017).

[Secretary's Note: Subsequent to the meeting, the Operations/Agenda Committee approved Mr. Abuhussein's request for a leave of absence from SRBA. He will return to the seat effective November 1, 2016.]

S.16-187 **Honorary Degrees Committee**

The following individuals were elected to the Honorary Degrees Committee for terms to June 30, 2017: Arman Bachman (Student Senator), Tracy Isaacs (AH).

S.16-188 **University Research Board**

Blake Butler (M&D) was elected as the postdoctoral representative on the University Research Board (term to June 30, 2017).

REPORT OF THE SENATE COMMITTEE ON ACADEMIC POLICY AND AWARDS [Exhibit III]

S.16-189 **Faculty of Engineering, Department of Electrical and Computer Engineering and Richard Ivey School of Business: Introduction of the Combined Programs "Electronic Devices for Ubiquitous Computing and Business Option" and "Software Systems for Ubiquitous Computing and Business Option"**

It was moved by S. Macfie, seconded by B. Kennedy,

That the combined programs "Electronic Devices for Ubiquitous Computing and Business Option" and "Software Systems for Ubiquitous Computing and Business Option," offered by the Faculty of Engineering, Department of Electrical and Computer Engineering and the Richard Ivey School of Business, be introduced effective September 1, 2016 as shown in Exhibit III, Appendix 1.

CARRIED

S.16-190 **School of Graduate and Postdoctoral Studies: Dual-Credential Doctoral Degree Agreements**

It was moved by S. Macfie, seconded by W. Siqueira,

That effective September 1, 2016 Senate approve the introduction of Dual-Credential Doctoral Degree Agreements with the following universities:

Tianjin University (TJU), Tianjin, China
Zhejiang University of Technology (ZJUT), Hangzhou, China
University of Campinas (UNICAMP), Campinas-SP, Brasil
Flinders University of South Australia, Adelaide, Australia

CARRIED

Responding to a question about listing the Dual-Credential Doctoral Degree programs, L. Miller, Vice-Provost (Graduate & Postdoctoral Studies) reported that the School of Graduate and Postdoctoral Studies is working on adding this information to their website.

S.16-191 **Brescia University College: Revision to the Preliminary Year at Brescia University College**

It was moved by S. Macfie, seconded by S. Rodger,

That effective September 1, 2016, the revisions to the Preliminary Year at Brescia University College be approved as shown in Exhibit III, Appendix 3.

CARRIED

S.16-192 **Revisions to the Policies Containing Reference to Ivey Honors Designations**

It was moved by S. Macfie, seconded by R. Kennedy,

That the policies referring to Ivey Honors designations be revised as shown in Exhibit III, Appendix 4, effective September 1, 2016.

CARRIED

Responding to a question regarding student awareness of the Ivey Student Code of Conduct, Dean Kennedy said that each student, upon applying, receives a copy of the Student Code of Conduct, and upon arrival, receives another copy that must be signed. He advised that a link to the Ivey Student Code of Conduct will be included in the university's academic calendar.

S.16-193 **SUPR-U Report: Cyclical Reviews**

Senate was informed that the following cyclical reviews were approved by SCAPA:

Faculty/Affiliates	Program	Date of Review	SUPR-U recommendation
Science	Computer Science	March 29, 2016	Good Quality
King's University College	Bachelor of Social Work	March 24, 2016	Good Quality
King's University College	French	March 16, 2016	Good Quality
Social Science	Political Science	April 25, 2016	Good Quality
Schulich	MD Program	May 16, 2016	Good Quality
Arts and Humanities	Visual Arts	March 23, 2016	Good Quality

The detailed Final Assessment Reports for each of these reviews were attached as Exhibit III, Appendix 5.

S.16-194 **New Scholarships and Awards**

SCAPA approved, on behalf of the Senate, the Terms of Reference for the new scholarships and awards shown in Exhibit III, Appendix 6 for recommendation to the Board of Governors through the Vice-Chancellor.

REPORT OF THE SENATE COMMITTEE ON UNIVERSITY PLANNING [Exhibit IV]

S.16-195 **Revised Report on Promotion and Tenure**

Senate received for information a revised Report on Promotion and Tenure detailed in Exhibit IV, Appendix 1. The original report submitted to Senate in June 2016 had incorrectly listed a Limited Term appointee's promotion in the probationary tenured category.

REPORT OF THE HONORARY DEGREES COMMITTEE [Exhibit V]

S.16-196 **2016 Autumn Honorary Degree Recipients**

The Report of the Honorary Degrees Committee, announcing the 2016 Autumn Honorary Degree Recipients, detailed in Exhibit V, was received for information.

S.16-197 **REPORT OF THE ACADEMIC COLLEAGUE** [Exhibit VI]

The report of the Academic Colleague on the meetings held in August, detailed in Exhibit VI, was receive for information.

S.16-198 **REPORT TO SENATE FROM THE BOARD OF GOVERNORS** [Exhibit VII]

The Report to Senate from the Board of Governors, detailed in Exhibit VII, was received for information.

S.16-199 **ANNOUNCEMENTS** [Exhibit VIII]

A list of academic administrative posts detailed in Exhibit VIII, Announcements, was received for information.

DISCUSSION AND QUESTION PERIOD

S.16-200 **Clean Air Corridors**

A member asked what steps the administration has taken or will take in the future to ensure that the "Clear Air Corridors" are being respected and whether the administration had any plans to further transition towards a smoke-free campus.

J. O'Brien, Associate Vice-President (Human Resources), said that Human Resources had been responding to complaints received and staff have been patrolling those designated areas to educate individuals still smoking. With regard to a broader ban, plans were underway for consultation with the campus community.

Responding to a member's question about restricting bus idling on campus, Ms. O'Brien agreed to take that concern to the University's Health and Safety Committee for consideration.

ADJOURNMENT

The meeting adjourned at 3:00 p.m.

A. Chakma
Chair

I. Birrell
Secretary

REPORT OF THE PRESIDENT

To: Senators
From: Amit Chakma
Date: October 14, 2016
Re: President's Report to Senate

For the October 21, 2016 Senate meeting, there are three documents I wish to share for information, each of which is included as an appendix to this report.

The first, is my updated [President's Priorities document](#) that was reviewed and approved at the September 27 meeting of the Board of Governors. As I enter the third year of my second five-year mandate, rather than providing an annual list of priorities, I have decided to focus on four high-level priorities which will receive my personal attention during the remaining period of my mandate. In arriving at this list of priorities, I was guided by the four pillars of the Strategic Plan and a focus on academic excellence to drive Western's upward journey beyond my presidency. I welcome questions and comments on this document.

The second and third documents are submissions from the [U15 Group of Canadian Research Universities](#) and [Universities Canada](#) in response to the federal government's review of how it funds scientific research. Earlier this year, the government named a nine-member expert panel, chaired by former University of Toronto president and Western alumnus David Naylor, to conduct this review. Reporting to Science Minister Kirsty Duncan, the panel has been given a broad mandate to study all three federal granting councils (NSERC, SSHRC and CIHR) along with the ancillary organizations such as the Canada Foundation for Innovation and Genome Canada that also allocate research funding to the post-secondary sector. Collectively, these funding bodies will distribute more than \$3 billion to Canadian researchers and their labs this year, and the timing for such a review is important given the increasing demands and expectations placed on government to support innovation in our universities.

When asked what she most wanted the panel to address, Minister Duncan was quoted in a *Globe and Mail* report as saying: "We want to make sure we're keeping pace in a fast-changing world ... so where are the gaps, where are the challenges, how can we do this better?" She added, as an example, the need to address the plight of younger researchers who, in many cases, must wait until they are in their 40s to get federal support.

.../2

The expert panel is expected to deliver its report in six months and includes the following members (in addition to David Naylor as Chair):

- Robert Birgeneau, former University Toronto President and former Chancellor of the University of California (Berkeley)
- Martha Crago, Vice-President (Research), Dalhousie University
- Mike Lazaridis, Co-founder, Research in Motion
- Claudia Malacrida, Associate Vice-President (Research), University of Lethbridge
- Arthur McDonald, Nobel Prize winner and Professor Emeritus (Physics), Queen's University
- Martha Piper, Acting President, University of British Columbia
- Remi Quirion, Chief Scientist, Government of Quebec
- Anne Wilson, Professor (Psychology), Wilfrid Laurier University

There are also two recent news items I wish to highlight. First is the appointment of Economics Professor Emeritus Ron Wonnacott to the Order of Canada. Ron was recognized for his groundbreaking work on free trade policy. His academic career started at Western, where he was president of the University Students' Council. He completed his undergraduate degree in 1955, and then earned his PhD at Harvard University. In 1958, he returned to Western as a professor, beginning his teaching career when the Department of Economics was in its infancy.

Second and finally is the \$45 million Western has been awarded through the federal government's Strategic Investment Fund. Announced September 30 by London North Centre MP Peter Fragiskatos, the funding will support the university's construction of the Western Interdisciplinary Research Building (WIRB) and The Three C+ Innovation Centre. WIRB is well under construction now in the Visual Arts parking lot off Perth Drive. The 130,000-square-foot facility will serve as the new home for the Research Cluster for Cognitive Neuroscience, which will include the Brain & Mind Institute, and the Rotman Institute of Philosophy, as well as provide five mixed-use general classroom spaces. Approximately 25,000 square feet over two floors will be unfinished to accommodate future research-related space needs. Meanwhile, the Three C+ (Connect, Collaborate and Create) Innovation Centre, is envisioned to be a 100,000-square-foot building that will transform how the university delivers Engineering education. It will be located along Western Road near the Boundary Layer Wind Tunnel. Western looks to secure a LEED Platinum certification for the new building, which would make it only the third university teaching/research building in Canada to achieve that level.



MEMORANDUM

To: Board of Governors
From: Amit Chakma
Date: September 8, 2016
Re: Priorities for 2016-19 – Strategic Capacity Building

Each September, I outline high-level priorities to pursue in the academic year ahead that will help achieve the broader teaching, research and service mission of our university. These priorities are informed through my ongoing interaction with individual colleagues and groups within our campus community, as well as with key external stakeholders who play important roles in Western's success.

As I enter the third year of my second five-year mandate, rather than providing my annual list of priorities, I have decided to focus on four high-level priorities which will receive my personal attention during the remaining period of my mandate. In arriving at this list of priorities, I was guided by the four pillars of the Strategic Plan and a focus on academic excellence to drive Western's upward journey beyond my presidency.

- I. **Internationalization:** Supporting the Strategic Plan's pillar: *"Lead in learning by providing Canada's best education for tomorrow's global leaders"*

Western has made significant strides in meeting our internationalization goals outlined in our Strategic Plan. A few examples include:

- We have increased the percentage of international students in Year 1 from less than 3% to over 11% this year.
- Similarly, we have increased the percentage of students taking part in international learning opportunities from less than 3% to over 6%.
- Our students are participating in The Undergraduate Awards competition along with students from other prestigious universities from around the world and winning "Highly Commended" honours in record numbers.

With the progress made to date, Western has already differentiated itself from our national peers. The aspirational goal of making Western a national leader in internationalization is in near sight and I plan to stay focused on the task.

- II. **Strategic Infrastructure:** Supporting two pillars of the Strategic Plan: *"Lead in learning by providing Canada's best education for tomorrow's global leaders" and "Raise our expectations by creating a world-class research and scholarship culture"*

Over the past decade and a half, we have continued to modernize physical infrastructure on campus and we have expanded our physical capacity through the addition of new buildings. A few examples include the modernization of Physics and Astronomy and University College, as well as new construction of the Ivey Building, FIMS and Nursing Building, Music Building,

Engineering Building, Interdisciplinary Research Building, and the Ontario Hall student residence. We are reviewing our current and future infrastructure needs and would like to identify “shovel-ready” projects. We will do some preliminary planning and design work so we are better prepared for opportunistic investments in the future. At this stage, we have identified two major infrastructure projects to be undertaken as soon as possible. The first will be a student-focused building to accommodate growing student numbers, consolidate various student services, and accommodate new student-centric activities such as entrepreneurship. The second project will be a combination of renovation and new construction to accommodate growing interdisciplinary medical-focused research activities. We also intend to look at other facilities modernization projects. In addition to physical infrastructure, I also plan to focus attention on modernizing key support infrastructure, such as IT systems, to support various operations including Advancement and student information systems.

- III. **Strategic External Partnerships:** Supporting two pillars of the Strategic Plan: *“Raise our expectations by creating a world-class research and scholarship culture”* and *“Reach beyond campus by engaging alumni, community, institutional and international partners”*

The days of working alone are at best limited. The future success of our research enterprise will depend in many ways on our ability to forge meaningful partnerships with external partners. Such partnerships are difficult to develop and require significant time commitment to pursue without any guarantee of success. We have had some successes in recent years, including the Advanced Manufacturing Consortium with McMaster and Waterloo and the recently announced Canada First Research Excellence Fund project in partnership with McGill. These partnerships are in their nascent stages and will require a lot of nurturing for them to be fully established. I plan to work with my colleagues at Western and our partner institutions to consolidate these strategic partnerships.

- IV. **Endowment-building, with a particular focus on endowed chairs:** Supporting two pillars of the Strategic Plan: *“Take charge of our destiny by generating and investing new resources in support of excellence”* and *“Raise our expectations by creating a world class research and scholarship culture”*

Western’s endowment will be an increasingly important strategic asset to Western in the decades ahead. In the long run, building the endowment will help us meet one of our strategic goals of growing our non-provincial revenues by at least 1% annually. With our modest beginning in 1979, starting with a \$10-million endowment, we have come a long way. At the beginning of my presidency in 2009, the endowment stood at \$265 million. We set a goal of nearly doubling it to \$500 million by 2018. We exceeded that goal in 2016 and are nearing the \$600-million mark. It is important to continue this positive momentum. An essential component of the endowment is funding for faculty chairs. We have succeeded in adding 21 new endowed chairs primarily through our matching chairs program. This needs to continue. All of these initiatives will require my personal attention and I plan to devote a significant portion of time during the remaining years of my presidency to build capacity for continued growth of our endowment in general and our endowed chairs program in particular.

While I have outlined four high-level strategic capacity building priorities, the priorities outlined in the previous years will also continue to be pursued through the leadership of other members of Western’s senior team under my general supervision, and to continue effective engagement with campus community leaders. A number of structures have been put in place to allow ongoing, regular meetings with key stakeholders.

In addition, there will be a need for me to engage in other externally driven activities such as the reviews on science and innovation policy currently underway at the federal level and the funding formula review underway at the provincial level.

UNIVERSITY OF ALBERTA
THE UNIVERSITY OF BRITISH COLUMBIA
UNIVERSITY OF CALGARY
DALHOUSIE UNIVERSITY
UNIVERSITÉ LAVAL
UNIVERSITY OF MANITOBA
MCGILL UNIVERSITY
MCMASTER UNIVERSITY
UNIVERSITÉ DE MONTRÉAL
UNIVERSITY OF OTTAWA
QUEEN'S UNIVERSITY
UNIVERSITY OF SASKATCHEWAN
UNIVERSITY OF TORONTO
UNIVERSITY OF WATERLOO
WESTERN UNIVERSITY

U15 Fundamental Science Review Submission – Institutions and Administrators

September 2016



U¹⁵

Group of Canadian Research Universities

Regroupement des universités de recherche du Canada

1. From the perspective of research, are Canadian universities keeping pace internationally? If not, what changes or new programs are needed to close the gap?

To ensure that Canada's researchers maintain their leading roles in global science, and our research infrastructure keeps pace with researchers' needs, it is crucial that our research funding ecosystem evolves. We must capitalize on the collaborative, interdisciplinary, international nature of today's – and tomorrow's – ground-breaking science.

Specific program improvements could further support Canadian researchers in the new research landscape and create a university research environment that keeps pace internationally. These improvements would foster a stronger system that enables:

- High-risk, long-term research that is competitively funded and facilitates the fundamental pursuit of knowledge, while remaining cognizant of the fact that it may take longer than a granting cycle to generate publishable, world-class work. This transformative research will establish Canada as a world-leader in specific fields and will attract international attention.
- Funding adjudications that take place outside of the traditional granting cycle, on an *ad hoc* basis. These additional adjudications will facilitate and improve Canadian participation in exceptional opportunities in international collaborations on research and infrastructure projects.
- Grant programs that are harmonized across disciplines. Establishing discipline-specific programs should occur only where harmonized programs do not meet specific needs.
- Support for the operations and maintenance of core facilities, as well as for small equipment and upgrades.
- Higher education R&D that is funded at a globally competitive level. Such funding levels would restore our place among OECD countries, given that Canadian funding levels dropped to seventh place in 2014 from third place in 2006.

Increasingly, "keeping pace internationally" means participating in, or driving, major international collaborations. Our funding system should facilitate these international, interdisciplinary partnerships through:

- A flexible international research fund, reflecting the fact that collaborating on international research projects requires the capacity to leverage domestic funding quickly, on unpredictable timeframes;
- Increased portability of grants, to allow Canadian researchers to conduct research abroad;

- Broad Tri-Council coordination of international outreach, because The U15 has heard from international partners that it is confusing to have siloed, *ad hoc* meetings with Tri-Council agencies that do not explain their shared objectives;
- World-class research infrastructure that acts as a beacon for international researchers; and
- Fostering excellence programs such as the Canada First Research Excellence Fund.

