



York University Senate

Notice of Meeting

Thursday, June 15, 2017, 3:00 pm
Senate Chamber, N940 Ross Building

AGENDA

	Page
1. Chair's Remarks (L. Beagrie)	
2. Business Arising from the Minutes	
3. Inquiries and Communications	
a. Academic Colleague to the Council of Ontario Universities (D. Leyton-Brown; for information).....	1
4. President's Items (M. Shoukri)	
a. Kudos Report.....	2
Committee Reports	
5. Executive Committee (F. van Breugel)	9
a. <i>Senate Policy on Accommodations for Students with Disabilities: Amendments</i> (for approval, Appendix A)	13
b. Senate Year in Review (Attendance and Summary of Actions Taken; for information, Appendices C and E)	
6. Academic Standards, Curriculum and Pedagogy (L. Farley)	34
a. Specialized Honours BFA Program in Intermedia, Departments of Computational Arts and Visual Arts & Art History, School of the Arts, Media, Performance & Design: Establishment (For approval, Appendix A)	41
b. Graduate Degree Programs in Digital Media, School of the Arts, Performance, Media & Design / Lassonde School of Engineering / Faculty of Graduate Studies: Establishment (For approval, Appendix B)	89
7. Awards (R. Kenedy).....	188
a. Recipients of Prestigious Awards for Students (for information)	
8. Academic Policy, Planning and Research (L. Jacobs)	190
a. New Faculty Comprising the Faculty of Environmental Studies and the LA&PS Department of Geography: Establishment (for approval in principle, Appendix A) ...	194

York University Senate

- b. Spring Report of the Interim Vice-President Academic and Provost (L. Philipps, for discussion)
- c. Budget Context for Academic Planning: Interim Vice-President Finance and Administration (T. Pound-Curtis, for discussion)
- 9. Academic Policy, Planning and Research and Academic Standards, Curriculum and Pedagogy (L. Jacobs / L. Farley) 228
 - a. Report of the Joint Sub-Committee on Quality Assurance (for information, online)
 - b. Annual Report on Non-Degree Studies (for information, Appendix B, page 231)
- 10. Other Business

M. Armstrong, Secretary

Consent Agenda

Consent agenda items are deemed to be approved or received unless, prior to the start of the meeting, one or more Senators ask that they be dealt with as regular business.

- 11. Minutes of the Meeting of May 25, 2017 (for approval) 236
- 12. OMIS Field in PhD program in Administration, Schulich School of Business / Faculty of Graduate Studies: Changes to the Requirements (Appendix C, page 178)
- 13. BA and BSc Programs, Faculty of Science: Changes to Admission Requirements (Appendix D, page 186)
- 14. Delayed-Entry Pathway for the BBA and iBBA Programs, Schulich School of Business: Changes to Admission Requirements and Transfer Credits (page 38)

Senate Meeting of June 15, 2017

Report of the Academic Colleague to the Council of Ontario Universities

Continuing with their interest in indigenization issues, the Academic colleagues considered the Ontario Council of Academic Vice-Presidents/ Reference Group on Aboriginal Education Joint Working Group (which must be the most cumbersome name for a working group in the province). The terms of reference for this joint working group have been finalized, and they have embarked on an initial project to identify best practices re recruitment, support and retention of aboriginal faculty, particularly those undergoing tenure and promotion. The project will involve a literature review, a survey of faculty, and focus groups.

COU's Strategic Engagement Campaign is completing its Discover phase, which has involved over 6000 responses to an online survey, 28 roundtables across the province (one of which was coordinated by York's VPRI) and an IPSOS-Reid poll. The campaign is entering its Distil phase where all of these inputs are being analyzed.

A major focus is the funding review and SMAs. SMA2 drafts have been submitted, and COU is beginning preparation for SMA3, when some of the funding will be tied to metrics. Universities will need to collect the necessary data before the reporting requirements are implemented, so there is increasing urgency to finalizing what those metrics for the next round will be. There is no money for enrolment growth in SMA2, but there may be some reallocation of unfilled graduate enrolment spaces among universities.

Re experiential education, the government has re-branded the Highly Skilled Workforce Strategy as the Career Kick-Start Strategy, which is indicative of their focus on workplace transitions rather than broader skills development. COU continues to advocate for a broader interpretation of experiential education, and the development of metrics that include a wide range of high impact practices.

In the upcoming year there will be a periodic review of the Quality Council and the Quality Assurance Framework.

David Leyton-Brown

Academic Colleague



THIS IS EXCELLENCE

KUDOS REPORT

MAY-JUNE 2017



York partnered with Immigration, Refugees & Citizenship Canada (IRCC) and the Institute for Canadian Citizenship (ICC) to host a special Canada 150 [Community Citizenship Ceremony](#) for thirty-five new Canadians. (Photo: ICC/Alyssa K. Faoro)



The York University-TD Community Engagement Centre awarded [Catalyst Grants](#) to five projects led by partnerships between York University and the Jane-Finch community.



Glendon professors [Valérie Schoof](#) and [Swann Paradis](#) received the 2016-17 Principal's Research Excellence Awards.



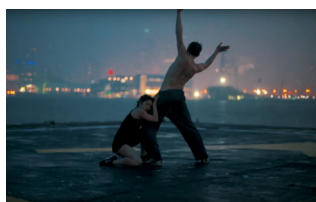
A research paper by seven authors from York, including principal investigator professor Amro Zayed and PhD candidate Nadia Tsvetkov, was published in the prestigious academic journal *Science*.



Lassonde professor [Nima Tabatabaei](#) received more than \$700,000 in funding from the Canadian Institutes of Health Research (CIHR) and Natural Sciences and Engineering Research Council of Canada (NSERC) for research on oral health.



THIS IS EXCELLENCE KUDOS REPORT



Graduate students [David Outevsky](#) and [Regina Bautista](#) won the International University Global Theatre Experience (IUGTE) Best Idea Award for their short dance film *Fleeting Encounters, Shifting Pathways*.



MA student [Hawa Sabriye](#) was awarded an Aga Khan Foundation of Canada Fellowship in Mozambique.



Osgoode LLM student [Dustin Klaudt](#) received the Colin B. Picker Prize in Comparative Law from the Younger Comparativists Committee of the American Society of Comparative Law.



The Glendon School of Public and International Affairs (GSPIA) received a [\\$2M gift](#) from BMO Financial Group to create academic leadership opportunities.