Canada accrues many benefits from being a global research leader, including ensuring that we are integrated into global knowledge flows, training and fostering excellence in teaching, identifying and fostering important partnerships, engaging in science diplomacy and improving our international reputation. Canada can further advance its leading role in research by continuing to attract top international talent through science diplomacy by:

- Hosting exchanges to encourage researcher-to-researcher connections;
- Leveraging Global Affairs Canada to attract international students to Canada; and
- Leveraging science diplomacy to encourage visits from high-profile researchers and research partnerships with researchers, institutions and nations, particularly from those countries with whom Canada seeks to improve ties.

2. Is the federal funding ecosystem meeting the needs of researchers in your institution(s)? As the needs change, is the ecosystem able to adapt and accommodate?

A fundamental research funding ecosystem is most effective when it is simple, flexible and strategic. To remain leading scholars, our university-based researchers must have:

- Competitive funding for research that recognizes the need for increased success rates to support research excellence;
- Sustainable funding structures that seamlessly cover the full cost of research, including the transition to application;
- Adaptable funding structures that recognize the evolving nature of research, science and knowledge creation environments;
- Incentives to attract top students;
- The capacity to foster and maintain research partnerships across sectors, disciplines and borders;
- A pipeline for hiring top emerging researchers; and
- Strong academic programs that world-class faculty deliver.

Building on the principles of strategic, simplified and flexible funding, there are also specific program-level gaps Canada can address by:

- Funding the full cost of research;
- Establishing the capacity to fund international research collaborations efficiently, particularly when opportunities arise outside of the granting cycle;
- Recognizing the interdisciplinary nature of the research environment and ensuring that interdisciplinary research is appropriately adjudicated and funded;
- Creating funding capacity to foster success in emerging fields and for new scholars;
- Establishing a comprehensive application process to reduce administrative burden and application fatigue; and
- Ensuring support for high-risk, long-term research that may not fit into current program schemes or funding cycles.

Although capital investments in research infrastructure are well-supported via the CFI and corresponding provincial funding, the available funds for operations and maintenance are not keeping pace and, indeed, that gap has widened over time.

3. Does the federal science funding community (e.g. the granting councils, the CFI and other agencies or organizations distributing federal funds for research) consult institutions to ensure that their programs are aligned to the needs of administrators? If so, how? If not, should it and how should it?

The federal granting councils, CFI and other funding agencies have differing approaches to consultation and, as expected, the research community and university administrators have varied experiences with these consultations. As the federal science funding community adjusts its programs, referring to these key principles will ensure the granting agencies and organizations align their funding programs with administrators' needs:

- Consultations must be robust and funding agencies must address the research community's concerns directly;
- Consultations should be part of the development process but should also provide ongoing feedback mechanisms to allow administrators, institutions and researchers the opportunity to continue to evaluate and respond after programmatic changes have been made;
- Any transitions should be phased in gradually, to mitigate the impact of changes on ongoing research projects;
- Bridging funding may be required to ensure continuity of projects or to support students and postdoctoral fellows; and

- Consultation processes and feedback mechanisms must be responsive to challenges and opportunities as defined by the research community, because there has often been significant fallout if the research community perceives the consultations as symbolic rather than robust.

4. Comment on the coordination between the programs being provided by the granting councils and other funding organizations, provinces, and/or amongst themselves. Are there areas for improvement?

Aligning the granting councils presents a strategic opportunity for our research funding system. Although there have been previous efforts to coordinate among the various agencies and programs at the federal and provincial levels, this coordination could be improved. As research becomes more interdisciplinary, better coordination becomes necessary to fund the best research and to identify gaps in funding. The granting councils and other funding agencies could enhance their coordination by:

- Re-examining matching requirements for funding and, in cases where matching funds are required, help to establish the pathways to success;
- Reviewing current programs to better align with new programs, eliminate duplication and improve the ease of the application processes;
- Establishing new mechanisms for increased flexibility in adjudication procedures;
- Establishing a comprehensive application that outlines all anticipated research costs, helping to achieve a balance in research funding, while ensuring that the full cost of research is funded;
- Aligning granting cycles across the agencies; and
- Providing funding for the length of a project, to avoid reapplication and delays.

5. Could the application processes for funding be improved? If so, what would you suggest? Are there issues with the matching programs associated with various funding programs? If so, how could this be improved?

Our research funding ecosystem must be sufficiently flexible to reflect the changing nature of research. There are aspects of the grant application process that could be improved by:

- Establishing a comprehensive application outlining all anticipated research costs. Such an application would achieve a balance in research funding, while ensuring that the full cost of research is funded and reducing the administrative burden and reviewer fatigue;
- Improving coordination among provinces and other partners regarding requirements for matching funds;

- Consulting with the research community on program design, to capitalize on members' expertise and experience;
- Providing funding for the length of a project, to avoid reapplication and delays;
- Providing funding for the full cost of research, which includes indirect costs, so that applicants are not required to submit multiple proposals to different granting bodies that are mutually dependent. Multiple proposals can delay start times and increase administrative burden;
- Assessing whether programs requiring matching funds from non-federal sources actually increases overall funding for research. Matching programs have become increasingly common and they should be reviewed to ensure that they serve the intended objective;
- Creating easier, more streamlined applications to diminish applicant fatigue; and
- Developing more user-friendly electronic forms and web interfaces. Researchers and administrators often note that they feel the application forms complicate the process unnecessarily.

6. Is there a need for the federal government to improve the balance across funding elements (e.g. investments in principal researchers, funding of research staff and other direct costs of research, funding of infrastructure and equipment operations and maintenance, and reimbursement of indirect costs)? If so, how can this balance be achieved? What is the appropriate federal role in supporting infrastructure operating costs? Do CFI and granting councils programs work in a complementary fashion?

In order to ensure a balance in research funding, funding should be targeted to support **people, research** and **infrastructure**, and the associated indirect costs of research. The U15 has identified some potential ways to achieve a balance in research funding:

- Creating a comprehensive application process that is sufficiently flexible to reflect the fact that cost breakdown can vary substantially from project to project. A comprehensive application outlining all anticipated research costs would help to achieve a balance in research funding, while ensuring that the full cost of research is funded; and
- Ensuring research excellence is the standard for evaluating all projects and proposals will leverage our world-class research as a beacon for researchers and as a driving force for fundamental research in the country.

An effective research funding ecosystem will necessarily support infrastructure along with people and research. Federal support for research is more likely to be balanced, efficient and comprehensive if it includes:

- A reasonable threshold for materiality. This threshold would reduce unnecessary audits and researcher hours directed to unnecessary administrative work identifying and costing immaterial research resources, thus reducing the administrative burden; and
- Block grants to fully cover indirect costs. The Research Support Fund supports indirect costs based on a funding formula that allocates funds to institutions at funding levels as low as 18 percent for Canada’s largest research performers. CFI’s Infrastructure Operating Fund supports maintenance and operations, with up to 30 percent of CFI funding allocated to this fund. Institutions can allocate the funding as needed, per the guidelines. These funds are institutional grants, rather than directed to the researcher. This flexibility could serve as a model that could reduce administrative burden and improve efficacy for other funding bodies.

7. What should the balance be across funding risky, novel, or emerging research areas and research with important established lines of inquiry? Do current programs and review processes achieve the right balance?

Universities are well-suited to undertake long-term, risky scientific endeavours that build on our current and emerging research strengths. Doing so advances national objectives, addresses future challenges, maintains and improves our standing in the international research community and leads to some of the most profound disruptive discoveries. Our funding process must achieve a balance in research funding by:

- Supporting established fields of research that are recognized as world-class;
- Supporting the full cost of fundamental research, while remaining cognizant of the fact that it may take longer than a single granting cycle to generate publishable, world-class work;
- Allowing for high risk research within current or dedicated programs; and
- Making risky decisions to fund potentially transformative research at the earliest stages, providing support as the research advances and creating the capacity to scale up when transformative research findings yield significant results.

8. What should the balance be across funding of research to meet broad government priorities and having research priorities determined primarily by the ideas of the research community? Do current programs and review processes achieve the right balance?

Although The U15 recognizes that the government should set the broad and overarching priorities for the research community, it should maintain a strong emphasis on investigator-driven research ideas. Fundamental research lies at the core of advances in innovation, and is the foundation of any innovation ecosystem. Building on the Haldane Principle, which holds that decisions regarding research funding are best made by research experts, rather

than politicians, The U15 suggests the following to achieve an appropriate balance in determining research priorities:

- A government-established target for funding based on international peer countries and commitment to a multi-year plan to achieve that target;
- An arms-length expert panel to provide advice to the government, ensuring that our programs continuously evolve to create the best conditions for research excellence. This panel should include international and domestic experts, and could be included in the Science, Technology and Innovation Council's (STIC) or Chief Science Officer's mandate, or be convened as a part of a new initiative;
- Sustained funding for investigator-driven research;
- Globally competitive funding for fundamental science, for "Big Science" and for scaling up research strengths;
- Federal grants that cover the full cost of research, including indirect costs; and
- A comprehensive application outlining all anticipated research costs can help to achieve a balance in research funding, while ensuring that the full cost of research is funded. A comprehensive application process could also serve to reduce the administrative burden and reviewer fatigue.

9. Do current federal programs encourage and support domestic collaboration? Is there sufficient flexibility in federal funding programs for participation in international collaborations? Are there particular research areas where more emphasis on international collaboration is needed?

The current system of federal programs encourages and supports domestic collaboration. All world-class research is international and requires international collaborations at the institutional level. However, there are gaps within the system that could be addressed.

Specifically, Canada's national platforms are critical to advancing research excellence and collaboration, but the required matching funding often poses a challenge.

The U15 suggests the following program changes to ensure that our granting programs are sufficiently flexible to allow researchers to leverage important international opportunities and drive world-class research projects:

- A flexible international research fund, reflecting the fact that collaborating on international research projects requires a capacity to leverage domestic funding on unpredictable timeframes;
- A funding process that recognizes the interdisciplinary nature of the research environment and ensures that interdisciplinary research is appropriately adjudicated and funded, to help foster research collaborations;

- Increased portability of grants to allow Canadian researchers to research abroad, including travel and accommodation funds;
- A fund to allow Canadian projects, particularly infrastructure projects, to be undertaken abroad, similar to the CFI's International Access projects; and
- Broad coordination of international outreach by the Tri-Council, because The U15 has heard from international partners that it is confusing to have siloed, *ad hoc* meetings with Tri-Council agencies that do not explain their shared objectives.

10. Are current federal programs supporting the needs of multidisciplinary research programs? If not, how can the situation be improved? Does the funding ecosystem (funding councils and other agencies) work collaboratively and effectively across disciplines?

The current funding ecosystem could further encourage and support interdisciplinary research. Increased coordination can promote domestic and international collaborations that bring together a range of disciplines to tackle major research questions. Better harmonization and coordination among the funding agencies would allow for easier identification of gaps and opportunities in the current research landscape and prevent innovative interdisciplinary research from missing opportunities for funding. Federal funding programs can and must be expanded to support collaboration, both domestically and internationally. The federal funding ecosystem can improve this capacity by:

- Developing appropriate adjudication and funding for interdisciplinary research and support for the interdisciplinary nature of the research environment to create the necessary conditions for research excellence;
- Establishing harmonized grants programs across disciplines, making room for discipline-specific programs only where specific needs go unmet by harmonized programs to foster the interdisciplinary environment that will encourage broad, ambitious research;
- Funding graduate students and postdoctoral fellows supervised by interdisciplinary teams;
- Reducing requirements for Networks of Centres of Excellence (NCEs) to receive funding from external sources. NCEs have the potential to foster multi-disciplinary research, but the need for matching funding and the requirements for commercialization and sustainability detract from the advancement of multidisciplinary research programs; and
- Providing sufficient funding to the core NCE program to allow for RFPs to be released regularly.

11. Does your institution participate in major science initiatives or “Big Science,” including large international collaborations and facilities? Why or why not? If your institution does participate, how is your participation funded? Are there challenges in identifying or securing funding sources?

The U15 represents Canada’s research-intensive universities, and our institutions participate in a wide range of “Big Science” projects at a range of levels. NCEs and the CFREF program have greatly enhanced Canada’s competitiveness internationally. Our institutions note that it would be helpful to see the federal government make a concerted effort to increase opportunities in large international consortia. A streamlined process, coordinated with the provinces, for entering into Big Science projects is critical. There are ongoing challenges in participating in Big Science endeavours, including:

- Jurisdictional issues arising from federal and provincial buy-in;
- Substantial cost, including sustained funding for operations, and recognition of the added financial responsibilities for the host institution and province;
- Lack of clarity with regard to leadership roles at national platforms; and
- Limited funding for travel of scientists and research trainees to use such infrastructure.

12. What is the best way to fund areas of strategic interest such as emerging, transformative or potentially disruptive technologies, and/or areas of broader societal interest? Are granting councils well placed to fund/support these areas or are separate mechanisms required?

The Tri-Council and CFI should remain the major funding agencies in Canada. They are extremely valuable to the research community and well-positioned to support research across all disciplines and levels. They can be even more valuable with increased coordination, simplification of procedures and further emphasis on interdisciplinary research. Niche agencies such as Genome Canada can serve a complementary role to the Tri-Council and CFI, but increasing the number of specialized agencies risks creating a siloed funding landscape and increasing the administrative burden on the research community.

However, emerging and transformative technologies must be closely reviewed and assessed within the context of the research landscape. Emerging technologies quickly become foundational to the research enterprise. These technologies become platforms when they cut across a wide array of disciplines and invest in research, and include areas such as:

- Nanotechnology;
- Quantum computing;

- Genomics; and
- Information technology.

Granting agencies are well-placed to fund these initiatives but there must be a recognition and understanding of the full cost of operations. These initiatives often become financially burdensome on the hosting institutions due to a lack of clear mechanisms for funding, such as addressing user fees. A more robust financial framework would help both the users and the hosting institutions to ensure that such initiatives are accessible and well-maintained at a low cost.

In cases where technologies could potentially spin out to dedicated, federally funded organizations, an arms-length expert panel should evaluate the platform's capacity to advance broad strategic interest and societal application. This expert panel must:

- Establish clear guidelines for mainlining funding, including sustained operation and maintenance funding;
- Provide advice as to when the platform's funding envelope should be rolled into standard mechanisms; and
- Provide guidance regarding how and if programs should be harmonized with other granting councils.

13. Identify the unique barriers that the following groups face in obtaining support for investigator-led research. Do current programs address these barriers? What else could be done to address these barriers?

- a. students, trainees, and early career researchers
- b. women
- c. aboriginals and other underrepresented groups

A diversity of perspectives and approaches enhances research excellence. Likewise, Canada's research ecosystem is strengthened by having a wide range of research and researchers who explore big questions in fundamental science. The factors hindering members of these groups from entering the academy vary. It is imperative that our funding system foster a research and education environment where researchers from diverse backgrounds thrive.

- a) Students, trainees, and early career researcher:

The U15 has identified some barriers hindering early- and mid-career researchers from entering into the academy. These include:

- Dynamics in the hiring pipeline at Canadian universities that delay hiring of early-career researchers:

- The end of mandatory retirement, coupled with the economic climate, has led to fewer retirements and, as a result, fewer new academic hires; and
- Increased tendency toward sessional appointments, which limits the capacity of young researchers to undertake the research they have been trained to do.
- Mid-career funding decline, leading to:
 - Termination of long-term projects;
 - An inability to fund graduate students or post-docs (tomorrow's researchers); and
 - The closure of labs.

b) Women, Aboriginal peoples and other underrepresented groups:

Canada's academic system has faced chronic challenges in ensuring adequate representation of certain groups, notably women, Indigenous scholars, visible minorities and persons with disabilities. This lack of representation means that a diversity of opinions and experiences are not reflected within the academy, which in turn limits research and training.

Some of the barriers hindering certain groups include:

- Lack of mentorship programs to encourage those historically excluded from university research to pursue academic endeavours;
- A small pool of researchers who are highly sought as reviewers and project participants and, thus, are overburdened; and
- Emphasis and funding priority accorded to areas where researchers from diverse backgrounds are underrepresented, and to theoretical frameworks that do not reflect diversity of experience (including but not limited to traditional knowledge, feminist theory, diasporic theory and critical race theory).

The following opportunities could improve pathways to research for those scholars with diverse backgrounds:

- Encourage scientific curiosity from an early age, particularly among groups under-represented in the academy;
- Establish mentorship programs for tomorrow's researchers, particularly those from under-represented groups;
- Ensure appropriate supports exist for our scientific researchers over the course of their entire career, including bridging funding should changes be made to the current funding structure;
- Ensure that the important role of traditional knowledge is recognized and integrated into the funding process;

- Acknowledge that diverse perspectives improve the capacity for scientific study and enhance research processes and outcomes.

14. Are there international programs, structures, models, or best practices that Canada should consider adopting? If so, please explain why these should be considered.