Sociology professor [Eric Mykhalovskiy](#) was awarded the 2017 Canadian Association for HIV Research-Canadian Foundation for AIDS Research (CAHR-CANFAR) Excellence in Research Award in the Social Sciences.



Anthropology Professor Emerita [Margaret Critchlow](#) was awarded the Weaver-Tremblay Award by the Canadian Anthropological Association for her research in Vanuatu.



THIS IS EXCELLENCE KUDOS REPORT



History professor [Craig Heron](#) was honoured with the 2017 Lee Lorch Award presented by the Canadian Association of University Teachers (CAUT).



York Lions men's soccer player [Jonathan Lao](#) was named the Ontario University Athletics (OUA) male athlete of the year.



Professors Ian Garrett, Theodore Noseworthy, Sapna Sharma and Graham Wakefield received [\\$140,000 in funding](#) through the Ontario government's Early Researcher Awards program.



The Faculty of Science received \$100,000 from [Berna and Earle Nestmann](#) for the Dean's Undergraduate Research Awards, which fund summer research positions for science students.



The 2017 recipients of the [President's University-Wide Teaching Awards](#) will be celebrated at Spring Convocation:

- Teaching Assistant - Sabina Mirza, Faculty of Education
- Contract/Adjunct Faculty Member - Véronique Tomaszewski, Glendon College
- Full-Time Faculty Member - Alex Czekanski, Lassonde School
- Senior Full-Time Faculty Member - Andrea Davis, Faculty of LA&PS



THIS IS EXCELLENCE KUDOS REPORT



Osgoode [JD students](#) Yadesha Satheaswaran, Shani Ocquaye and Emily Finnie received awards from the Women's Law Association of Ontario (WLAO).



Come From Away, a musical created by York alumni David Hein (BFA '97) and Irene Sankoff (BA '99), won three [Toronto Theatre Critics Awards](#), including best new Canadian musical and best overall production of a musical in 2016-17.



AMPD alumna [Joanna Yu](#) won the 2017 Pauline McGibbon Award for her contributions to Ontario's theatre community.



PhD student [Chris Chen](#) received a national volunteer award from CurioCity for his work to promote science literacy to high school students with the York chapter of Let's Talk Science.



York Lions athletes [Mohab El-Nahas and Shady El-Nahas](#) each won the gold medal in their respective weight classes at the Canadian Open Judo Championships.



York Postdoctoral Fellow [Heather Fitzsimmons Frey](#) was awarded a Banting Fellowship for her project with York's Department of Theatre.



THIS IS EXCELLENCE

KUDOS REPORT



Twelve remarkable Canadians will be recognized with honorary degrees at [Spring Convocation](#) to mark Canada 150:

- Karen Weiler - Eminent jurist
- William Fisch - Community advocate and public service leader
- Matt Galloway - Canadian radio personality, community leader
- Wanda MacNevin - Social worker, activist, author
- Michael Dan - Medical doctor, social entrepreneur and philanthropist
- Haley Wickenheiser - Olympic athlete, author and motivational speaker
- Steve Paikin - Public affairs journalist, author, filmmaker
- William MacDonald Evans - Public servant, former Canadian Space Agency President
- His Excellency the Right Hon. David Johnston - Governor General of Canada, legal scholar, university administrator
- Bharat Masrani - Bank executive, champion of York University
- Cindy Blackstock - Community leader, child advocate, social worker
- Hon. Marion Boyd - Social justice advocate and political pioneer





THIS IS EXCELLENCE KUDOS REPORT

APPOINTMENTS:



York University Chancellor [Gregory Sorbara](#) was reappointed for an additional three-year term, effective June 14, 2017.



York University appointed [Dr. James Orbinski](#) as the inaugural Director of the Dahdaleh Global Health Research Institute (DGHRI).



Professor [Norma Sue Fisher-Stitt](#) was appointed Interim Dean of the School of the Arts, Media, Performance and Design.



Former Osgoode Dean, Provost and Vice-President Academic of York University and Ontario Deputy Attorney General [Patrick J. Monahan](#) (LLB '80) was appointed to the Ontario Superior Court of Justice.



Glendon Principal [Donald Ipperciel](#) was appointed Knight of the Order of the Academic Palms by the Government of the French Republic.



Psychology professor [Ellen Bialystok](#) was invested as an Officer of the Order of Canada for her research on the benefits of bilingualism.



THIS IS EXCELLENCE

KUDOS REPORT



Osgoode appointed award-winning journalists [Gail J. Cohen](#) and [Roxana Olivera](#) to its inaugural Journalist in Residence program.



Leading legal education scholar [Paul Maharg](#) was appointed as distinguished professor of practice at Osgoode.



IP Osgoode Professor [David Vaver](#) was invested as a Member of the Order of Canada for his work on intellectual property law.

Executive Committee – Report to Senate

At its meeting of June 15, 2017

The Executive Committee met on June 6 and makes this report to Senate for information.

FOR ACTION

1. Senate Policy on Accommodations for Students with Disabilities: Amendments

Senate Executive recommends

that Senate approve amendments to the *Senate Policy on Accommodations for Students with Disabilities* as set out in Appendix A.

Note: This motion applies only to the Policy per se and not to the text of the accompanying Guidelines, Procedures and Definitions. Senate approves policies and is informed of changes to associated guidelines and procedures. See item 2, below, for information concerning the status of the Guidelines, Procedures and Definitions.

Rationale (based on text supplied by the Sub-Committee on Equity)

For more than two years, the Sub-Committee on Equity has been engaged in a process leading to the recommendation coming to Senate Executive. Most recently it opened up consultations to the community by inviting Senators, Faculty Councils and the community at large to comment on draft revisions to the Policy and its attendant Guidelines, Procedures and Definitions. Before circulating draft revisions the Sub-Committee reviewed Policies at other Canadian universities, discussed changes with a stakeholder group led by the Vice-Provost Academic, and delved into other reports and studies produced within the University and by organizations in the province and country. The membership of the Sub-Committee changed over time, but the knowledge base continued to grow.

Most of the comments received focused on the Guidelines, Procedures and Definitions (the latter a new feature of the document) that accompany the Policy. Only a few of the submissions made suggestions about the wording of the Policy *per se*. The Sub-Committee carefully considered all responses, and the final version of the Policy reflects changes to the language of the Policy.