There are international practices and examples that seek to address a range of program gaps in our research infrastructure that could inform a review of Canada’s research ecosystem.

Some international funding bodies have prioritized coordination of funding:

- **Germany’s** Max Planck Society, Fraunhofer Institute, Leibniz Association and Helmholtz Association have well-integrated coordination across many research areas and fields, differentiated by technological readiness rather than discipline; and
- In the **UK**, Sir Paul Nurse’s Report “Ensuring a successful UK research endeavour” recommends increased coordination of various parts of the research landscape, as well as simplified operational policies. The government has indicated that it will implement Nurse’s recommendations.

Although Canada has made significant investments to advance research excellence, including creating the Canada First Research Excellence Fund, international funding programs have also focused on fostering domestic strengths on the world stage. In order to compete internationally, federal funding agencies must continue to advance research excellence and avoid complacency. Some international programs include:

- **Germany’s** Excellence Initiative is a federal program through the DFG to fund graduate schools, clusters of excellence and institutional strategies. Funding for universities of excellence is available for institutional strategies to universities with a graduate school and a cluster of excellence.
- The **Danish** National Research Foundation funds Centres of Excellence, with the objective of promoting world-class research in universities. The centres strengthen institutions’ strategic efforts to prioritize research and create a distinct research profile, much like the Canada First Research Excellence Fund. This also serves to simplify the funding system and reduce the administrative burden.
- **France’s** Investments for the Future Program focuses on international recognition of education, research and innovation clusters, with results-oriented practices. The program’s explicit objective is to prepare France for the challenges of tomorrow through investments in clusters that include higher education and training, research, industry and SMEs, sustainable development and digitization. These clusters consist of universities, governmental organizations, industry and national institutes, all recognized for their excellence in key, complementary fields.

Other international funding bodies have developed assessment processes to fund Big Science:

- Several international funders (including the National Science Foundation in the **United States**, the Commonwealth Scientific and Industrial Research Organisation in **Australia** and the Research Council in the **UK**) have engineered full-cost funding systems for Big Science. They fund large-scale facilities typically assessed through comprehensive funding proposals that include:
 - the initial capital costs for construction;
 - the costs for commissioning;
 - the operating and maintenance costs;
 - the plan for capital upgrades; and
 - decommissioning plans.

Other funding bodies have also developed systems to ensure that the full cost of research, including indirect costs, is funded:

- In the **United States**, federal granting agencies reimburse indirect costs at a pre-negotiated rate that varies by institution. The funding formula is highly complex but typically ranges from 50 percent to 60 percent.
- **Australia** provides block grants for operating costs based on a time allocation survey of researchers. Funding for indirect costs under this program varies from 30 percent to 90 percent.

Some nations have used block grants to allow research institutes to identify their own priorities and funding break-downs:

- **Australia** has instituted research block grants, through which universities receive a substantial grant to administer within broad guidelines, in order to reduce the administrative burden and shift the onus of responsibility of delegating the funds to the institutions.
- The **UK** has implemented the Research Excellence Framework (REF), a system for assessing British post-secondary education institutes. The system produces indicators of research excellence for benchmarking purposes, enabling it to distribute funding by reducing the administrative burden. The Russell Group in the UK supports the operational efficiency of these grants, but warns that the academic community must determine research priorities, in conjunction with key stakeholders and user groups, and worries that these block grants could undermine the peer review process.

15. What should the vision be for Canadian science? If we imagine an even more successful future for Canadian science, what does success look like and how should it be measured?

A strong foundation for Canadian science will have many benefits for Canadian society. Science is a core Canadian value, and a successful future for Canadian science will position Canada as a high-performing research nation where universities work in partnership with other sectors to drive innovation and build a robust knowledge economy and society.

Some key benefits for Canada in achieving success with regard to science are:

- Canada will earn a reputation as a “hub” of international research;
- Increased recruitment and retention of top Canadian and international research graduate students, post-docs, professors and researchers;
- Comparative advantage for Canada in the global knowledge economy;
- Proliferation of international think tanks hosted in Canada;
- Increased numbers of significant research alliances with international partner institutions;
- Growth of the creative class;
- Increased numbers of highly cited faculty and highly cited papers;
- Development of evidence-based policy;
- Competitive numbers of Canadian Nobel laureates and Nobel laureates at Canadian institutions; and
- Better understanding of and participation in research by the general public.

16. Are there any other issues or questions that you would like to raise and address?

The U15 suggests that the federal government create a standing arms-length expert panel to advise the government to ensure that our programs continuously evolve to create the best conditions for research excellence. This process will include regular, rigorous assessments of our funding programs, including Canada Research Chairs and Canada Excellence Research Chairs, to ensure that they meet objectives and advance research excellence.

This panel should include international and domestic experts, and could be included in the Science, Technology and Innovation Council’s (STIC) mandate, the Chief Science Officer’s mandate, or be convened as a part of a new initiative.

Federal support for fundamental science

September 2016





Introduction: Mobilizing people and ideas

Universities Canada welcomes the Government of Canada's review of federal support for fundamental science as a tremendous opportunity to assess the strengths of our research ecosystem and to identify where greater supports and new orientations will enable Canada – and Canadians – to thrive in our increasingly complex and interconnected world.

Research produces knowledge that enhances Canada's society and economy. By contributing to better health outcomes, a cleaner environment or effective integration of newcomers, Canada's universities are helping build a thriving and just society through the mobilization of people and ideas.

Fundamental science is inclusive of *all* disciplines, spanning the natural sciences, engineering, health sciences, social sciences, arts, humanities and design. Research across these fields produces knowledge that improves Canadians' quality of life and contributes to the public good at home and abroad. Through support across disciplines, Canada's universities will help build an inclusive, innovative and prosperous Canada – and world.

This review offers an opportunity for Canada to be ambitious: to address the funding gap and enhance our competitive position for global research excellence; to build on existing strengths to boost Canada's global scientific leadership; and to enable Canada's researchers to partner with the best minds around the world.

To achieve these goals, Universities Canada makes the following recommendations to the science review panel:

Mobilizing discovery and ideas:

- Position Canada to be a globally competitive research leader and regain third position in the OECD for higher education expenditures on research and development (HERD) as a percentage of GDP by making transformative investments in discovery research through the federal research granting councils.
- Maximize universities' impact as drivers of innovation by supporting the full costs of university research.
- Strengthen Canada's capacity to innovate, compete and prosper by providing sustained and predictable annual funding to the Canada Foundation for Innovation to support its current suite of programs, and by mandating the CFI to lead the development and implementation of a national strategy for big science.
- Remedy gaps in Canada's research ecosystem through new support mechanisms to promote and enable greater cross-border and cross-disciplinary collaboration.
- Enhance effectiveness and impact by achieving greater alignment and coordination among the granting councils.

Mobilizing talent:

- Enable Canada's universities to attract, retain and mobilize the world's top researchers through smart immigration policies and practices.
- Advance equity goals at all levels and in all disciplines of our research ecosystem through measures to increase the participation of women, Indigenous scholars and other underrepresented groups.
- Mobilize emerging talent by supporting early-career researchers through granting council funding.



The changing global research landscape: Opportunities for Canada

Canada's universities are known for conducting world-class research. Globally, we punch well above our weight in output: we rank sixth in terms of average citation levels across all fields among the top scientific countries and produce four per cent of the world's scientific papers despite representing only one per cent of the world's population.¹ Canada's universities are also a powerhouse of research and development activities, performing 40 per cent of the nation's total R&D, valued at \$13 billion each year.²

However, the social, economic, technological and health challenges facing Canada and the world are increasingly global in nature. No one discipline or country can solve the challenges that stem from an increasingly interconnected global economy and population on their own. Canadian researchers must be well-positioned to work with partners in other countries to provide rapid responses to pressing global issues, while also engaging in long-term research to address societal challenges that affect us all. We must equip Canada's universities – and their talented researchers and students – with the necessary resources to be able to adapt and thrive given the dynamic nature of contemporary research.

Along with the science review, the federal Advisory Council on Economic Growth and the Innovation Agenda – when taken together – provide a significant opportunity to set an ambitious and integrated agenda for Canada's inclusive, innovative and prosperous future. Please note our submissions to the Innovation consultations and to the House of Commons Standing Committee on Finance.

Canada's universities are committed partners in advancing this bold agenda for Canada. Working in partnership with government, private and community sector leaders, and other educational organizations, we aspire to:

- Help address the grand challenges facing our country and the world, such as climate change, reconciliation, inequality and poverty;
- Serve as engines of growth and innovation in our communities, conducting research that can be leveraged for long-term prosperity, social cohesion and job creation;
- Ensure 100 per cent of Canadian undergraduate students have the opportunity to pursue a work-integrated learning experience before they graduate, including co-ops, internships and research opportunities;
- Enable all Canadian university students to develop intercultural skills and a global mindset before they graduate; and
- Significantly reduce the gap between the university participation rate of Indigenous and non-Indigenous Canadians and build the capacity of Indigenous faculty and researchers.

“Don't look at Canada as it is today but as it will be tomorrow, and at what it will take to maintain your achievements and values in a completely different environment.”

Manuel Trajtenberg, former chair of Israel's Planning and Budgeting Committee of the Council for Higher Education, at Universities Canada's Innovation Policy Dialogue

¹ Council of Canadian Academies, State of Science and Technology of Canada, 2012

² Statistics Canada, Gross Domestic Expenditures on Research and Development in Canada, 2015



Mobilizing ideas: Supporting an effective and globally competitive research ecosystem

Over the last 20 years, Canada has made remarkable strides in expanding access to higher education, creating a new generation of world-class researchers and developing state-of-the-art research facilities. Investments from the past two decades are now bearing fruit and Canada is globally competitive in a diverse range of research areas. For example, the Council of Canadian Academies found that Canada excels globally in research in clinical medicine, historical studies, information and communication technologies, physics and astronomy, psychology and cognitive sciences, and visual and performing arts.³ Moreover, Canadian researchers were awarded 24 major international scientific prizes in 2015 alone.

However, the pace of federal investments has slowed considerably over the past decade and Canada has not kept up with other nations' growth levels. Between 2006 and 2014, Canadian higher education expenditures on R&D as a percentage of GDP (or HERD) fell from third to seventh among OECD nations. Canadian business investment in R&D also declined from 18th to 25th during this period.⁴

Eroding competitive advantage in R&D investment

R&D expenditures by sector as a share of Gross Domestic Product (GDP), 2006 & 2014

	Higher education	Business enterprise	Total
2006	3 rd	18 th	16 th
	↓	↓	↓
2014	7 th	25 th	24 th

Research Intensity measures from the OECD Main Science and Technology Indicators (2006, 2014)

From butterfly wings to anti-counterfeit technology: Partnering to commercialize materials science research

University researchers at Simon Fraser's 4D LABS have developed a new nanotechnology, by studying the tiny holes on a butterfly's wings, which can be used to produce images that can't be copied or scanned, making it an ideal anti-counterfeiting security technology. This technology was most recently used as a security feature on tickets for the Union of European Football Associations, and has led to the creation of a company that now works with a number of central banks to provide enhanced security to currency.

“Breakthroughs happen when brilliant minds are given the freedom to probe the nooks and crannies of reality – when exceptional people ask fundamental questions about the deepest problems and make extraordinary discoveries that benefit us all.”

Bill Downe, chief executive officer of BMO Financial Group, *The Globe and Mail*

³ Council of Canadian Academies, State of Science and Technology of Canada, 2012

⁴ OECD, Main Science and Technology Indicators



Investing in discovery research

Canada's universities make essential contributions to our national innovation system, from conducting discovery-driven research to partnering with industry to develop new and improved ways to manufacture products, develop resources and deliver services. Universities are key economic drivers of regional and national prosperity. University researchers collaborate on more than \$1 billion worth of research with community and non-profit community groups every year and conduct almost \$1 billion worth of research in collaboration with the private sector annually⁵, providing the "intellectual raw material" that drives innovation and builds prosperity.

A foundational element of our successful research system is significant and sustained investment for all fields of research in the natural sciences, engineering, health sciences, social sciences, arts, humanities and design. Support across these fields is essential to maintaining a robust and healthy research ecosystem. In particular, considering that over half of Canada's postsecondary students and full-time faculty work in the social sciences and humanities, yet they receive only 15 per cent of federal grant dollars, significant growth in investment for these disciplines is needed to address Canada's grand challenges.⁶

- To strengthen our global research excellence and return Canada to globally competitive funding levels, Universities Canada recommends transformative investment in discovery research through the federal granting councils.

The key challenge in our ecosystem is a funding gap. Sustained new investments must be made; other changes may be useful, but are simply tinkering at the margins. Setting an objective of returning to third place in competitive funding levels (HERD) will be a signal – in Canada and internationally – that Canada is serious about the research and innovation enterprise and will better use the capacity of Canada's researchers and universities to achieve their full potential.



Global lessons:

Strong national investments in discovery research

From 2010 to mid-2017, the French government is investing \$70 billion CAD into the Investments for the Future Program (PIA), which includes significant support to research, higher education and training through excellence initiatives, cutting-edge infrastructure and programs designed to promote multidisciplinary projects and partnerships with the private sector, along with other industrial sector and digital economy investments. The fund operates with the understanding that strategies to foster innovation, economic growth and job creation must be built from a platform of research excellence.

“A big part of developing know-how is creating a workforce that includes people who can research not only the science of things, but the science of people and peoples; their needs, motivations, fears, limits and potential.”

Stephen Toope, former president of UBC, current president of the Federation for the Humanities and Social Sciences and director of the University of Toronto's Munk School of Global Affairs, and incoming vice-chancellor of the University of Cambridge.

⁵ Statistics Canada, Gross Domestic Expenditures on Research and Development in Canada, 2015

⁶ Statistics Canada, University and College Academic Staff System (UCASS) and Statistics Canada, Postsecondary Student Information System



Supporting the full costs of research

Canada's universities make critical contributions to our economic growth and social progress. To provide these vital benefits, universities must develop and maintain the full range of supports that global research excellence requires. Many of these supports, including laboratories, libraries, custodial services, security, utilities and administrative and support staff, cannot be directly allocated to the budget of any specific research project, leading them to be referred to as indirect costs. These indirect costs are real expenses that significantly impact scientific output and must be covered by a university to provide a viable environment for its researchers.

In the 2014 evaluation of the federal Indirect Cost Program, it was noted that indirect costs in Canada represented 40 to 60 per cent of the federal grant-supported research.⁷ However, in 2016, the ICP (now Research Support Fund) only funded institutions at an average of 21.4 per cent of their actual expenses with some institutions receiving less than 18 per cent of their costs.⁸ Institutions must absorb the remainder of the costs at the expense of supporting other activities, such as support for early-career researchers or maintaining or upgrading other research and teaching facilities.

- **Universities Canada recommends that to achieve transformational research breakthroughs, funding must cover the full costs of research, including indirect costs.**

Previous governments have been reluctant to address the issue – and the problem has worsened. Some have suggested new formulas to address disbursement of the existing funds, when the critical shortfall is in the amount of available funding.

Sustaining world-class research infrastructure

The Canada Foundation for Innovation is a vital element of the Canadian research funding ecosystem. Since its creation in 1997, it has fulfilled a critical role that falls outside the tri-agencies' mandate: to ensure universities across the country have access to state-of-the-art research facilities and equipment in order to pursue world-class science.

However, the CFI lacks a regular funding envelope, preventing the organization – along with the universities and researchers it serves – from being able to undertake long-term infrastructure planning. A commitment to Canadian science and innovation requires a stable domestic funder of world-class research infrastructure that complements and is coordinated with tri-council research funding.

- **Universities Canada recommends sustained, predictable, multi-year funding for the Canada Foundation for Innovation to support its current suite of programs.**

The Research Support Fund: Opportunities lost

The November 2005 Economic and Fiscal Update proposed by the federal government was to provide almost \$1.2 billion in additional funding over five years for the Indirect Cost program (bringing indirect payments to institutions to a minimum of 40 per cent). Had this payment level been honoured and continued, Canada's universities would have received an additional \$2.7 billion dollars to support the unfunded costs of research undertaken over the last decade.

The Canada Foundation for Innovation: Transforming Canada's research landscape

From 1997 to 2015 more than \$6.6 billion in support was provided to 9,111 projects at 145 institutions across Canada.⁹ Of this funding, 77 per cent was allocated towards research infrastructure, with the remaining 21 per cent towards operations and maintenance costs.¹⁰ The CFI continues to have a transformative impact on the Canadian research landscape from providing state-of-the-art infrastructure to attract international research collaborations, to its contribution to the development of world-class expertise in communities across the country and the support it provides to private-sector innovation and commercialization. These contributions have established Canada as a home to world-class facilities and world-leading research.

⁷ Goss Gilroy Inc., Tenth-year Evaluation of the Indirect Costs Program, 2014

⁸ Universities Canada calculation

⁹ The CFI, Report on Results 2015, September 2016

¹⁰ The CFI, Usage of CFI-funded infrastructure, July 2015



Advancing a roadmap for big science

The Government of Canada has made important investments into world-class research facilities for big science in astronomy, health, physics, ocean and Arctic research in recent decades. While these initiatives have had a strong impact on the development of Canada's research efforts, the current landscape for investments in large-scale research infrastructure entails a multi-funder system that is decentralized and largely ad-hoc. We need a national policy framework to consider, evaluate and oversee these activities. The CFI is well placed to take a leadership role given its experience in administering evidence-based decisions on project funding and in ensuring appropriate oversight on project governance, management and operations.

A big science roadmap will enable Canada to strategically coordinate large-scale science activity across the country and present the Canadian and international research community with a forward-looking plan. A Canadian roadmap should be elaborated with the engagement of key stakeholders from across the research system and incorporate a number of principles, including:

- the importance of merit and peer review in decision-making;
 - support for the full costs of construction, operation and maintenance, capital upgrades and decommissioning plans over the duration of a facility;
 - consideration of the needs of diverse disciplines and research communities with different levels of resources, needs and priorities.
- **Universities Canada recommends that a big science framework be developed and implemented by the CFI in consultation with key stakeholders from across the research system – especially universities that house big science facilities on their campuses.**

Coordinating a digital research infrastructure strategy

A strong national research ecosystem also requires a coordinated digital research infrastructure strategy. Canada's current DRI system is complex and fragmented, due in part to a diffuse delivery system with unaligned funding structures, and a lack of coherent system-wide planning.

For Canada's universities to be globally competitive and for graduates to develop the necessary digital skills, Canada needs to develop a DRI strategy that is data-centric; restructures and streamlines the DRI delivery system; and is based on a governance structure focused on collective and coordinated action. This will need to include alignment and cohesion among a broad spectrum of players, and policy and planning for the overall digital research environment system.

- **Universities Canada supports the Government of Canada's efforts to address the DRI needs of the research community across Canada, and is an active participant of the Leadership Council for Digital Infrastructure working to inform the government's strategy.**

Global lessons:

Predictable and sustainable research infrastructure funding

In countries such as the United States and the United Kingdom, research infrastructure is funded through sustained funding envelopes administered by national agencies. This stability affords researchers greater flexibility in planning long-term infrastructure strategies.

Global lessons:

Developing a national strategy for big science

A 2014 report on enhancing the U.K.'s big science impact agenda found that a distinct aspect of successful big science was its connection to domestic large-scale infrastructure. Available facilities and infrastructure greatly influenced the roll-out of big science initiatives, highlighting the natural connection between domestic infrastructure decisions and national big science development.¹¹

Australia's National Collaborative Research Infrastructure Strategy is the result of a 2004 task force on national research infrastructure. The task force identified the need for a collaborative, rather than competitive approach to planning medium to large research infrastructure investments in Australia. Since 2004, through a series of roadmaps for infrastructure investments, the Australian Government has invested \$3 billion to deliver world-class research infrastructure. Going forward, the Government's National Innovation and Science Agenda is allocating \$1.5 billion over 10 years to NCRIS.

¹¹ Department for Business Innovation & Skills, Innovation from big science: Enhancing big science impact agenda, March 2014



Creating new mechanisms to advance global research partnerships

Researchers around the world must work together to provide rapid responses to pressing global issues, while also engaging in longer-term research to address societal challenges that affect us all. This was the consensus of heads of research funding agencies from around the world at a roundtable organized by Universities Canada and the Canada Foundation for Innovation during the 2016 American Association for the Advancement of Science conference.

The world wants to partner with Canada, and our researchers co-publish with thousands of institutions in more than 180 countries around the world.¹² Yet, we could do more. Canada lacks a dedicated, robust and flexible mechanism to respond effectively to other countries' interest in research collaboration and to advance our own strategic priorities. For example, the largest research funding program in the world, the European Union's *Horizon 2020*, has named Canada as a target partner for several research areas and has backed this commitment with funding. Other countries, including Israel, Germany, France, India, Brazil, China and Mexico have all also signaled concrete interest in increased strategic collaboration with Canadian researchers. To our detriment, we have not been able to respond.

- Universities Canada recommends the creation of a new, nimble international research collaboration tri-agency fund to bolster Canada's position as a partner of choice for research collaboration while supporting our researchers' ability to respond to global opportunities.

Such a fund should enable researchers to respond to timely and urgent international research opportunities that align with Canada's domestic and international priorities. It should also support Canadian involvement in projects with other national/regional agencies (such as *Horizon 2020*), and support pre-research activities (i.e. workshops, dissemination events, conferences, researcher travel grants) to develop collaborative international projects. Such a new global research fund will also enable Canadian researchers to work more closely with experts from around the world and enhance early-career mobility.

Global lessons: Increasing international rapid response opportunities for Canadians

The U.S.'s National Science Foundation employs a special 'RAPID response' funding mechanism designed for proposals having a severe urgency with regard to the availability of data, facilities or specialized equipment, including quick-response research on natural disasters. The NSF will support collaborative projects with other countries through this initiative but will only fund the American portion of the collaboration.

“[International research collaboration] also creates its own climate of opportunities where researchers come into contact with each other, where they get to know different methodologies and approaches, and where they enjoy the freedom to try new ideas which may sound unconvincing to others, but which leads to major new insights and innovations.”

Peter Strohschneider, president of the DFG (Deutsche Forschungsgemeinschaft, German research funding organization), at Universities Canada's Innovation Policy Dialogue

¹² Universities Canada, *Canada's Universities in the World: AUCC Internationalization Survey, 2014*



Supporting research collaboration at the intersection and frontiers of disciplines

Many of the most pressing challenges facing our country and world, such as climate change, infectious diseases, reconciliation and addressing poverty and inequality, ask questions that fall in the gaps between funding agencies' purviews. Currently, there are significant barriers facing Canadian researchers wanting to engage in multidisciplinary research initiatives, both small and large-scale. As the Global Research Council's 2016 'principles on inter-disciplinarity' highlight, granting councils have a critical role in creating funding, policy and programming environments that promote the growth of multidisciplinary teams and enable joint initiatives across traditional funding agency divides.

- **Universities Canada recommends additional support be provided for multidisciplinary research to enable Canadian researchers to work in partnership across disciplines on pressing global challenges.**

Different approaches could be considered to achieve this objective. For example, greater support for multidisciplinary research within existing council programs or a new tri-agency shared fund for multidisciplinary research projects.

Within these multidisciplinary approaches, particular support is needed to ensure perspectives from the social sciences and humanities are brought to bear on our greatest challenges. In helping us understand one another better and to design more effective institutions and equitable policies, their contributions are vital.

With respect to peer review, new approaches are also needed to develop a cohort of peers able to assess multidisciplinary research beyond the confines of established disciplinary norms.

Enhancing alignment across the granting councils

To address grand challenges at home and abroad, and facilitate multidisciplinary research while remaining coordinated and aligned with respect to social priorities, Canada's federal granting councils, and the Canada Foundation for Innovation, must work more closely together.

- **Universities Canada recommends that the granting councils be encouraged to achieve greater alignment and coordination, particularly with respect to supporting and evaluating multidisciplinary research, supporting international collaboration and ensuring council programming is linked with research infrastructure/operating costs.**

Helping integrate young Syrian refugees: Social science research in real time with real impact

Dalhousie professors have established a cross-Canada research coalition to examine the integration of Syrian refugee children in the country – responding to government priorities. These researchers are now also partnering with counterparts in Germany – another major resettlement country – to share knowledge and best practices, and develop evidence-based resettlement supports. The burgeoning multidisciplinary and international partnership offers a chance for researchers in the two countries to develop collaborative projects and initiatives as their countries work to meet the needs of the thousands of newly arrived young people. The proposal went from idea to reality in 10 weeks, and now involves more than 80 partners in Canada.

Global lessons:

Growing support for multidisciplinary and internationally collaborative research

In 2015, the U.K. government proposed enhanced investments for more collaborative forms of research with \$2.18 billion CAD for a new five year 'Global Challenges Research Fund' and the creation of a unique envelope for multidisciplinary science that will be administered through the Research Councils and national academics.

In June 2016, the German federal and state governments agreed on an 'Excellence Strategy' which included \$560 million CAD to fund major inter-disciplinary research projects in internationally competitive fields to become 'Clusters of Excellence.' Funding is set to begin January 1, 2019.



Mobilizing talent: leveraging our greatest asset

To maintain and develop excellent research, Canada must advance a talent agenda that supports and leverages our greatest asset: people. Through the training of our new generation of researchers, Canada's universities harness the creative capacity of Canadians and develop knowledge that advances the frontier of knowledge. To further this role, we recommend the following measures:

Adopting smart immigration policies

Canada's universities play a critical role in attracting top researchers to our communities, directly strengthening our research capacity, our international research connections and our innovative potential.

Universities also draw some of the best and brightest international students, who contribute over \$10 billion to the Canadian economy each year.¹³ Many of these students would like to remain after their studies, transitioning into productive members of the Canadian labour force with valuable people-to-people ties that assist in trade linkages, foreign direct investment and private sector partnerships.

We need smart immigration policies and best-in-class processes to position Canada as a global magnet for this top talent.

- Universities Canada recommends reducing unnecessary barriers to bringing top research talent into the country, such as simplifying the process for temporary work permits under the International Mobility Program and Temporary Foreign Worker Program, and eliminating the LMIA requirement in the Express Entry points system.
- We recommend that Canada sets the bold policy objective of becoming the fastest in the world for international student visa processing.

Building an equitable academy

As we strive to have an academic workforce that reflects the diversity of Canada's population, women, Indigenous peoples, visible minorities and people with disabilities continue to be under-represented within university faculty, staff and student populations.

For example, the chart on the next page illustrates that while women are over-represented within the undergraduate population, they represent slightly more than a quarter of full professors and a fifth of university presidents.

Global lessons:

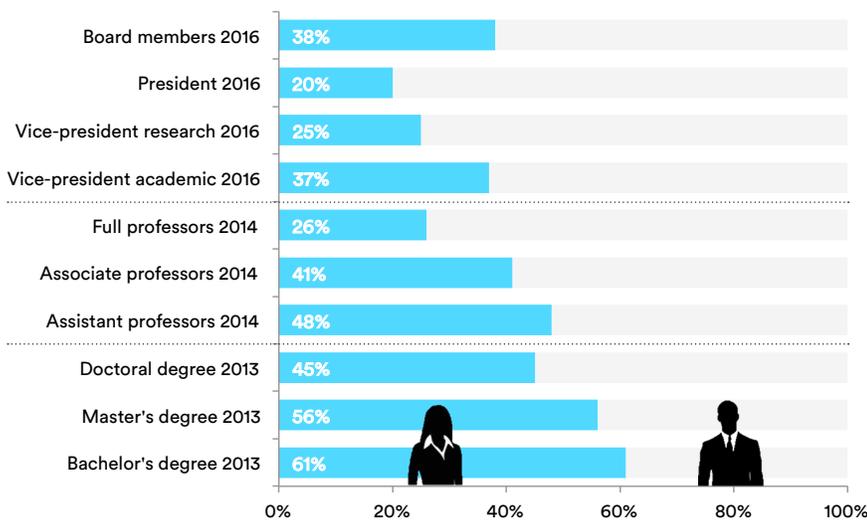
Trends in inter-agency harmonization and coordination

The Danish Research Council organized an international evaluation panel to examine its Danish Council for Independent Research. A key finding of the panel's report was that the communication between its five funding agencies should be improved, including expanding the recently-created 'matrix committee' designed to evaluate inter-disciplinary proposals. It noted that further steps should include a more extensive agency use of review panels with multidisciplinary representation.

¹³ Global Affairs Canada, 2016



Percentage of women in Canadian universities¹⁴

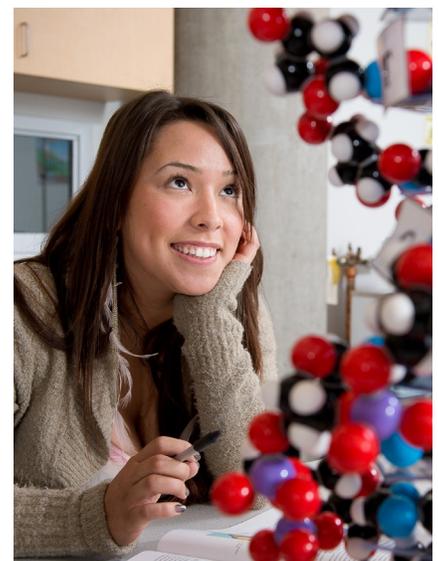


Canada's universities have adopted a number of initiatives to advance equitable representation among students, faculty and staff, including research chairs. However, there are opportunities to scale-up existing efforts to make further progress.

Universities Canada is developing strategic options for how we, as a membership association, can contribute to institutional efforts to advance equity in Canadian academia. Discussions between the Natural Sciences and Engineering Research Council and Universities Canada have also been initiated to raise the profile of these issues at the Gender Summit in 2017.

- To leverage these actions, Universities Canada recommends that a new tri-council funding program across all disciplines be designed to address diversity issues within the Canadian academy.

This program should build on a body of evidence about what programs provide real change in advancing underrepresented groups, and could be similar to the National Science Foundation's ADVANCE program in the United States that aims to increase the representation and advancement of women in academic science and engineering careers. As of 2014, ADVANCE had awarded more than 297 grants to 200 institutions for a total of about \$215 million US in funding, which universities have used to launch large-scale institutional change projects as well as specific strategies including data collection, mentoring for department chairs and strategies aimed at re-shaping the work climate for women.



¹⁴ Universities Canada's lists of staff at member institutions (2016); National Faculty Data Pool (2014); and Statistics Canada, Postsecondary Student Information System (2013)



Supporting Indigenous scholars

The Indigenous community in Canada is young, full of potential and growing quickly, but also faces significant barriers to joining and succeeding in Canada's research enterprise. Only 11 per cent of Indigenous people aged 25 to 34 in Canada have a university degree, compared to 33 per cent of non-Indigenous Canadians in the same age group.¹⁵ If we consider graduate attainment rates alone, these numbers are much lower with only 1.4 per cent of Indigenous people having a graduate degree.¹⁶

Investment and support are needed to increase Indigenous student access to undergraduate, graduate and postgraduate studies. These graduates will become the next generation of Indigenous leaders, including a new cohort of Indigenous researchers and faculty. Education plays a vital role in the reconciliation process with this new cohort of Indigenous researchers, faculty and graduate students helping ensure the places they work and study are reflective of their cultures and peoples.

- **Universities Canada recommends enhanced support through the federal granting councils to enable more Indigenous students to pursue graduate and post-graduate studies.**

Incorporating the unique perspective of Indigenous scholars in research will also require granting councils to facilitate ongoing partnerships with Indigenous communities and seek to incorporate insights from traditional forms of knowledge. The Social Sciences and Humanities Research Council has made important strides in this respect, such as with its Indigenous protocol.

Developing promising new research careers

Utilizing the potential of Canada's newly trained PhDs is an important factor in developing a strong research ecosystem. As significant numbers of faculty members past 65 are not retiring, it is sometimes difficult for institutions to hire young faculty.¹⁷ The number of assistant professors in Canada has been declining steadily since 2007.¹⁸ The pipeline for research talent is cut short when PhDs and postdocs cannot get their first appointment and are unable to access granting council funding.

- **Universities Canada recommends additional support be provided for early-career researchers as part of enhanced investment for discovery research through the granting councils.**

Measures that enable recent PhDs and postdocs to be hired in their early post-graduation years, with guarantee of funding upon completion by universities, would enable Canada to address diversity goals and mobilize emerging but underutilized talent. Past models worth considering in this respect include the Women's Faculty Awards and University Research Fellows.

“The next scientific revolution will be driven by scientists who have a multidisciplinary view of science, the opportunity to take risks, the infrastructure to work, and the freedom to think.”

Amir Naiberg, president, Yeda Research and Development Company, Weizmann Institute of Science, Israel, at Universities Canada's Innovation Policy Dialogue

¹⁵ Statistics Canada, National Household Survey, 2011

¹⁶ Idem

¹⁷ Statistics Canada, University and College Academic Staff System (UCASS) and National Faculty Data Pool

¹⁸ Idem



A vision for the future of Canadian research

The federal review of fundamental research provides a tremendous opportunity to develop a bold and ambitious strategy for Canada. By recognizing our assets and leveraging our current strengths, Canada can bolster its capacity for global leadership and excellence in a wide range of research fields.

To achieve this vision, we must invest in and mobilize Canada's people and ideas.

An innovative, inclusive and prosperous Canada depends on a dynamic and excellent research ecosystem. Supporting this will require transformative investments in the federal granting council programs with the goal of returning Canada to third place in global HERD intensity rankings.

We must also recognize the unique impact of the CFI to our national research efforts and provide sustainable, predictable long-term funding for research infrastructure.

Given the changing realities of our globalized and interconnected world, Canada must develop a supportive toolkit of policies and processes combined with dedicated funding envelopes

to enable researchers to be both multidisciplinary and international in their research. The federal granting councils must have well-aligned approaches and flexible policies that facilitate and support such integrative and collaborative research efforts.

To continue to attract and support the talented researchers on Canada's university campuses, we must adopt supportive and complementary immigration policies, put in place mechanisms to spur real change with respect to equity goals, and enable underutilized early-career researchers to find routes towards promising careers in the academy.