Senate Executive has agreed to present the revised policy to Senate this month for the following reasons articulated by the Sub-Committee:

- the principles articulated in the Policy are widely endorsed
- the University community understands the need to update the Policy, and the process has been characterized by good will and momentum
- the process has been a long and thorough one and has resulted in a definable consensus about the language of the Policy
- approval of amendments will send a clear signal of Senate's ongoing commitment to accommodations, including the University Academic Plan objectives associated with a mentally healthy community
- those responsible for implementation have been awaiting amendments to the Policy so that they have greater certainty about the framework and language

Executive Committee – Report to Senate

Senate Executive and the Sub-Committee are confident that the amended Policy is well supported and that the changes better reflect our values and commitments.

Documentation is attached Appendix A.

FOR INFORMATION

2. Accommodations for Students with Disabilities: Guidelines, Procedures and Definitions

In the course of seeking input on the revised policy, the Sub-Committee also circulated changes to its accompanying Guidelines and Procedures (including the addition of Definitions). It is evident from the submissions that the community would appreciate an opportunity to consider aspects of the Guidelines and Procedures in greater detail. For example, we heard concerns that the language in some clauses is too vague or that some concepts – notably Universal Design for Learning – are in need of better definition and a clearer sense of the responsibilities associated with them. We also heard that more guidance specific to graduate studies would be helpful. There is a need for additional guidance and awareness of effective means of addressing accommodation needs. Roles, responsibilities, processes and parameters do need to be spelled out if the Policy is to be effective.

Although the Guidelines and Procedures have been in place for many years, implementation of the Policy is uppermost in the minds of respondents and the community at large. In this sense, the initiative has yielded important insights about the issues that are of greatest interest and urgency, ideas that are invaluable to further continuing dialogue.

The Sub-Committee on Equity proposes that further consultations be undertaken on the Guidelines, Procedures and Definitions in the months ahead. In doing so it will partner with others on the campuses and develop means of engagement that maximize input (ASCP suggested an open forum in this regard). For the present, the Sub-Committee has edited passages in the Guidelines, Procedures and Definitions deemed useful. These elements will be shared with Senate when they have been revised.

Documentation is attached as Appendix B.

3. Summer Authority

In accordance with Senate rules as amended in October 2006, Senate Executive is expected to affirm each June that,

“Between the June meeting of the Senate and the first regular meeting of Senate in September, the Executive Committee of Senate shall possess and may exercise any or all of the powers, authorities, and discretions vested in or exercisable by the Senate, save and except only such acts as may by law be performed by the members of Senate themselves; and the Executive Committee shall report to the Senate at its first regular meeting in September, what action has been taken under this authority.”

4. References to Librarians in Senate Rules and Procedures: Editorial Changes

Language in the YUFA collective agreement now refers to “Librarians and Archivists” rather than “Librarians.” This change was brought to the attention of the Executive Committee, which has agreed

Executive Committee – Report to Senate

that references in Senate’s *Rules and Procedures* be updated to reflect this designation. The new terminology would apply to the membership of Senate and committees as reflected in the table below.

Section	Current	Proposed
Section B Membership of Senate	Librarians elected by Librarians (2)	Librarians and Archivists elected by Librarians and Archivists (2)
Section D Standing Committees of Senate (APPRC)	One Librarian elected by Librarians	One Librarian or Archivist elected by Librarians and Archivists
Section D Standing Committees of Senate (ASCP)	One Librarian elected by Senate	One Librarian or Archivist elected by Senate
Section D Standing Committees of Senate (Awards)	One Librarian elected by Senate	One Librarian or Archivist elected by Senate

5. Remaining Senate Committee Vacancies

The Executive Committee continues to seek prospective candidates to fill the remaining two vacancies on the Tenure and Promotions Committee. The Nominations Sub-Committee is focusing its search on Faculties that will not have a member as of July 1 and would be particularly grateful for expressions of interest from full-time faculty members in the Faculty of Education, Faculty of Environmental Studies and Lassonde School of Engineering.

6. Senate Attendance in 2016-2017

Senate attendance in 2016-2017 was consistent with average turnout of the recent past (falling almost exactly on the moving average of the past six years). Although the results are somewhat disappointing, the Committee is aware that many Faculty Councils are also struggling to promote attendance and participation. Some have even been forced to cancel meetings due to a lack of quorum. It is proving difficult to populate committees fully and in a timely fashion.

The University Academic Plan 2015-2020 emphasizes the need to enhance collegial governance, and commits to “facilitating the collegial participation of all community members – full-time and contract faculty, staff and students – in our local level and institutional planning processes.”

Documentation is attached as Appendix C.

7. Senate Committees Progress Report on Priorities

Senate committees establish priorities for the year in the autumn, track progress, and report on results. APPRC, ASCP, Appeals, Awards, Tenure and Promotions Committee and the Executive Committee provided summative reports that were discussed at a meeting of Senate committee chairs and secretaries on June 7. It is gratifying that the committees have completed major tasks or have laid the groundwork necessary to fulfill them early in the next governance cycle.

Documentation is attached as Appendix D.

Executive Committee – Report to Senate

8. Year in Review

A consolidated report on actions taken by Senate in 2016-2017 is attached as Appendix E. Senate Executive is sincerely grateful to members of Senate committees and Faculty Councils, along with the staff that support collegial governance, for their contributions during the year.

9. Thanks to Departing Members

Special thanks are due to members whose terms on Senate Executive end on June 30: Habbiba Ahmed, Bernie Lightman, Ian Roberge, Lorna Wright and John Wu. All served with distinction, integrity and with a deep commitment to Senate and collegial governance. We wish all of them well in their future endeavours.

Mamdouh Shoukri has served the University in so many ways over the last decade. His contributions to the work of the Executive Committee were exceptional and invaluable. He kept the Committee and Senate informed of major developments internally and externally, and provided timely advice on a wide range of matters. We are truly grateful for his enriching participation in collegial governance.