As centres of learning, discovery and community engagement, Canada's universities are dedicated to their role in conducting research that can be leveraged for long-term prosperity, social cohesion and job creation.

Universities Canada is committed to working with the government to help build a balanced, productive, well-supported world-class research ecosystem. We share the government's ambitious vision of optimizing our fundamental science ecosystem to mobilize people and ideas to benefit all Canadians.



REPORT OF THE OPERATIONS/AGENDA COMMITTEE

**2015-2016 Annual Report of the Senate Review Board Academic
Candidates for Degrees and Diplomas – Autumn Convocation 2016
Report of the Senate ad hoc Committee on Renewal – Update on Implementation
Plan**

FOR INFORMATION

1. **2015-2016 Annual Report of the Senate Review Board Academic**

See [Appendix 1](#).

2. **Candidates for Degrees and Diplomas – Autumn Convocation 2016**

On behalf of the Senate the Provost approves the list of Candidates for Degrees and Diplomas upon the recommendation of the Registrar [S.96-124]. The list of Candidates approved by the Provost will be appended to the official minutes of the October 21, 2016 Senate meeting.

3. **Report of the Senate ad hoc Committee on Renewal – Update on Implementation Plan**

- (a) All standing committees have now been formally invited to consider the recommendations in the report pertaining to their terms of reference and the openness of committee meetings. It is our understanding that each of the committees that reports to Senate regularly (SCAPA, SCUP, Nominating, URB) has had an opportunity for a preliminary discussion in its October meeting. Responses have been requested by November 25 with the intention that these matters will come to Senate's December meeting.
- (b) The Operations/Agenda Committee has begun discussion of recommendations concerning assessment of Senate's performance and Senate membership. Additional information is being sought on both issues.
- (c) The Operations/Agenda Committee considered whether its own meetings should be open and concluded that they should not be. In coming to this opinion, the Committee considered that it has no delegated authority from Senate – its recommendations come to Senate for approval – giving Senate full opportunity to have open discussion of any matters before the committee. This is, of course, an issue for Senate to finally decide, and our response will be included as part of the report on committees and their terms of reference to come forward to the December meeting of Senate.

The day before the committee's meeting, the Chair received a note from Senator Dyer-Witthford with suggestions as to how to implement recommendation 5(b), which concerns providing early opportunities for Senate to have input into major proposals to come forward. The committee found those suggestions to be very helpful and will discuss them further with the president and vice-presidents as to how they might be operationalized.

2015-2016 ANNUAL REPORT OF THE SENATE REVIEW BOARD ACADEMIC

[Prepared by the University Secretariat]

The Senate Review Board Academic (SRBA) received 18 appeal applications between September 1, 2015 and August 31, 2016. The Board issued final decisions on 15 of the appeals and two appeals were withdrawn. The remaining appeal will be considered after August 31, 2016 and reported in the next annual report.

Of the 15 appeals decided during this period, all were filed by undergraduate students. The respondent Faculties were: Arts & Humanities (1 appeal), Engineering (2 appeals), Health Sciences (1 appeal), Ivey School of Business (1 appeal), Law (1 appeal), Schulich School of Medicine & Dentistry (3 appeals), Science (3 appeals), Social Science (2 appeals), Brescia University College (1 appeal).

SRBA denied 13 of the 15 appeals without oral hearings. It ordered oral hearings for three appeals. One of these appeals, based on the ground of general marking or grading practices, was subsequently withdrawn during the oral hearing. The other two appeals related to scholastic offences and were both denied after oral hearings.

Chair: Keith Fleming

Vice-Chairs:
Andrew Botterell
Dennis Klimchuk

REPORT OF THE SENATE NOMINATING COMMITTEE

**Selection Committee for an Associate Vice-President (Research)
Decanal Selection Committee – Faculty of Law**

FOR ACTION

1. **Selection Committee for an Associate Vice-President (Research)**

Composition: A committee to select an Associate Vice-President (Research) shall consist of:

- (a) the Vice-President (Research), who shall be Chair
- (b) 4 persons elected by the Senate, one of whom shall be a graduate student
- (c) 2 persons elected by the Board of Governors

Required: 4 persons elected by Senate, one of whom shall be a graduate student.

Nominees: Hailun Qi (Graduate Student)
Claire Crooks (Educ)
Chantelle Richmond (SS)
Sharon Sliwinski (FIMS)

2. **Decanal Selection Committee – Faculty of Law**

Composition: A committee to select a Dean of a Faculty shall consist of:

- (a) the Provost & Vice-President (Academic), who shall be Chair
- (b) the Vice-President (Research)
- (c) 6 persons, one of whom shall be an undergraduate student enrolled in the Faculty and one of whom shall be a graduate student enrolled in a program housed in the relevant Faculty, elected by the Council of the Faculty concerned
- (d) 3 faculty or staff elected by Senate, who are from outside of the Faculty concerned, and only one of whom may be a Dean,

Required: 2 faculty or staff elected by Senate, who are from outside of the Faculty concerned, and only one of whom may be a Dean to replace Dean Michael Strong and Professor Matt Davison.

Current Membership includes:

Janice Deakin, Provost & Vice-President (Academic)
John Capone, Vice-President (Research)
Rande Kostal, Professor, Faculty of Law
Andrew Botterell, Professor, Faculty of Law
Zoe Sinel, Assistant Professor, Faculty of Law
Colin Campbell, Associate Professor, Faculty of Law
Scott MacDougall-Shackleton, Professor, Faculty of Social Science
Matt Helfand, Undergraduate Student Representative
Jonathan de Vries, Graduate Student Representative
Rob Landry, Lawyer, COO, Gowlings WLG

Nominees: Jayne Garland (Dean/HS)
Grace Parraga (Schulich)

FOR INFORMATION

Future Business of the Senate Nominating Committee

Upcoming Nominating Committee agenda items are posted on the Senate website at:
<http://www.uwo.ca/univsec/pdf/senate/newnoms.pdf>

In addition Senators will receive notification from the Secretariat when positions are available.

**REPORT OF THE SENATE COMMITTEE ON ACADEMIC POLICY AND AWARDS
(SCAPA)**

Faculty of Information and Media Studies: Withdrawal of the Western/Fanshawe Combined Degree/Diploma Program in Media Theory and Production (MTP)

School of Graduate and Postdoctoral Studies: Revisions to the Master of Engineering (MEng) in Design and Manufacturing (Advanced Design and Manufacturing Institute/ADMI)

School of Graduate and Postdoctoral Studies: Discontinuation of the Business Skills for Actuaries and Financial Professionals Graduate Diploma (GDip)

Revisions to the “Registration and Progression in Three-Year, Four-Year and Honors Programs – Breadth Requirements” Policy

SUPR-G Report: Cyclical Review of Political Science

SUPR-U Report: Cyclical Review of Economics

New Scholarships and Awards

FOR APPROVAL

1. Faculty of Information and Media Studies: Withdrawal of the Western/Fanshawe Combined Degree/Diploma Program in Media Theory and Production (MTP)

Recommended: That effective September 1, 2016 registration in the program be discontinued, and

That students currently enrolled in the program be allowed to graduate by August 31, 2021, and

That effective September 1, 2021 the Western/Fanshawe Combined Degree/Diploma Program in Media Theory and Production be withdrawn.

REVISED CALENDAR COPY

<http://www.westerncalendar.uwo.ca/2016/pg461.html>

WESTERN/FANSHAWE COMBINED DEGREE/DIPLOMA IN MEDIA THEORY AND PRODUCTION

Registration in this program is discontinued. Students enrolled in the program as of September 1, 2016 will be allowed to graduate upon fulfilling all requirements of the program by August 31, 2021.

Background

In June 2016, SCAPA and Senate approved the introduction of a new Articulation Agreement between Western and Fanshawe College. Both institutions felt that the Articulation Agreement provided better avenues for collaboration.

2. School of Graduate and Postdoctoral Studies: Revisions to the Master of Engineering (MEng) in Design and Manufacturing (Advanced Design and Manufacturing Institute/ADMI)

Recommended: That the proposed revisions to the Master of Engineering (MEng) in Design and Manufacturing (Advanced Design and Manufacturing Institute) be revised effective January 1, 2017 as shown below.

Master of Engineering (MEng) in Design and Manufacturing (Advanced Design and Manufacturing Institute)

Current– 10 half courses required or 8 half courses + project:

Technology & Process	Business & Management
minimum of 5 courses	minimum of 2 courses

Proposed – 9 half courses required with 3 required core courses, 3 courses in the Technology & Profess stream and 3 courses in the Business & Management stream.

Technology & Process	Core	Business & Management
choose 3 electives	3 required courses: 1. Design for Innovation 2. Engineering Leadership 3. Advanced Project Management	choose 3 electives

Background

This modification is the result of three of the five original universities withdrawing from the program, leaving only Queen’s University and Western University as partners.

The central theme of the revised program is around “innovation”, which guided the development of the revisions and will guide the learning objectives for the program. The previous ADMI program was a “grab bag” of courses offered by the five participating engineering faculties. This offered tremendous flexibility, but was challenging for the definition of clear program objectives and marketing in the current environment of large and competitive MEng programs in Ontario, Canada, and around the world. The proposed modifications are focused on the needs of working engineers such that they can build their knowledge and skills in the area of innovative design and manufacturing technologies along with the business and management tools to implement these in their companies.

Currently, the requirements for the ADMI MEng are 10 half courses or 8 half courses plus a project. Irrespective of whether a project is undertaken, all students are required to complete a minimum of five courses in the “Technology & Process” stream and two courses in the “Business and Management” stream.

The proposed modification will reduce the number of courses required from 10 to 9, as well as will include three newly-developed required courses: Design for Innovation, Engineering Leadership and Advanced Project Management. The program is intended for working engineers and will be advertised as a part-time, 3-year degree.

The revised program will have 3 “core” courses, which all students are required to take, along with 3 elective courses in each of the two streams, i.e., each student is required to take 3 courses in the “Technology and Process” stream and 3 courses in the “Business and Management” stream.

3. **School of Graduate and Postdoctoral Studies: Discontinuation of the Business Skills for Actuaries and Financial Professionals Graduate Diploma (GDip)**

Recommended: That effective September 1, 2016 the Graduate Diploma (GDip) in Business Skills for Actuaries and Financial Professionals be discontinued.

Background

The Graduate Diploma was approved in April 2015 with an envisioned start date of September 1, 2015. The program targeted employed actuaries and financial professionals. Despite significant recruitment efforts, the program was not able to recruit any students and thus, it will be discontinued.

FOR INFORMATION

4. **Revisions to the “Registration and Progression in Three-Year, Four-Year and Honors Programs – Breadth Requirements” Policy**

The policy was revised to update the listing of breadth requirements (course subject areas) for graduation. The policy is now updated to reflect SCAPA’s and Senate’s approvals of these new subject areas over the years.

The revised policy is attached as [Appendix 1](#).

5. **SUPR-G Report: Cyclical Review of Political Science**

The following cyclical review was approved by SCAPA:

Faculty/Affiliates	Program	Date of Review	SUPR-G recommendation
Social Science	Political Science	January 14-15, 2016	Conditionally Approved Report on plan and progress September 2017 Report on progress and evidence September 2018

The detailed Final Assessment Report is attached as [Appendix 2](#).

6. **SUPR-U Report: Cyclical Review of Economics**

The following cyclical review was approved by SCAPA:

Faculty/Affiliates	Program	Date of Review	SUPR-U recommendation
Social Science	Economics	May 7, 2016	Good Quality

The detailed Final Assessment Report is attached as [Appendix 3](#).

7. **New Scholarships and Awards**

SCAPA approved on behalf of the Senate, the Terms of Reference for the new scholarships and awards shown in [Appendix 4](#) for recommendation to the Board of Governors through the Vice-Chancellor.

REVISED CALENDAR COPY

http://www.uwo.ca/univsec/pdf/academic_policies/registration_progression_grad/registration_progression.pdf

The first part of the policy is unchanged

Breadth Requirements for Graduation

At least 1.0 course must be chosen from **each of the three categories** (A, B, and C) shown below. Any outstanding breadth requirement not completed in first year must be completed prior to graduation.

Note: Not all subjects listed below offer first-year courses.

CATEGORY A

Social Science

Anthropology, Economics, **Dimensions of Leadership**, First Nations Studies, Geography, History, International Relations, **Jewish Studies**, Management and Organizational Studies (~~formerly Administrative and Commercial Studies~~), Political Science, Psychology, Sociology, Women's Studies

Interdisciplinary and Multidisciplinary

American Studies, **Canadian Studies**, Childhood and Social Institutions (~~formerly Childhood and Family Relations~~), Dance, **Disability Studies**, Education, Family Studies, **Global Studies**, Health Sciences, Interdisciplinary Studies, ~~Centre for Global Studies (formerly International and Comparative Studies; Modern Eastern Civilizations)~~, Kinesiology, Linguistics, Media and the Public Interest, Media, Information and Technoculture, Nursing, Rehabilitation Sciences, Social Justice and Peace Studies, **Social Science, Transitional Justice**

Various

Business Administration, Digital Communication, Foods and Nutrition, Human Ecology, Law, Music, Social Work, Thanatology

CATEGORY B

Arts and Humanities

Arts and Humanities, Classical Studies, Comparative Literature and Culture, Digital Humanities, English, Film Studies, French Studies, **Intercultural Communications**, Italian Studies, Medieval Studies, Philosophy, Religious Studies, Speech, **Theatre Studies**, Theological Studies, Visual Arts History, Visual Arts Studio, **Western Thought and Civilization**, Women's Studies, Writing*.

Languages

Arabic, Chinese, French, German, Greek, Hebrew, Hindi, Italian, Japanese, Korean, Latin, Persian, Polish, Portuguese, Russian, Spanish

CATEGORY C

Engineering

Chemical and Biochemical Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Science, Green Process Engineering, Mechanical and Materials Engineering, **Mechatronic Systems Engineering**, Software Engineering

Medical Science

Anatomy and Cell Biology, Biochemistry, Biostatistics, Chemical Biology, Epidemiology, Epidemiology and Biostatistics, Medical Biophysics, **Medical Health Informatics**, Medical Sciences, Microbiology and Immunology, Neuroscience, **One Health**, Pathology, Pathology and Toxicology, Pharmacology ~~and Toxicology~~, Physiology

Science

Actuarial Science, Applied Mathematics, Astronomy, Biology, Calculus, Chemistry, Computer Science, Differential Equations, Earth Sciences, Environmental Science, History of Science, **Integrated Science**, Linear Algebra, **Materials Science**, Mathematics, Physics, Planetary Science, **Science**, Statistical Sciences

Various

Communication Sciences and Disorders, **Financial Modelling**

Notes:

* Writing 0002F/G course is restricted to English as a Second Language students and does not qualify as a Category B course.

The rest of the policy is unchanged.

Final Assessment Report
Submitted by SUPR-G to SCAPA

Program:	Political Science	
Degrees Offered:	Master of Arts - Thesis option, Major Research Paper (MRP) Option Doctor of Philosophy	
Approved Fields:	Canadian Politics, Comparative Politics, International Relations, Local Government, Political Theory	
External Consultants:	Brenda O'Neill, Associate Professor and Chair University of Calgary	Richard Stubbs Professor McMaster University
Internal Reviewers:	Ruth Martin Associate Dean- Graduate Faculty of Health Sciences	Chantel Lemire PhD Candidate Faculty of Music
Date of Site Visit:	January 14 th and 15 th , 2016	
Evaluation:	<i>Conditionally Approved</i> <i>Report on plan and progress September 2017</i> <i>Report on progress and evidence September 2018</i>	
Approved by:	<i>SUPR-G on September 19, 2016</i> <i>SCAPA on October 5, 2016</i>	

Executive Summary

Background

The MA is a one-year program (i.e., 3 terms). It includes a thesis option and a major research paper (MRP) option, the latter being the more popular. The MA thesis option requires the student to complete 4 half-course credits. The MRP option requires 6 half-course credits and a 50-page research paper. MA students in both the thesis and MRP streams may complete a general MA Political Science, or pursue one of four specializations (i.e., Canadian Politics, Comparative Politics, International Relations, Political Theory). The PhD requires completion of 6 graduate half-course credits, 2 Comprehensive Exams, a Cognate Skill (i.e., a second language course or an additional methodology course), and the PhD dissertation.

Overview

The Graduate Degree Level Expectations, Learning Outcomes, Mode of Delivery and Evaluation Methods for both the MA and PhD are entirely appropriate and consistent with expectations for a graduate program in political science. However, the reviewers had concerns regarding the degree to which the Learning Outcomes are being achieved in the context of the current implementation of the Graduate Program and resource constraints. The Review Committee noted the significant unhappiness and frustration expressed by the graduate students, particularly the doctoral students, related to concerns regarding several aspects of the Graduate Program. Relatively few PhD students said they would recommend the program to others.

The Department, which has enjoyed a very strong reputation in multi-level governance and political theory, has had a net loss of 5 faculty positions since 2008, with two further retirements on the horizon. As such, maintaining the reputation of the Department over the next 5-7 years will fall to faculty currently at the Associate Professor rank. Among this group, there is an uneven depth of external funding and peer-reviewed publication activity. While some workshops have been provided to offer advice to faculty regarding promotion and tenure requirements and strategy, this could be substantially augmented. MA supervisory roles have been distributed more uniformly across faculty members over the past few years.

However, at the PhD level, the bulk of student supervision continues to be carried out by a particular set of faculty members who have strong scholarly reputations. Student supervision will be more uniformly distributed when more faculty members gain strong scholarly reputations. The Program is encouraged to hold regular workshops for faculty to promote best practices in graduate student supervision.

Given the current and anticipated faculty complement and the uneven scholarly record of faculty members, the External Consultants felt that maintaining five graduate program fields is not sustainable. They thought that the number of fields offered to PhD students should be reduced, and encouraged the Program to consider how their graduate program fields intersect with the three research clusters identified by the Department (i.e., Multi-level Governance, Global Justice, Democratic Engagement).

PhD – The changes undertaken by the Program to increase standardization of the PhD program, including adoption of standardized reading lists, common exams and common exam dates, are positive changes. However, having comprehensive examination questions randomly selected from among those submitted by faculty in the field for the exam may not be the best mechanism for ensuring optimal comprehensive examinations. The dissertation proposal process is less standardized. Determination of language proficiency is also fairly informal and can lead to inconsistency. The recently instituted bi-annual PhD progress report is an important mechanism for ensuring consistent progress through the program.

MA – The MA specialization option, in which students take 3 of 4 courses and write a thesis in a single field, may put at risk the breadth of knowledge required for subsequent PhD studies, particularly given that PhD programs, including Western's, require a depth of knowledge in 2 fields. The Program should advise MA students who are interested in pursuing PhD studies to take their 4 courses from 2 fields of study.

PhD and MA – The Scope and Methods course is central to the learning outcome of being able to “demonstrate and apply more in-depth knowledge of qualitative and/or quantitative methods” and to “conduct a research project involving appropriate data collection, ethics and analytical strategies”. However, given that only one week is devoted to each of quantitative and qualitative methods, it is questionable whether the Scope and Methods course actually achieves these learning outcomes. While a more advanced course is offered bi-annually, this is unavailable to MA students and falls outside the schedule to complete course work within one year for some PhD students. The bi-annual availability also is a challenge for students who wish to complete their Cognate Skill in Methods. The need for separate MA and PhD Scope and Methods courses is questioned.

Two core courses in each of the 5 fields are offered annually to PhD students, in addition to the Scope and Methods course. While MA students taking these courses may make them viable every year, guaranteeing 10 graduate courses every year, plus the Scope and Methods course, may be a burden on the faculty complement. Ensuring rigor and graduate level standards in the elective courses, which are often cross-listed courses with upper-level undergraduate students, is a challenge. The standards for the graduate students in these courses, in terms of additional readings and workloads, vary widely. The fact that these classes are capped at 25 students, with a maximum of 5 graduate students, restricts the opportunity for graduate students to participate to the extent expected of a graduate course. The inconsistencies across courses are creating unhappiness among the graduate students. The opportunity to access courses in three Collaborative Programs (i.e., Transitional Justice and Post-Conflict Reconstruction, Migration and Ethnic Relations, and Environment and Sustainability) as an innovative feature of the Political Science Graduate Program.

Professional capacity/autonomy is developed through coursework, as well as professional development seminars and workshops that are offered on an ad hoc basis. Given the broad range of career paths pursued by graduates of the Political Science Graduate Program, the Program should identify a more specific set of professional skills to be developed through special seminars and workshops that are formalized and offered every year.

The quality of the theses is good to excellent. While some students have published with their supervisors or other faculty members since the last periodic review, enhanced opportunities to publish with faculty members would contribute to the professional development of the graduate students.

Some students expressed concerns about the way PhD students are integrated into the Program. It was not clear whether supervisors are assigned to students from the beginning of their time as graduate students. It is suggested that students be assigned a temporary/initial supervisor from the beginning of their program, and that exit surveys be performed to obtain student feedback about the MA and PhD programs. Resources to support the mental health aspects of graduate student life are valuable, particularly for PhD students who tend to write their theses in relative isolation.

Significant Strengths of Program:

- **Graduate Degree Level Expectations, Learning Outcomes, Mode of Delivery and Evaluation Methods are appropriate**
- **MA and PhD funding packages are highly competitive**
- **MA program includes thesis and MRP options**
- **Opportunities exist in aligning the Graduate Program with Departmental research clusters**
- **Students have access to courses through three Collaborative Programs**
- **History of consistent enrolments and appropriate times-to-completion**
- **Theses and dissertations are of high quality**
- **Recent history of enhanced standardization of the PhD program**
- **Study/office space is available to graduate students**
- **Experienced Graduate Program Assistant facilitates graduate matters**

Suggestions for improvement & Enhancement:

- Consider reducing the number of fields and associated core courses and aligning the fields with Department research clusters; reduce the number of cross-listed courses
- Continue to standardize and optimize graduate student requirements and resources, including the dissertation proposal defence, reading lists for field comprehensive exams, and requirements for graduate students in cross-listed courses
- Offer a single graduate Scope and Methods course, with additional courses in quantitative and qualitative methods skills
- Provide PhD students a range of dissertation proposal templates
- Expand opportunities for professional development through formalized seminars, workshops, co-authorship with faculty and course instruction
- Encourage a culture of student engagement through, for example, a regular speaker series
- Enhance communication regarding tuition deadlines, and funding installments, to graduate students
- Develop a strategy for working with the Dean on faculty renewal and recruitment
- Ensure that the Department has sufficient faculty resources to build on its strengths

Recommendations required for Program sustainability:	Responsibility
1. Consider appropriateness of the number of fields offered in light of resources	Graduate Chair Graduate Committee Department Chair Faculty members
2. Articulate how the Departmental research clusters align with the graduate program fields	Graduate Chair, Graduate Committee, Department Chair Faculty members
3. Link core course readings to the standardized reading lists for field comprehensive exams	Graduate Chair core courses instructors
4. Offer a common Scope and Methods course for MA and PhD students; offer additional courses in qualitative and quantitative methods as resources allow	Graduate Chair Department Chair Dean
5. Reorient courses to ensure all meet graduate learning outcomes and adhere to SGPS policies regarding cross listed courses.	Graduate Chair Department Chair
6. Regularly review and refine the PhD standardized comprehensive examination reading lists	Graduate Chair, faculty who contribute to comprehensive exam reading lists
7. Provide students a range of dissertation proposal templates	Graduate Chair
8. Consider standardizing the dissertation proposal defence	Graduate Chair Graduate Committee
9. Develop, enhance and formalize professional development including grant writing, co-authorship and publication skills	Graduate Chair Graduate Committee
10. Encourage a culture of student engagement and community within the Department	Graduate Chair Graduate Committee
11. Continue to develop course teaching opportunities for PhD students	Graduate Chair Appointments Committee Department Chair
12. Enhance communication regarding funding package and tuition timelines	Graduate Chair Graduate Administrator
13. Establish a regular speaker series	Graduate Chair Graduate Committee Department Chair

Final Assessment Report

Name of Program

Economics

Degrees Offered

BA (honors); BA (four year); BA (three year)

External Consultants

Gillian Hamilton, Assoc. Professor and Assoc. Chair (Undergraduate) - University of Toronto, Economics
Anke Kessler, Professor and Undergraduate Chair - Simon Fraser University, Economics

Internal Reviewers

Jeff Hutter, Assoc. Dean (Academic) - Western University, Faculty of Science
Craig Rodrigues, student - Western University, BMSc program

Date of Site Visit

Mar 7, 2016

Evaluation

Good Quality

Approved by SUPR-U

Sep 28, 2016

Approved by SCAPA

Oct 5, 2016

Executive Summary

The review team met with faculty, staff, and students involved with the Economics program, as well as with senior administrators and library representatives. The external reviewers noted that the Dept. of Economics places a large emphasis on promoting its research strength. Elements of its strategic plan pertaining to undergraduate education include commitments to enhance its program "to attract high quality domestic and international students, provide an excellent learning environment and achieve high quality placements." Teaching of transferable skills and providing experiential and international experiences were cited as priorities.

The reviewers concluded that the program "succeeds in offering an excellent learning environment," particularly for students in Honors Specialization modules. They were particularly impressed with the experience offered by the honors capstone thesis, as well as the flexibility of the program overall. They also noted that students were very satisfied with the learning experience as evidenced by Instructor & Course Evaluations, as well as by departmental surveys. It was apparent that number of instructors was sufficient for the teaching mission, though the reviewers noted that more might become necessary if enrolments continue to increase.

A concern expressed by the reviewers was that the bulk of first- and second-year teaching in the program is performed by "semi-permanent" lecturers, and they suggested that the quality of education would benefit from lecturers with more training. However, the Department notes that these represent a dedicated group of instructors doing a demonstrably excellent job. Another concern was the students' mathematical preparation, which the department has already been discussing. The reviewers wrote at length about the dichotomy in programming offered to students in the honors and non-honors streams, noting that not only did the latter group not reach the same level of training, but they also were also not assessed by the same diversity of methods. The reviewers also recommended an expansion of 3rd- and 4th-year course offerings, particularly in applied areas emphasizing research, data analysis and writing. It was noted that students experienced some bottlenecks in course selection, as well as gaps in advising services. The reviewers recommended that the Department encourage instructors to update their teaching methods to incorporate more active learning (e.g., flipped classrooms) and technology (e.g., online and blended learning). A final concern raised was the high workload of the Undergraduate Coordinator, with a recommendation of providing additional resources or redistributing some of the load to other staff members.

Significant Strengths of Program

- strong research department, providing students with instructors at the forefront of the discipline
- flexible degree paths
- high degree of student satisfaction
- well-subscribed and growing
- exemplary capstone thesis course

Suggestions for improvement & Enhancement

- ensure adequate and uniform math preparation, perhaps by introducing a "mathematics for economists" course, required for honors students
- expand the 3rd- and 4th-year course offerings, particularly in applied areas such as research, data analysis, programming and writing
- increase the number of 3rd-year topics for students in the Specialization module
- consider including tools beyond multiple-choice exams in assessing non-honors students
- examine staff support of the undergraduate program

Recommendations required for Program sustainability:

Recommendation	Responsibility		

New Scholarships and Awards

MacLean & McCann Family Track & Field Award (Any Undergraduate or Graduate Program [Athletic Award - Track & Field])

Awarded to a full-time undergraduate or graduate student in any year of any degree program at Western, including the Affiliated University Colleges, who is making a significant contribution as a member of the Men's and Women's Mustang Track and Field Team. As per OUA and CIS regulations, an entering student athlete must have a minimum admission average of 80% and a non-entering student must have an in-course average of 70%. Candidates must be in compliance with current OUA and CIS regulations. The Western Athletic Financial Awards Committee will select the recipient based on its evaluation of academic performance/potential (20%) and the written recommendations from the Head Coach assessing athletic performance/potential and team/campus leadership (weighted as 60% and 20% respectively). This award was established by a generous gift from David McCann (MBA '86, MA Geography '84, BA Honors Geography '82) and Marg MacLean McCann (BA Honors Physical Education '83).

Value: 1 at \$4,500

Effective Date: 2016-2017 academic year (with review to follow after this)

Gary W. Gorham Men's Soccer Award (Any Undergraduate or Graduate Program [Athletic Award - Men's Soccer])

Awarded to full-time undergraduate or graduate students in any year of any degree program at Western, including the Affiliated University Colleges, who are making a significant contribution as a member of the Men's Soccer Team. As per OUA and CIS regulations, an entering student athlete must have a minimum admission average of 80% and a non-entering student must have an in-course average of 70%. Candidates must be in compliance with current OUA and CIS regulations. The Western Athletic Financial Awards Committee will select the recipient based on its evaluation of academic performance/potential (20%) and the written recommendations from the Head Coach assessing athletic performance/potential and team/campus leadership (weighted as 60% and 20% respectively). This award was established by a generous gift from Gary W. Gorham (BA '80).

Value: Number and value will vary up to a total of \$6,000

Effective Date: 2016-2017 to 2018-2019 academic years (with review of funding each year)

Extraordinary Mustangs Gala Award (Any Undergraduate or Graduate Program [Athletic Award - Varsity Team])

Awarded to full-time undergraduate and graduate students in any year of any degree program at Western including the Affiliated University Colleges, who are making a contribution as a member of a varsity team. As per OUA and CIS regulations, an entering student athlete must have a minimum admission average of 80% and a non-entering student must have an in-course average of 70%. Candidates must be in compliance with current OUA and CIS regulations. The Western Athletic Financial Awards Committee will select the recipients based on its evaluation of academic performance/potential (20%) and the written recommendation from the Head Coach assessing athletic performance/potential and team/campus leadership (weighted as 60% and 20% respectively). This award was established through the Extraordinary Mustangs Gala.

Value: Number and value will vary up to a maximum of \$4,500, to be awarded at the discretion of the selection committee (\$48,000 available)

Effective Date: 2016-2017 academic year only

Kevin H. Burley Economics Scholarship (Economics)

Awarded annually to an undergraduate student graduating from one of the Honors Specialization modules in Economics, based on academic achievement. Students must have obtained an 80% average in their Economics courses at the 3200 level or higher (or equivalent should course numbers change). In addition, they must show proof of acceptance of an offer of admission to an economics graduate program in one of three UK universities: the London School of Economics, Oxford University, Cambridge University or one of the top ranked US graduate economics programs (as judged by the Department of Economics through the use of established ranking systems). Documentation regarding acceptance to an appropriate school is required to be submitted to the Department of Economics Undergraduate office by April 30 each year. The Scholarship and Awards Committee in the Faculty of Social Science will select the recipient. Preference will be given to a candidate who accepts admission to the London School of Economics when there is more than one applicant of equal merit.

Value: 1 at \$5,000. Additionally, the donor prefers that the scholarship value be maintained at a minimum of \$5,000 provided funds are available.

Effective Date: 2016-2017 academic year

This scholarship was established with a generous gift from the Burley Family in honour of Kevin H. Burley, a former Professor in Economics (1966 - 1986), Chair of the Department (1969-70), and Professor Emeritus (1986-90) at the University. The Burley family has a close association with the University: Kevin's wife, June, worked at the University Hospital for 17 years; all three Burley children are Alumni, and one of them, Stephen K. Burley, was awarded a Doctorate of Science Honoris Causa by the University in 2016. The Burley family wishes to honour Kevin H. Burley, a learned scholar in Economic History who published widely in his field and was an active participant in University administration.

S.R. Valluri Scholarship in Mathematical or Theoretical Physics (Science)

Awarded annually to an undergraduate student entering Year 4 who has excelled in mathematical or theoretical physics. The scholarship committee in the Faculty of Science will select the recipient based on performance in Phys/Appl Math 3151 (Classical Mechanics I); Phys 3200 (Quantum Mechanics I); Phys 3300 (Electromagnetic Theory I) or an equivalent suite of third-year courses in theoretical physics, and on documented experience of research in mathematical or theoretical physics via a summer job, a project, or independent study. A one-page statement documenting this research experience must be submitted to the Dean's Office in Science by September 30th. This scholarship was established through a generous gift received from Dr. Sree Ram Valluri, Professor Emeritus in the Departments of Applied Mathematics and Physics and Astronomy.

Value: 1 at \$1,000

Effective Date: 2016-2017 academic year

David Cefai Engineering Award (Engineering)

Awarded to a full-time undergraduate student in Year 2 or higher in the Faculty of Engineering, based on academic achievement (minimum 80% average) and financial need. Online financial need applications are available through Student Center and are due by September 30. A separate award application must also be completed online through the Engineering Undergraduate Services Web site (<http://www.eng.uwo.ca/undergraduate>) and submitted by September 30. The recipient will be selected by the Scholarships and Awards Committee in the Faculty of Engineering after the Registrar's Office has assessed financial need. This award was established by a generous gift from David Cefai (BESc '91, BA '91).

Value: 1 at \$1,000

Effective Date: 2016-2017 to 2022-2023 academic years inclusive

Stigma Enigma Sophie Smith Scholarship (Schulich School of Medicine & Dentistry)

Awarded annually to a full-time undergraduate student in Year 4, Doctor of Medicine (MD) program, who plans to complete his/her residency in psychiatry. While preference will be given to students of the Windsor Campus, the scholarship is open to all 4th year MD students of the Schulich School of Medicine & Dentistry. Candidates must submit a one-page statement by September 30th to the Office of the Associate Dean, Windsor Campus, outlining their plans to complete their residency in psychiatry. The recipient will be selected by the Progression and Awards Committee, Schulich School of Medicine & Dentistry on recommendation of the Associate Dean, Windsor Campus. This award was established by Dr. Patrick Smith.

Value: 1 at \$1,000

Effective Date: 2016-2017 academic year

Dr. Patrick Smith established this scholarship in memory of Sophie Smith. This scholarship will be awarded each November at the Stigma Enigma Event for Mental Health.