Lesley Beagrie, Chair

Appendix A – Senate Executive Report

Senate Policy on Accommodations for Students with Disabilities

Current	Proposed
<p>Policy Statement</p> <p>York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs.</p> <p>The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses. Provided that students have given sufficient notice about their accommodation needs, instructors shall take reasonable steps to accommodate these needs in a manner consistent with the guidelines established hereunder.</p> <p>‘Disabilities’ shall be defined as those conditions so designated under the Ontario Human Rights Code in force from time to time, and will in any event include physical, medical, learning, and psychiatric disabilities.</p>	<p>Policy¹</p> <ol style="list-style-type: none"> 1. Pursuant to its commitment to sustaining an inclusive, equitable community in which all members are treated with respect and dignity, and consistent with applicable accessibility legislation, York University shall make reasonable and appropriate accommodations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs. This policy aims to eliminate systemic barriers to participation in academic activities by students with disabilities. 2. All students are expected to satisfy the essential learning outcomes of courses. Accommodations shall be consistent with, support and preserve the academic integrity of the curriculum and the academic standards of courses and programs 3. Requests for accommodations shall be made and dealt with expeditiously. 4. Accommodations shall be sufficiently flexible to address individual needs. 5. Requests for extension or for deferral based on unforeseen and transient personal circumstances such as bereavement or short-term illness should be considered on compassionate grounds, but are not generally matters of academic accommodation under this policy. 6. All members of the University community bear responsibility for implementing this policy, and should make themselves familiar with the policy and the resources available to them. Accommodations are collaborative in nature and shall be based on mutual understanding. 7. Disabilities’ shall be defined as those conditions so designated under the <i>Ontario Human Rights Code</i>.

¹ This policy has been updated at a time when Universal Design for Learning has taken on greater significance in postsecondary education and public policy. It is intended to reflect and reinforce the growing relevance and application of this approach to teaching and learning. Please refer to the Guidelines, Procedures, and Definitions document for further information.

Senate Executive Report – Appendix B

Senate Policy Academic Accommodation for Students with Disabilities

Guidelines

1. Accessibility, Accommodation and Course Design

Accommodation and inclusive course design are methods of preventing and eliminating barriers for students with disabilities.

- a. Course curriculum, delivery and evaluation methods should be designed inclusively from the outset.
- b. Even when the principles of inclusivity (or Universal Design for Learning – UDL) have been applied, accommodations may be required and requested.

2. Privacy and Confidentiality

- a. All documents and communications concerning accommodations shall be kept confidential and may not be disclosed without consent except to the extent that disclosure is necessary for the implementation of accommodations, resolution of a disagreement, or as required by law.
- b. Students are not required to disclose a mental health diagnosis when requesting accommodation. Medical documentation must confirm a diagnosed mental health disability without a specific diagnostic label.

3. Roles and Responsibilities

- a. Counselling and Disability Services (Keele Campus) and the Accessibility, Well-Being and Counselling Centre (Glendon Campus) are the primary offices for processing requests, working with students and faculty members to develop accommodation plans, and providing appropriate resources for the community.
- b. Students shall provide timely notice of requests for accommodation based on disability and the documentation necessary to develop an accommodation plan. Requests are normally expected to be made with the assistance of the appropriate University office or centre as noted in 3a). The information provided must be sufficient for the specialized staff in the appropriate office or centre to determine the appropriate accommodations in consultation with the student and the instructor. Students are expected to communicate in a timely way any change in their circumstances and to fulfill the role assigned to them in their accommodation plans in a timely way where required by such plans.
- c. Instructors shall take reasonable steps to accommodate in a manner consistent with these Guidelines and the information provided through the appropriate university office of centre.
- d. Programs / departments and if necessary the Deans / Principal shall make best efforts to arrange timely mediation in cases when disagreements between students and instructors about requests for accommodation are unresolved.

4. Instruction- Related Accommodations

a. Instruction-related accommodations may include, but are not limited to:

- timely provision of reading lists and other course materials to allow for alternate format transcription / conversion
- alternate format transcription / conversion
- alternate scheduling for the completion of course, project, thesis work or competency examinations
- reasonable, proportionate extensions to program completion time limits
- use of assistive devices or auxiliary aids in the classroom/laboratory/field (e.g., sound amplification systems worn by course instructors; computerized notetakers in the classroom)
- use of oral and visual language interpreters and/or notetakers in the classroom
- permission to audio-record or video-record instruction for accommodation purposes only
- special seating, wheelchair accessible tables
- adjustments to lighting

b. Accommodation in Examinations and Evaluations

i. Test and examination accommodations may include, but are not limited to:

- alternate scheduling of examinations and essays
- alternate forms of assessment
- extended time to complete tests/examinations
- use of special equipment (computer, assistive technology, etc.)
- use of special facilities (alternate test/exam room and proctor) and/or examinations in alternate formats (e.g. Braille, audiofiles, etc.)

ii. Whenever possible, the usual procedures for writing tests and examinations shall be followed.

Procedures

1. Requesting Accommodations

- a. Students with disabilities who require accommodations shall, in a timely manner, provide all necessary documentation to the appropriate University office or centre, It is that office or centre that determines what is necessary documentation.
- b. Designated offices will help students to identify particular aspects of courses that might present barriers to them and will work with them to identify the appropriate accommodations, to obtain or provide supportive documentation, and to assist the students and instructors in developing accommodation plans.

2. Accommodation Agreements and Dispute Resolution

- a. Students and instructors shall wherever possible come to agreement about the appropriate accommodations having regard to input from the appropriate University office or centre.

- b. In cases where the instructor and the student cannot agree about the provision of accommodations, the instructor shall discuss the recommended accommodations with the specialized staff in the relevant designated office or centre, In the event of a disagreement over an accommodation plan or its implementation, normal dispute resolution processes shall be followed (beginning with the relevant program or department and, if necessary, the Associate Dean / Associate Principal of the relevant Faculty).

Definitions

Academic Integrity: Academic integrity refers to the upholding of essential requirements of courses and programs: All courses and programs have core or essential requirements against which students are evaluated as to whether they are demonstrating the skills, knowledge or attributes at the designated level of the course. Learning outcomes involve learning tasks and objectives that must be undertaken successfully without compromising the standard required for success in a course or program.

Appropriate University Office or Centre: Refers to the Counselling and Disability Services Office on the Keele Campus and The Accessibility, Well-being and Counselling Centre on the Glendon Campus.

Disability: For the purpose of this policy, disabilities are defined by the Ontario Human Rights Code as follows:

- a. any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness and, without limiting the generality of the foregoing, includes diabetes mellitus, epilepsy, a brain injury, any degree of paralysis, amputation, lack of physical co-ordination, blindness or visual impediment, deafness or hearing impediment, muteness or speech impediment, or physical reliance on a guide dog or other animal or on a wheelchair or other remedial appliance or device,
- b. a condition of mental impairment or a developmental disability,
- c. a learning disability, or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language,
- d. a mental disorder, or
- e. an injury or disability for which benefits were claimed or received under the insurance plan established under the Workplace Safety and Insurance Act, 1997.

Reasonable Academic Accommodations: These are planned and agreed-upon variations in the manner in which students may receive course instruction, participate in course activities, or be evaluated. Accommodations are designed to eliminate or reduce barriers to participation in academic life and to ensure students are treated with dignity and respect. The University has a duty to provide accommodations up to the point of undue hardship, which may be related to the following factors identified in the *Ontario Human Rights Code*:

- Cost
- Availability of outside sources of funding
- Health and safety requirements

Students: For the purposes of this Policy, “students” are those individuals who have been admitted to the University, including the School of Continuing Studies, and are eligible to enroll in courses.

Universal Design for Learning – UDL: The principles of UDL (sometimes referred to as Universal Instruction Design or Inclusive Curriculum Design) emphasize:

- multiple means of representation, to give learners various ways of acquiring information and knowledge
- multiple means of expression, to provide learners alternatives for demonstrating what they know
- multiple means of engagement, to tap into learners' interests, offer appropriate challenges, and increase motivation

For information and assistance, please refer to the Teaching Commons' resources at

<http://teachingcommons.yorku.ca/resources-2/accommodations-and-inclusive-teaching/>

Senate Attendance in 2016-2017

Table 1
Senate Attendance, 2016-2017
by Category of Membership and Meeting Date
(n =162)¹

Membership by Category	Sept 2016	Oct 2016	Nov 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Per Cent
All Faculty Members (99)	62	53	58	62	53	58	57	48	57.0
LA&PS (40)	28	22	26	29	23	24	25	20	62.0
Education (4)	3	2	2	2	3	3	2	2	59.3
FES (4)	2	1	2	2	0	2	2	1	37.5
Arts, Media, Performance & Design (8)	1	1	2	2	4	1	3	1	23.4
Glendon (8)	3	4	3	4	3	3	4	5	45.3
Lassonde (5)	5	5	3	3	4	4	2	2	70.0
Health (11)	6	7	7	10	7	8	7	7	67.0
Osgoode (4)	2	1	3	2	2	3	1	1	47.0
Schulich (6)	3	5	5	1	3	4	3	4	59.0
Science (9)	9	5	5	7	4	6	8	5	68.0
Librarians and Archivists (2)	1	1	1	0	2	0	2	2	56.5
President /Vice-Presidents (5)	5	4	5	5	4	3	4	4	87.5
Deans/Principal/ Librarian (12)	10	4	9	5	6	6	6	7	55.2
Students (28)	21	16	16	14	6	9	7	9	44.0
Committee Chairs(3)	3	2	3	3	3	3	4	3	60.0
Other Members (13)	9	7	9	11	11	9	8	10	72.0
Number of Senators Attending (Percent)	111 (68.5)	87 (54.0)	101 (62.3)	100 (62.0)	85 (52.4)	89 (55.0)	88 (54.3)	83 (51.2)	(57.0)

¹ The maximum size of Senate is 167. However, totals in the tables and graphs do not include the Chancellor, members of the Board of Governors, and committee chairs who were already Senators when elected to their positions.

Table 2
Senate Attendance 2013-2014 to 2016-2017
by Category of Membership and Percentage

Membership Category	2013-2014	2014-2015	2015-2016	2016-2017
All Faculty Members (99)	62.8	58.0	58.2	57.0
Education (4)	75.0	32.1	41.2	59.3
Environmental Studies (4)	61.1	61.3	50.0	37.5
Arts, Media, Performance & Design (8)	45.8	35.2	22.7	23.4
Glendon (8)	48.6	54.5	45.3	45.3
Health (11)	59.5	68.7	75.0	67.0
Lassonde (5)	60.0	67.2	75.0	70.0
Liberal Arts and Professional Studies (40)	72.2	63.4	60.3	62.0
Osgoode (4)	30.5	39.3	37.5	47.0
Schulich (6)	59.2	64.3	75.0	59.0
Science (9)	66.6	49.4	72.2	68.0
Librarians and Archivists (2)	83.3	64.3	69.5	56.5
President / Vice-Presidents (5)	89.0	93.2	82.5	87.5
Deans / Principal / Librarian (12)	67.5	63.7	49.5	55.2
Students (28)	32.5	45.4	35.2	44.0
Committee Chairs (3)	77.7	67.6	55.0	60.0
Other Members (13)	65.8	64.3	75.0	72.1
Percentage Attendance	59.6	58.0	56.3	57.0

Table 3
Attendance in 2016-2017 by Category
Ranked in Descending Order

President / Vice-Presidents	87.5
Other Members (Chair of Senate etc.)	72.0
Lassonde	70.0
Science	68.0
Health	67.0
Liberal Arts and Professional Studies	62.0
Committee Chairs	60.0
Education	59.3
Schulich	59.0
All Faculty Members	57.0
Librarians and Archivists	56.5
Deans / Principal / Librarian	55.2
Osgoode	47.0
Glendon	45.3
Students	44.0
Environmental Studies	37.5
Arts, Media, Performance & Design	23.4

Table 4
Senate Attendance in 2016-2017
by Meeting Date (n = 162)