Jacob Ross Clemens Memorial Award (Environment and Sustainability)

Awarded annually to a full-time graduate student enrolled in the Master's in Environment and Sustainability (MES) program, based on academic achievement. The student selected for this award will demonstrate the same passion and caring for the environment, family and friends that Jacob exhibited. The scholarship committee in the MES program will select the recipient. At least one member of the committee must hold current membership in the School of Graduate and Postdoctoral Studies. This award was established by the Jacob Ross Clemens Foundation in memory of Jacob Ross Clemens (MES '10, Environmental Studies, BA '07, WLU).

Value: 1 at \$1,500

Effective Date: May 2016 to April 2021 inclusive

Jacob was a passionate environmentalist, traveler and musician. He was committed to environmental sustainability and was involved in sustainable power and irrigation projects in Nicaragua and reforestation efforts in British Columbia. Jacob's involvement in these projects was integral in shaping his educational and career aspirations. Jacob held the positions of Environmental Advisor at Ontario Power Generation and Sustainability Manager at the Vancouver Aquarium. Jacob died in 2016 at the age of 30. Jacob's actions and support for his family, friends and the environment have left a lasting legacy.

REPORT OF THE SENATE COMMITTEE ON UNIVERSITY PLANNING

(SCUP)

**Indigenous Strategic Plan – Final Report
Update on Capital Planning**

FOR APPROVAL

1. **Indigenous Strategic Plan – Final Report**

Recommended: That Senate approve and recommend to the Board of Governors, the final Indigenous Strategic Plan, provided in [Appendix 1](#).

Background:

The final Indigenous Strategic Plan, provided in [Appendix 1](#), will be presented by Rick Ezekiel and Chantelle Richmond.

Additional information may be found at: <http://www.indigenous.uwo.ca>

FOR INFORMATION

2. **Update on Capital Planning**

The Provost will provide an oral report on capital planning.

WESTERN UNIVERSITY

Indigenous Strategic Plan

October 6, 2016



Land Acknowledgement

Western University is situated on the traditional territories of the Anishinaabeg, Haudenosaunee, Lunaapeewak and Attawandaron peoples, who have longstanding relationships to the land and region of southwestern Ontario and the City of London. The local First Nation communities of this area include Chippewas of the Thames First Nation, Oneida Nation of the Thames, and Munsee Delaware Nation. In the region, there are eleven First Nation communities and a growing Indigenous urban population.

Western values the significant historical and contemporary contributions of local and regional First Nations and all of the Original peoples of Turtle Island (North America).



Consultation Process

Indigenizing universities necessarily involves active partnership and engagement with Indigenous peoples and communities. In developing this plan, Western's Indigenous Strategic Initiatives committee consulted extensively with various communities including local Indigenous Communities and Organizations, Indigenous students, faculty and staff, and Western's broad campus community. Beginning with a series of talking circles in 2014, our consultation evolved over the next two years to include 689 individuals who participated in focus groups, town halls, in person meetings, surveys and online submissions which informed the content of this plan.

Context for Western's Indigenous Strategic Plan

THE GLOBAL CONTEXT

An exciting paradigm shift is taking place in Indigenous research, scholarship and education at post-secondary institutions in Canada and around the world. Now more than ever, Indigenous scholars, communities and organizations are participating in the creation of research and teaching on matters of direct relevance to their communities^{2,4}. Where education was once seen as a tool of oppression within Indigenous communities, for many, education is now seen as the “New Buffalo” and a tool for empowerment⁸. This Indigenous scholarship movement embraces research and pedagogical approaches that privilege Indigenous knowledges and ways of doing, making meaningful space for Indigenous learners and scholars to achieve success in postsecondary education^{5,6}.

On the global stage, the emergence of Indigenous scholarship has been fostered through a steadily growing presence of Indigenous scholars, staff and administrators in academic institutions. Increases in Indigenous representation across institutions fosters the development of Indigenous curriculum, student service programming and research innovation, with a goal of creating culturally safe spaces within post-secondary environments that will nurture the social, cultural and educational needs of Indigenous students^{6,8}. This movement is expanding the possibilities for Indigenous learning within post-secondary institutions. It does so by incorporating curriculum that is inclusive of Indigenous value systems, languages, and ways of knowing. Indigenous scholarship calls for the development of space within post-secondary institutions that will celebrate the authentic and diverse representations of Indigenous communities, including their complex histories^{4,6,9}.

CONTEXTUALIZING INDIGENOUS INEQUITY IN CANADA

Indigenous peoples are vastly under-represented in Canada's postsecondary education system as students, professors, staff and administrators⁷. Disparities in educational attainment and a number of other health and social indicators have manifested from a long history of oppression, systemic racism, and discrimination. The residential school system was one manifestation through which education was misused as a tool of oppression, assimilation and abuse. Contemporary products of Canada's colonial history and the residential school system include unequal access to resources such as education, training and employment, social and health care facilities, and limited access to and control over lands and resources^{1,3}.

While First Nations children are staying in school longer than in the recent past, there remains a lag in completion rates at all levels of education in comparison to the non-Aboriginal population. According to the 2012 Aboriginal Peoples Survey, 72% of First Nations people aged 18 to 44 living off reserve had completed the requirements for a high school diploma or equivalent, compared to 89% among non-Aboriginal peoples aged 18-44 in 2013. According to the 2011 Canadian National Household Survey, 9.8% of 25 to 64 year old individuals identifying as Aboriginal had completed a university degree, compared to 26.5% of the non-aboriginal population of the same age, with trends showing that younger Aboriginals are seeking higher levels of postsecondary education than previous generations.

SEEDING THE ROOTS FOR POSITIVE CHANGE: RECONCILIATION IN POST-SECONDARY EDUCATION

In 2015, The Truth and Reconciliation Commission of Canada (TRC) released a report and set of 94 calls to action to contribute to truth, healing and reconciliation following the traumatic individual, inter-generational, and socio-political impacts of residential school systems in Canada¹⁰. The residential school system operated in Canada for over a century, with the last residential school closing in 1996. During this time, more than 150,000 Indigenous children attended the schools, many of whom were forcibly removed from their families, and were subject to various types of abuse and neglect.

“ To the Commission, reconciliation is about establishing and maintaining a mutually respectful relationship between Aboriginal and non-Aboriginal peoples in this country....In order for that to happen, there has to be awareness of the past.... Without truth, justice, and healing, there can be no genuine reconciliation. Reconciliation is not about “closing a sad chapter of Canada’s past,” but about opening new healing pathways of reconciliation that are forged in truth and justice.”¹¹

Justice Murray Sinclair, Chair of the TRC, has repeatedly highlighted how “it was the educational system that has contributed to this problem in this country, and it’s the educational system that will [be the solution].’ The TRC made 11 recommendations specifically for post-secondary institutions, with heavy emphasis placed on the development of curriculum in medical and law schools¹⁰.

In November 2015, University Presidents came together with Indigenous leaders, Indigenous student leaders, and Indigenous scholars at the University of Saskatchewan to discuss how universities could respond to the TRC’s calls to action. This meeting recognized institutional responsibilities of Universities for fostering reconciliation through systemic, social and ideological changes that will make Universities culturally safe and responsive spaces for Indigenous people.

Western University recognizes its role and responsibility in responding to calls to action from The Truth and Reconciliation Commission, and the importance of creating a culturally safe, respectful, and empowering environment for Indigenous peoples across all levels of the institution. Indigenous faculty, staff, students and community members have played a crucial role as partners and strong voices informing our goals and priorities moving forward, and will be important partners in realizing the goals set out in this document. This plan summarizes themes, ideas and goals that were informed by vast consultation with the Western community and local Indigenous communities. Advancing reconciliation at Western University will be driven by commitment and action from leaders across the institution, constant engagement and partnership with Indigenous staff, faculty, students and communities, and a recognition that all members of our campus community have a role to play in advancing this important work. It is within the spirit of reconciliation that we present Western University’s first Indigenous Strategic plan.

Note: The term Indigenous is used throughout this document. The term Indigenous/Aboriginal is defined based on the Canadian Constitution Act of 1982 referring to a person of First Nations, Métis and/or Inuit ancestry.

Vision, Purpose, and Guiding Principles

Vision

Indigenous people are engaging in all levels of work, study and research at Western University, enriching campus life for the benefit of all.

Purpose

Western University will elevate Indigenous voices and agency to engage all faculty, staff, students and communities in advancing excellence in Indigenous research, education, and campus life.

GUIDING PRINCIPLES

The Western Community includes all undergraduate and graduate students, postdoctoral scholars, staff, faculty members, and administration. We value:

Academic Excellence: Taking Indigenous approaches to leadership and learning, striving toward excellence in teaching, research, and scholarship, and being a leader in Indigenous postsecondary education.

Balance: All members of the Western community working toward developing mutually beneficial and reciprocal relationships with Indigenous communities both within and outside campus, as the foundation from which institutional growth and change occurs. This approach recognizes that meaningful relationships require time, open listening, and commitment.

Collaboration: Working together as a collective community to build partnerships that increase Indigenous voices and agency, and promoting the reclamation of Indigenous peoples' personal and professional decision-making capacities.

Diversity: Indigenous learners are different and distinct with respect to their experiences, ideas, perspectives, and learning needs. Indigenous communities are similarly diverse in linguistic, cultural, social, and political goals and values.

Equity and Inclusion: Indigenous peoples' experiences are shaped by many complex historical and social factors, making proactive Indigenous initiatives necessary to eliminate barriers and ensure equal access to postsecondary education at the undergraduate and graduate levels. Inclusive education understands that academic programs, student services, and research opportunities are most effective when they are relevant to Indigenous peoples' needs.

Interconnection: We are all connected to the local context as well as the land and place we now call Canada. It is our collective responsibility to understand our shared Canadian history, and play a role in facilitating reconciliatory relationships between Indigenous and non-

Indigenous peoples. Interconnection often calls for people to develop cultural competencies for working respectfully and effectively with Indigenous peoples.

Personal and Cultural Identity: Recognizes and supporting Indigenous students, staff, and faculty members’ personal, cultural, and community identities, and understanding and valuing the inherent responsibilities that accompany Indigeneity.

Respect: Recognizing the complex and diverse nature of Indigenous Knowledge systems and languages, and the need to foster congruence between Indigenous paradigms and academic worlds. Respect also requires the recognition and support of Indigenous peoples’ inherent constitutional rights to self-determination.

Strategic Directions

Western’s Indigenous Strategic Plan will advance Indigenous Initiatives under the following broad strategic directions (note that the strategic directions below are not represented in priority order – each priority is recognized as of equal importance to accomplishing outcomes associated with this strategic plan):

Strengthen and build relationships with Indigenous Communities	Page 7
Nurture an inclusive campus culture that values Indigenous peoples, perspectives, and ways of knowing	Page 7
Enhance Indigenous students’ experience at Western	Page 9
Achieve Excellence in Indigenous Research & Scholarship	Page 11
Excel in Indigenous Teaching & Learning	Page 12
Indigenize Western’s Institutional Practices and Spaces	Page 13
Become a university of choice for Indigenous students	Page 15
Increase Indigenous representation in staff and Faculty complement	Page 15



Indigenous Strategic Plan Goals Chart

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
<p>Strengthen and build relationships with Indigenous communities</p>	<p>Grow Indigenous youth outreach and pre-university programming in areas of needs.</p>	<p>Youth Outreach</p> <p>Sustain existing youth outreach programs such as the Mini University program, and develop new ones (eg. classroom visits to campus, speaker series in communities, youth mentorship programs, day programs).</p> <p>Focus on underrepresented areas such as Science, Technology, Engineering and Medicine (STEM) disciplines, arts and humanities, and Indigenous male youth outreach.</p>
	<p>Expand partnerships with Aboriginal Institutes and community Colleges provincially and nationally.</p>	<p>Maintain and grow Western's position within the University consortium with Six Nations Polytechnic.</p>
	<p>Develop mutually beneficial partnerships with Indigenous communities and organizations.</p> <p>Actively focus on Indigenous relations and fostering ongoing Indigenous community engagement.</p>	<p>Increase sponsorship of community events and programs.</p> <p>Enhance communications between Western University and Indigenous Communities.</p> <p>Dedicate staff to build sustainable relationships with Indigenous communities and stakeholders.</p> <p>Expand off-campus and community-based language course offerings and language revitalization initiatives in partnership with Indigenous communities.</p>
<p>Nurture an inclusive campus culture that values Indigenous peoples, perspectives, and ways of knowing</p>	<p>Students</p> <p>Build awareness about Indigenous peoples, cultures and histories among all Western students.</p> <p>Celebrate and reward leadership among Western students, staff and faculty members in the area of Indigenous initiatives.</p>	<p>Develop informal and formal learning opportunities for all Western students to learn more about Indigenous peoples, cultures and histories (e.g. embed Indigenous perspectives into co-curricular leadership education programs and community engaged learning opportunities, support Indigenous Awareness Week, etc.).</p> <p>Seek funding to develop online learning modules on a variety of topics related to Indigenous peoples and cultures that can be embedded in curricular and co-curricular learning experiences.</p>

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
	<p>Staff and Faculty</p> <p>Build awareness and cultural competencies for working effectively with Indigenous peoples and cultures among all Western faculty and staff members.</p>	<p>Create experiential learning opportunities and programs for all Western students in partnership with Indigenous communities and organizations (e.g. Alternative Spring Break, cooperative education, internships, international exchanges).</p> <p>Develop and offer Indigenous cultural competency training to Western student leaders (e.g. student staff, volunteers, orientation leaders).</p> <p>Initiated through the Interdisciplinary Development Initiative in Applied Indigenous Scholarship, develop a campus-wide cultural competency training program geared toward different groups at Western (e.g. senior administration, faculty and staff members. Provide tailored training to student-facing roles such as academic counsellors and front-line staff supporting student mental health). This training will be implemented in partnership with the Teaching Support Centre, staff Learning and Development, Equity and Human Rights Services, Indigenous Services, and Continuing Studies.</p> <p>Develop an Indigenous Purple Guide to assist staff and faculty members in working with Indigenous students.</p>
	<p>Support and grow Western's current Visiting Elders program.</p>	<p>Increase the number and frequency of Elders on campus.</p> <p>Expand supports offered by visiting elders to include connections with Indigenous faculty and staff, and incorporation of Elders in course content delivery, in addition to current supports available to students.</p>

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
<p>Enhance Indigenous students' experience at Western</p>	<p>Support Indigenous students' successful transition, retention, and completion of their degrees.</p> <p>Expand holistic and culturally-relevant counselling, student supports, and space available through Indigenous Services.</p> <p>Expand career development opportunities and supports for transitioning to the workforce for Indigenous students.</p> <p>Create a welcoming and inclusive learning environment for Indigenous students at Western.</p>	<p>Increase culturally-relevant counselling supports for Indigenous students with special attention on mental health needs; provide increased resources to support counselling available through Indigenous Services.</p> <p>Support and grow academic transition programs for incoming Indigenous students at the undergraduate and graduate levels (e.g. orientation program/residence practices, mentorship program).</p> <p>Enhanced experiential learning opportunities (see Excel in Indigenous Teaching and Learning Section).</p> <p>Increase spaces for Indigenous students to gather, meet and study (indoor and outdoor), including but not limited to Indigenous Services.</p>
	<p>Increase supports for Indigenous student groups at Western.</p>	<p>Support the sustainability of the First Nations Student Association (FNSA) club.</p> <p>Support and grow Western's Supporting Aboriginal Graduate Enhancement (SAGE) group/chapter.</p>

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
	<p>Support the unique needs faced by Indigenous students navigating a university environment (financial, housing, etc.).</p> <p>Address unique needs of Indigenous student sub-groups (e.g. mature students, parents, students with disabilities, LGBTQ students).</p>	<p>Housing Needs</p> <p>Create Indigenous-specific residence options for Indigenous students that accommodate cultural needs and offer safe learning communities.</p> <p>Financial Needs</p> <p>Conduct a comprehensive review of Western's Financial Profile system to reduce systemic barriers faced by Indigenous students.</p> <p>Increase financial supports for Indigenous students by developing new scholarships, bursaries, emergency funding and grant options.</p> <p>Family Needs</p> <p>Explore affordable childcare options for Indigenous students with dependents.</p> <p>Students with Disabilities</p> <p>Streamline processes for students who require accommodation.</p>
	<p>Nurture ongoing relationships with Indigenous student alumni at Western.</p>	<p>Track and identify Indigenous alumni.</p> <p>Develop an Indigenous alumni chapter/group.</p> <p>Host an Indigenous homecoming event.</p> <p>Profile and celebrate successful Indigenous alumni.</p>