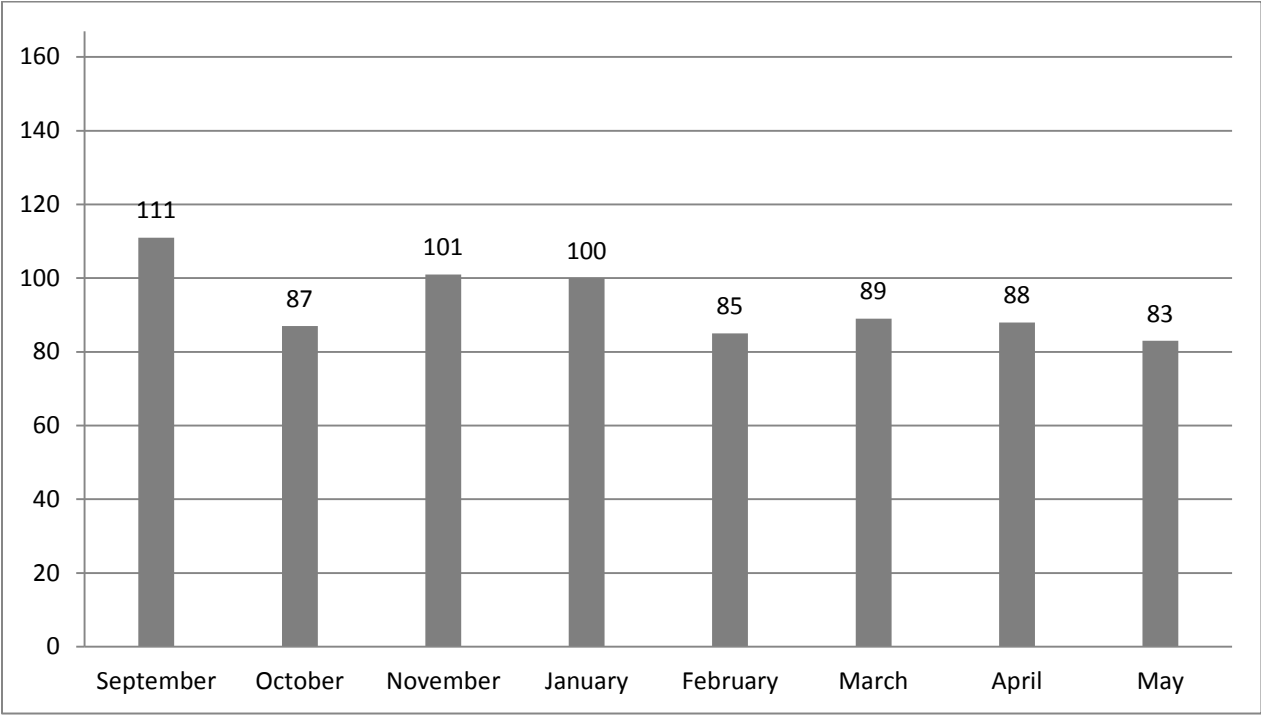
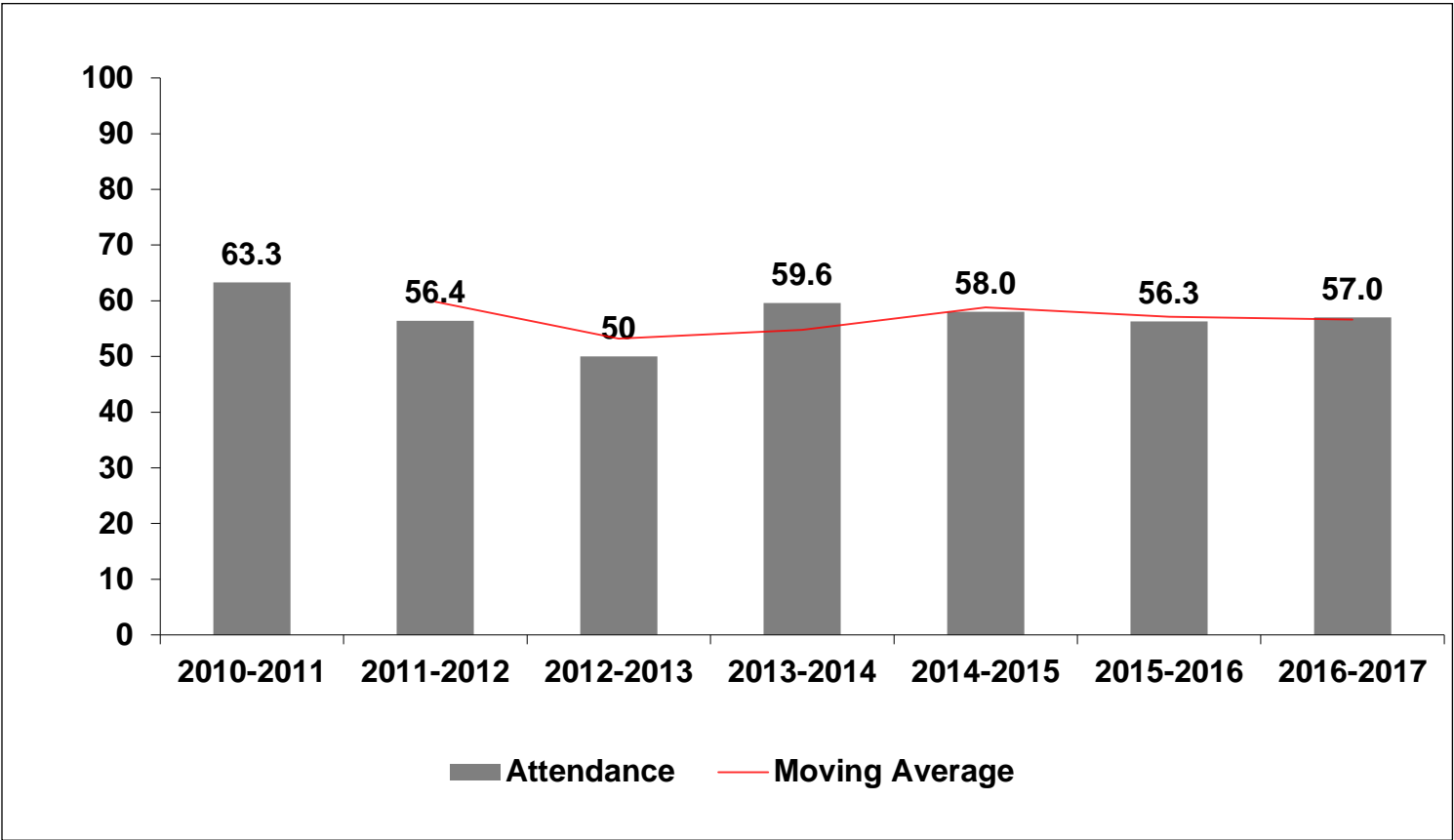


Table 5
Senate Attendance
2010-2011 to 2016-2017
by Yearly Average and Moving Average