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
<p>Achieve Excellence in Indigenous Research & Scholarship</p>	<p>Advance Indigenous research and scholarship at Western with local, regional and global relevance.</p> <p>Celebrate and reward research in Indigenous areas.</p> <p>Foster innovative and collaborative community based research partnerships with Indigenous communities that meet community needs.</p> <p>Ensure that research with Indigenous communities and peoples is conducted in an ethical and responsible manner.</p> <p>Support community archiving and establishment of community libraries.</p> <p>Enhance Western Libraries' holdings related to Indigenous content.</p>	<p>Establish a cross-faculty and/or collaborative Indigenous Research Centre.</p> <p>Create and enhance opportunities for Undergraduate students to conduct community-based research in Indigenous communities.</p> <p>Sustain and expand research initiatives in the north which involve active partnerships with Indigenous communities (eg. climate change, food security, safe drinking water).</p> <p>Coordinate an annual Indigenous Research Day to profile Indigenous research at Western and connect campus members working in the space.</p> <p>Offer an international summer school on Indigenous Scholarship for graduate students and emerging scholars which could include Indigenous community researchers.</p> <p>Centralize communication vehicles relating to Indigenous research activities at Western. Create a one-stop shop for information about Indigenous research activities.</p> <p>Create Indigenous Research Chair positions.</p> <p>Create Indigenous Visiting Scholar opportunities.</p> <p>Create internal competitive funding opportunities to promote Indigenous research activities at Western.</p> <p>Review Western's ethical review process and guidelines for conducting research with Indigenous communities and peoples to ensure it promotes research while protecting and respecting Indigenous peoples and their communities.</p> <p>Create a webinar that educates scholars on conducting respectful and ethical research with Indigenous communities.</p>

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
<p>Excel in Indigenous Teaching & Learning</p>	<p>Increase all students' knowledge of Indigenous people and cultures through inclusion of Indigenous content, methods and approaches in academic programs and courses.</p> <p>Create catalogue of, and promote courses containing Indigenous Content.</p>	<p>Sustain, grow and celebrate Western's First Nations Studies program.</p> <p>Explore strategies to increase Indigenous content across undergraduate programs. (e.g. mandatory course and/or embedding Indigenous content into foundational undergraduate courses using common learning outcomes).</p> <p>Incorporate Indigenous knowledge and perspectives by inviting Elders and Indigenous community members to share Indigenous content in courses.</p> <p>Leverage expertise from First Nations studies to assist the University as they move forward with increasing students' knowledge on Indigenous peoples.</p> <p>Sustain, grow and celebrate Western's Faculty of Education Indigenous graduate program.</p> <p>Increase Indigenous content in Bachelor of Education program.</p> <p>Develop a new Collaborative Program in Indigenous Scholarship at the graduate level.</p> <p>Actively promote an inventory of Indigenous-related academic programs and courses offered at Western through a central website on Indigenous Initiatives.</p>

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
	<p>Expand reciprocally beneficial, community defined experiential learning opportunities available to all Western students in partnership with local Indigenous communities, including community placements, community engaged learning opportunities, internships and co-operative education.</p> <p>Increase course offerings available (open access or fee-based) to Indigenous community members,</p>	<p>Develop new partnerships with local, regional and international Indigenous communities to offer mutually beneficial community-based experiential learning opportunities (e.g. international experiences, community engaged learning courses, internships, field experiences in Indigenous communities, etc.).</p> <p>Streamline administrative process for enrolment in community based course offering open to Indigenous community members.</p> <p>Enhance community involvement and partnership in development of additional community-based course offerings.</p>
	<p>Embrace Indigenous pedagogical practices for use in classrooms.</p>	<p>Develop and offer training to faculty members on Indigenous pedagogical practices in the classroom (e.g. narrative / storytelling approaches, Elders, land-based learning).</p>
	<p>Support and enhance existing and new language revitalization initiatives through the Native Language Centre.</p>	<p>Emphasize critically endangered languages to support cultural survival.</p> <p>Provide independent study opportunities in Indigenous languages for students.</p> <p>Provide office space for language instructors.</p> <p>Act as a hub for community learning initiatives and community services, as well as repatriation of materials.</p>
<p>Indigenize Western's Institutional Practices and Spaces (Governance, Funding, Policies, Procedures and Facilities)</p>	<p>Governance</p> <p>Support the awareness, role, and engagement of Western's Indigenous Postsecondary Education Council (IPEC) on matters related to Indigenous peoples / initiatives.</p> <p>Seek Indigenous representatives on Western's Board of Governors and Senate.</p>	<p>Strike a Provost Task Force to explore the implementation of the Truth and Reconciliation Commission (TRC) recommendations and affirm institutional commitment to implementing the Indigenous Strategic Plan.</p> <p>Formalize the role of IPEC within Western's governance structure through formal reporting and advising roles within Senate.</p> <p>Seek representation of an Indigenous community leader on Western's Board of Governors.</p>

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
	<p>Funding</p> <p>Allocate sustainable operational funding to support core services for Indigenous students, and implementation and monitoring of the Indigenous Strategic Plan.</p> <p>Advance philanthropic and government fundraising efforts to support growth of Indigenous initiatives at Western.</p>	<p>Set clear and aspirational fundraising targets for Indigenous initiatives at Western.</p> <p>Actively seek grant funding opportunities to support Indigenous initiatives across campus.</p>
	<p>Policies and Procedures</p> <p>Create new and/or review existing Western policies and procedures as it relates to Indigenous peoples.</p>	<p>Create an Indigenous cultural practices policy and/or procedure to accommodate smudging and sacred fires at Western.</p> <p>Review and update Western's academic accommodation policy to recognize Indigenous ceremonial obligations as a religious observance.</p> <p>Acknowledge traditional territories in convocation, public documents, plaques, website, and formal activities of the University.</p>
	<p>Facilities</p> <p>Increase Indigenous gathering spaces at Western.</p> <p>Increase the presence of Indigenous cultures, languages and symbols across Western.</p>	<p>Increase dedicated gathering spaces for Indigenous people at Western; intentionally consider use of facilities for Indigenous cultural ceremonies and gatherings in campus master plans.</p> <p>Increase visibility of Indigenous symbols and artwork, outdoor sculptures and naming of buildings across the campus.</p> <p>Increase outdoor spaces for Indigenous people to gather and conduct cultural practices (e.g. fire pit for sacred fires, outdoor pavilion, Indigenous Food and Medicine Garden).</p> <p>Seek Indigenous representation among grounds crew, specifically related to work with the anticipated outdoor learning space and Indigenous Food and Medicine Garden.</p>
	<p>Communications</p> <p>Enhanced centralized communications tools and development of an institutional communications plan with regard to Indigenous Initiatives</p>	<p>Create a central website with direct link from Western's homepage to profile Indigenous initiatives across campus.</p>

BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
<p>Become a university of choice for Indigenous students</p>	<p>Enhance supports for prospective Indigenous student applicants.</p> <p>Increase special admission pathways and representation of Indigenous students across all Faculties at the undergraduate and graduate levels, with particular focus on underrepresented areas.</p>	<p>Dedicate core funding for staff positions to support Indigenous student recruitment initiatives.</p> <p>Develop a comprehensive Indigenous student recruitment strategy to increase Indigenous student applicants, with expanded focus on graduate students locally, provincially and nationally.</p> <p>Enhance Indigenous communication strategies and partnerships to increase Western's presence in Indigenous communities locally, regionally and nationally.</p> <p>Conduct a program review to enhance Western's undergraduate Aboriginal Admission Access Category and program partners.</p> <p>Actively promote existing and develop new accessible entry options for Indigenous applicants in professional programs (e.g. Medicine, Dentistry, Law, Occupational Therapy).</p> <p>Explore innovative recruitment strategies to increase Indigenous graduate student representation (e.g. entry scholarships, self-identification question in the application process, and creation of an Indigenous collaborative masters' program).</p>
<p>Increase Indigenous representation in staff and Faculty complement</p>	<p>Staff Members</p> <p>Increase Indigenous staff members working at Western in underrepresented employee groups.</p>	<p>Western's employment equity policy.</p> <p>Develop an Indigenous employee recruitment and retention strategy including aspirational targets and benchmarks over the next 5 years.</p> <p>Work in partnership with employee groups to increase accessibility; review and revise equity articles and statements in various employee agreements.</p> <p>Explore hiring an Indigenous Human Resource Consultant to support targeted outreach, partnership building, training of hiring managers, and recruitment of Indigenous peoples in targeted areas.</p>

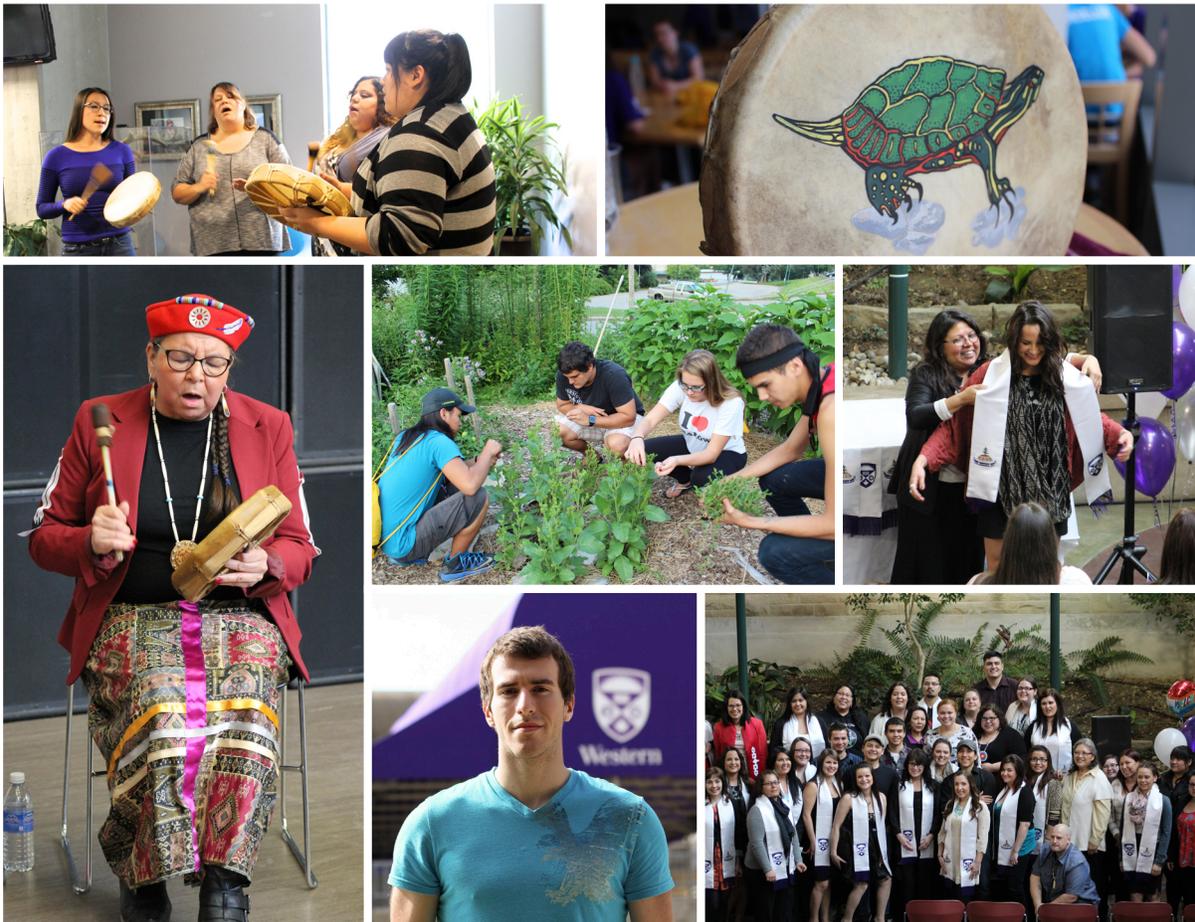
BROAD STRATEGIC DIRECTIONS	GOALS	STRATEGY SUGGESTIONS
		<p>Establish a network of Western faculty and staff who have relationships with Indigenous communities, which can act as a gateway for communications regarding relevant initiatives and employment opportunities.</p> <p>Promote relevant employment opportunities in Indigenous communities through centralized Indigenous communications plan.</p>
	<p>Faculty Members</p> <p>Increase Indigenous faculty members working at Western.</p> <p>Through promotion and tenure, and annual performance review processes, recognize additional demands placed on time and workload of Indigenous faculty members through involvement in a number of activities that support Indigenous education and scholarship across the institution, including:</p> <ul style="list-style-type: none"> • Guest lectures • Community based work • Planning / consulting on development of new courses / Indigenous content across the university • Academic advising / support for students • Ongoing expectation to consult on Indigenous related issues 	<p>Develop and implement a strategy to increase recruitment and retention of Indigenous faculty members working at Western (pipeline development / talent acquisition strategy, mentorship programs).</p> <p>Work with Joint Employment Equity committee to assess the efficacy of the current employment equity article in UWOFA collective agreement.</p> <p>Review strategies to reduce gap in aboriginal peoples' representation (eg. training of appointment committees, review and revise Employment Equity guide).</p> <p>Conduct a market analysis to determine key disciplinary areas of focus, and work to promote specific faculty positions within Indigenous communities.</p> <p>Expand definitions of service within faculty workload at Western to capture unique demands placed on Indigenous faculty members.</p> <p>Recognize in workload specifications the unique time demands involved in, and diverse research products of, conducting community based research with Indigenous peoples (eg. relationship and partnership building, ethical review process, applied research products).</p> <p>Increase training and supports available to Annual Performance Review Committees to recognize the specific demands articulated in this section.</p>

Implementation & Accountability

While developing a plan is very important the real work begins after it is adopted, making it come to life at Western. Western Faculties, departments and administrative units will be encouraged to connect their internal plans and priorities with the Indigenous Strategic Plan.

UNIVERSITY PLANS AND INITIATIVES RELEVANT TO IMPLEMENTATION OF THE INDIGENOUS STRATEGIC PLAN INCLUDE:

- Provost Task Force on the Implementation of the Truth & Reconciliation Commission (TRC) recommendations and Indigenous Strategic Plan goals and priorities, which will be established upon the launch of the Indigenous Strategic Plan
- Strategic Mandate Agreement (SMA)
- Strategic Enrolment Management (SEM) Framework
- Interdisciplinary Development Initiative (IDI) in Applied Indigenous Scholarship
- Joint Employment Equity Committee
- Western University Institution-wide Learning Outcomes
- Campus Master Plan
- Open Space and Landscape Plan
- Unit and Academic Strategic Plans



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Report to Senate from the Board of Governors

FOR INFORMATION

The Board of Governors met on September 27, 2016. Attached is a full list of items received for approval or information from the Board's standing committees and from Senate. Documentation for these items can be found at:

http://www.uwo.ca/univsec/pdf/board/minutes/2016/Board_Agenda_September_27_2016_Open_Session.pdf

All of the reports and proposals received were standard items of business.

SUMMARY OF AGENDA ITEMS – September 27, 2016 - OPEN SESSION

Adoption of Agenda	ACTION
Report of the President	INFO
Unanimous Consent Agenda – Appendix I	ACTION
Minutes of the Meeting of June 23, 2016 – Open Session only for web	ACTION

Report of the Property & Finance Committee- Appendix II

Revisions to MAPP Policy 2.15 – Approval of Capital Projects	ACTION
The Stephen A. Jarislowsky Chair in Central Banking	INFO
Investment Committee Report	INFO
Quarterly Ratio Report on Non-Endowed Funds	INFO
New Scholarships and Awards	INFO

Senior Policy & Operations Committee – Appendix III

Committee Appointments	INFO
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Audit Committee – Appendix IV

Audited Financial Statements for the Year Ended April 30, 2016	ACTION
Financial Statements – Related Companies	INFO
Harassment and Discrimination Matters Annual Report	INFO

Fundraising & Donor Relations Committee – Appendix V

Fundraising Activity Quarterly Report to July 31, 2016	INFO
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Items Referred by Senate - Appendix VI

Department of Visual Arts – Deferral of the Department of Visual Arts' Name Change to the Department of Art History and Studio Art	ACTION
Institutional Quality Assurance Report – June 30, 2016	INFO
Honorary Degree Recipients – Autumn 2016	INFO
Report of the Academic Colleague	INFO
Announcements – Academic Administrative Appointments	INFO
2017 Convocation Dates	INFO
University Convocation Ceremony in Hong Kong	INFO

Report to Senate of the Academic Colleague, Council of Ontario Universities

Erika Chamberlain, October 2016

FOR INFORMATION

David C. Smith Award: This year's recipient of the David C. Smith Award was Bonnie Patterson, former President and CEO of the Council of Ontario Universities. Patterson was the first woman President and Vice-Chancellor of Trent University (1998-2009), and was Ryerson's Special Advisor to the President during its transformation to full university status. She is also a member of the Order of Canada and an honorary degree recipient from Western. Patterson was honoured at a reception on Thursday, October 13, 2016.

Nursing Degree Delivery Model: Following a re-review of the model for the delivery of nursing degrees in the province, the Minister of Advanced Education and Skills Development and the Minister of Health and Long-Term Care have affirmed the decision to maintain the collaborative model for nursing degree delivery. The reviewing team received positive feedback from students, alumni, and employers about the dedicated faculty and administrators in both universities and colleges who work together to deliver these collaborative programs.

Sector-Wide Engagement Plan: The COU is launching a sector-wide engagement plan to "create a conversation with Ontarians about the future." The campaign launched at the Ontario Universities Fair during the week of September 19, where 150,000 parents and students were invited to complete a survey about the future. Universities have also identified champions among senior leaders to identify opportunities for their institutions to engage with other audiences across the province. These will include researchers, health and social services agencies, businesses and not-for-profit organizations, community leaders, arts and culture organizations, and governments. This engagement plan is one of the first steps in building a broader communications plan for Ontario universities.