Committee Priorities: Progress Report

Academic Policy, Planning and Research

Priority	Specific Outcomes	UAP Objective(s)	Status
UAP Implementation	<p>Support the achievement of goals, help identify opportunities and stimulate action through engagement with the collegium</p> <p>Sponsor IIRP report to Senate Work with others to establish priorities, timelines</p> <p>Monitor and facilitate reports on progress</p>	Entirety of the plan	<p>Ongoing UAP Spotlight Series January to June</p> <p>IIRP forum in September 2016</p> <p>IIRP update expected in June</p> <p>Deans, Principal and University Librarian asked to comment on program quality, PIER in their annual engagement with the Committee; UAP implementation and recommendations arising from discussions to be discussed</p>
Markham Centre Academic Planning (as in the past year)	<p>Timely, full information for Senate and facilitation of discussion in line with the express expectations of Senators, Executive Committee</p> <p>Work with others to ensure necessary and appropriate collegial decision-making</p>	Markham referenced in Priority 2: Advancing Exploration, Innovation and Achievement in Scholarship, Research and Related Creative Activities as well as Priority 5: Enhancing the Campus Experience	<p>Ongoing periodic updates and substantial reports in February, April and May to APPRC and, under its auspices, to Senate</p> <p>Markham referenced in reports to APPRC and Senate by the Provost, VPFA</p>
Promote understanding of the external environment (as in 2013-2014)	<p>Keep abreast of major developments in postsecondary education policy, trends, rankings, etc.</p> <p>Inform Senate in a timely manner of developments and their actual or potential impact Comment on Strategic Mandate Agreement drafts</p>	Various, especially Priority 7: Enabling the Plan (also discussed in Our Context: Challenges and Opportunities / The External Landscape)	<p>Ongoing comments on SMA2 draft and facilitation of Senate consideration</p> <p>Committee apprised of key external reports and rankings; documents shared with Senate; Academic Colleague reports shared with the Committee</p>

Academic Standards, Curriculum and Pedagogy

Priority	UAP Objective	Status
Reducing Degree Complexity / Optimizing Academic Infrastructure		
Harmonizing degree terminology (Definitions and criteria for degree categories / options: stream, specialization, professional Master's; degree requirement nomenclature)	Innovative, Quality Programs for Academic Excellence	IN PROGRESS Draft degree / program terminology definitions and criteria prepared and endorsed by C&P on May 17. Feedback from RO and FGS being sought. To be finalized on 14 June; to Faculties for comment. Senate in Fall 2017.
Policies Pertaining to Academic Standards, Grades, Examinations		
Revisions to Senate Graded Feedback Policy to require a basic syllabus to be provided to students before the start of classes. Minor edit pertaining to the graded feedback component of the policy to reflect new W policy.	A Student-Centred Approach	IN PROGRESS ISR to develop student survey on factors influencing course selection; survey distribution in Fall 2017. Breakdown of course adds and drops in the first two weeks of classes by Faculty and program to be analyzed.
Policy on petitioning after degree conferred	A Student-Centred Approach	DEFERRED: BEING MONITORED Decision taken to monitor the number of petitions for changes to academic record received for the balance of FW 2016-17 to determine need for a policy.
Revision of Course-Credit Exclusion Guidelines	A Student-Centred Approach	COMPLETED. Revised Guidelines transmitted to Senate March 2017. Distributed to staff by RO March 2017.
Oversight of the implementation of the new Academic Forgiveness Policies	A Student-Centred Approach	COMPLETED. Liaised with Faculties on application implementation questions. Policy FAQs posted on ASCP site. Year 1 tracking and assessment of data will be a priority in 2017-18.
Key Agenda Items for 2016-2017 (In addition to curriculum proposals from Faculty Councils)		
Discussion / Report from Associate Vice-President, Teaching & Learning	Enhanced Quality in Teaching and Student Learning	Deferred to Fall 2017 AVP Gage commenced participation on ASCP in late spring.
Presentation on new pan-university Curriculum Management System	Quality Academic Advising/Student Centred Approach	Completed 29 March 2017 Presentation & discussion by University Registrar.
Presentation on Enrolment Management and Program Planning Landscape	Innovative, Quality Programs for Academic Excellence	Completed 7 December 2016 Presentation & discussion by Vice-Provost Academic & Registrar

Appeals

Priority	Status
Reviewing of the 1999 petitions guidelines for Faculties	Deferred to Fall 2017. SAC approved the establishment of a working group but its implementation is deferred.

Awards

Priority	Status
Develop guidelines for recusal	Rejected. After discussion it was agreed that members will decide if they should recuse themselves. This was invoked twice for discussion of nominations of close colleagues.
Formalization of adjudication processes	Completed. Agreed upon organization of file review prior to adjudication.

Executive

Priority	Status	Considerations
Review the University Academic Plan's objectives regarding governance and establish work plan for achieving constituent goals and enhancing governance (this in addition to promoting best practices and fostering pride and participation) ¹	Ongoing	APPRC took the lead on UAP spotlight discussions during the year
In partnership with others (especially APPRC), monitor developments regarding planning for the Markham Centre Campus	Ongoing	Discussed impact of Markham on Senate membership; plan to address in next Senate membership review in 2019
Complete a review of Senate membership (as is required by Senate rules every two years)	Completed	Senate approved new membership allocations in April
Hold a meeting with the Executive Committee of the Board of Governors on matters to be determined in advance	Deferred	Preliminary discussions but focus was on presidential search and other major initiatives
Implement enhancements to the nominations process	Completed	Earlier call for expressions of interest had desired effect; pool of prospective candidates created

¹ A number of suggestions for enhancing governance emerged in the annual survey of Senators and, as previously reported to Senate in June, the Committee has explored ideas such as the following:

- stressing Senate's centrality and uniqueness, and the unparalleled opportunities it affords for knowledge acquisition and sharing, and engagement with the most pressing issues of the day
- inviting committees to promote awareness of emerging topics or solicit input from Senators at an early stage of policy development – so-called "facilitated discussions"
- supplementing the annual survey of Senators – which includes a question about items that could engage Senate – with a canvas early in the year
- reminding Senators of the important role they play in linking Senate with their Faculties and local units

Tenure and Promotion

Priority	Status
Implementation of Unit-level Standards Working Group.	In progress. Review of standards close to complete. Report to committee at next meeting.

The Senate of York University Year End Review 2016-2017

From September 2016 to January 31, 2017 the Senate of York University was presided over by its 42nd Chair, Professor George Comninel of the Department of Political Science, Liberal Arts and Professional Studies. Senate approved a one-month extension of his term to accommodate his successor. In February 2017, Professor Lesley Beagrie of the School of Nursing in the Faculty of Health began an 18-month term as Chair. At the same time, Professor Franck van Breugel of the Department of Electrical Engineering and Computer Science in the Lassonde School of Engineering began serving as Vice-Chair. Professor Beagrie and Professor van Breugel are the first members of their Faculties to be officers of Senate. Professor Ian Roberge, Political Science, Glendon ably served as an Acting Vice-Chair during the year. Maureen Armstrong continued in her capacity as Secretary of Senate.

Senate met on nine occasions during the year. The second of President Mamdouh Shoukri's five-year terms ended on June 30. His successor, Provost Rhonda Lenton, was named by the Board of Governors in February based on a recommendation made by a Search Committee that included seven individuals elected by Senate. Gregory Sorbara was re-appointed as Chancellor by the Board of Governors after an *ad hoc* group composed of members designated by Senate Executive and the Board recommended that he serve a second three-year term.

Senate committees identify priorities for the year in the autumn and provide year-end reports on their progress. They also undertake activities that may not be fully reflected in this summary, such as leading or participating in consultations, providing advice or interpretations, and facilitating reporting by others.

Information about items referenced in this report can be accessed from the online meeting synopses and minutes of Senate meetings or obtained by contacting the University Secretariat.

Committees and Acronyms

Executive (Executive)
Academic Policy, Planning and Research (APPRC)
Academic Standards, Curriculum and Pedagogy (ASCP)
Appeals (SAC)
Awards (Awards)
Tenure and Promotions (T&P)
Tenure and Promotions Appeals (T&P Appeals)

Sub-Committees

There are 6 standing sub-committees:

Executive: Honorary Degrees and Ceremonials / Equity (with members from ASCP and APPRC)
APPRC: Sub-Committee on Quality Assurance (with ASCP) / Organized Research Units / Technical
ASCP: Sub-Committee on Quality Assurance (with APPRC), Coordinating and Planning

In addition, three sub-committees focusing on research report to Senate via APPRC.

For more information on Senate and its committees, including agendas for the year, please visit the Website at <http://secretariat.info.yorku.ca/senate/>

Markham Centre Campus Planning

A standing agenda item for the Academic Policy, Planning and Research is academic planning for the Markham Centre Campus opening in 2021. The Committee facilitates reports and is guided by Senate in undertaking its monitoring of developments. Major reports were received by Senate in October, March and May.

Strategic Mandate Agreement 2: Briefings and Discussions

- SMA briefing by the Provost (APPRC, January)
- SMA draft discussion (APPRC, April)

Academic Planning Forum

On October 20 and 26 APPRC sponsored open forums on recommendations arising from the Integrated Institutional Resource Plan process (a session at Glendon was cancelled). A final version of the IIRP was in development during the year.

Establishment of New Academic Units

FES – Geography Merger (in principle, APPRC; pending in June)

Regular Reports

- President Mamdouh Shoukri (Monthly)
- Provost Rhonda Lenton (Markham, enrolments, applications, academic planning; various months)
- Interim Provost Lisa Philipps (Markham, Institutional Integrated Resource Plan; June)
- Vice-President Finance & Administration Gary Brewer (Budget context for planning, November)
- Interim Vice-President Trudy Pound-Curtis (Budget context for academic planning, June)
- Vice-President Research and Innovation Robert Haché (November)
- Senate Members on the Board of Governors on meetings of the Board (following Board meetings; Professor Bernard Lightman and Professor Lauren Sergio)
- Academic Colleague to the Council of Ontario Universities on COU Issues Updates (periodic; Professor David Leyton-Brown)

Major Planning Reports

- Faculty and York University Library Planning (APPRC, May)
- Joint Sub-Committee on Quality Assurance of APPRC and ASCP (April, June)

Annual Reports from Senate Committees

- Allocations of Scholarship and Bursaries (Awards, April)
- Animal Care, Biological Safety, and Human Participants Review Committee (APPRC, May)
- Appeals and Petitions, University and Faculty (Appeals, January)
- Distinguished Research Professor (Awards, May)
- New Scholarships and Bursaries (Awards, April)
- Non-Degree Studies (APPRC and ASCP, June, pending)
- President's University-Wide Teaching Awards Recipients (Awards, April)
- Prestigious Awards for Graduating Students (Awards, June, pending)
- Senate Attendance (Executive, June, pending)

- Senate Year in Review (Executive, June, pending)
- Tenure and Promotions (Tenure and Promotions, November)
- University Professors (Awards, May)

Facilitated Discussions

- Advancing a Mentally Healthy Campus (Chair of Senate, February)
- Senate Grading Scheme and Feedback Policy (ASCP, October / November)
- University Academic Plan Spotlight Series (January to June, except May, APPRC)

Senate Policies

- *Senate Policy and Guidelines on Withdrawn from Course Option* (amendments, ASCP, approved by Executive under summer authority, July)
- *Senate Policy on Organized Research Units* (amendments, APPRC, January)
- *Senate Policy on Postdoctoral Researchers at York University* (new, APPRC, April)

Senate Rules and Procedures

- Senate Appeals Committee expansion (Executive, September)
- *Senate Guidelines and Procedures Governing Course Cross-Listings, Exclusions and Substitutions* (amendments, ASCP, February)
- Senate Membership for 2017-2018 and 2018-2019 (Executive, April)

Name Changes

- Certificate of Italian Language Proficiency, Level Three (Advanced Range) to the Certificate of Italian Language Proficiency (ASCP, May)
- Department of Political Science, Liberal Arts & Professional Studies to Department of Politics (APPRC, April)
- PhD Program in Computer Science, Lassonde School of Engineering / Graduate Studies (January)

New Degree Types

No new degree types were approved.

Academic Programs (New)

- Digital Media, Graduate Programs, PhD, MSc, MA (ASCP; pending, June)

Academic Programs - New Streams, Options, Fields and Specializations

- Arts, Media, Performance and Design's Minor Option, Arts, Media, Performance and Design (ASCP, March)
- Biochemistry, New Degree Options, Science (ASCP, March)
- Chemistry, Co-Registration Option between York and Seneca, Science (ASCP, January)
- Education Studies, 90-credit Degree Option, Education (ASCP, February)
- Media Arts Stream within the BFA program in Film, Department of Cinema and Media Studies, Arts, Media, Performance and Design (ASCP, March)

Undergraduate Certificates (New)

- Cross-Disciplinary Bergeron Entrepreneurs in Science and Technology (BEST) Certificate in Technology Entrepreneurship, Lassonde School of Engineering (ASCP, February)
- Professional Certificate in Actuarial Science, Department of Mathematics & Statistics, Science (ASCP, March)

Program, Graduate Diploma and Undergraduate Certificate Discontinuation

- Certificate of Proficiency in Italian Language Level One (Beginner Range), (ASCP, May)
- Certificate of Proficiency in Italian Language Level Two (Intermediate Range) (ASCP, May)
- Diploma in Real Estate and Infrastructure, Schulich School of Business / Graduate Studies (ASCP, November)
- Joint York-Seneca BSc (Tech) Program in Applied Biotechnology, Science (ASCP, January)
- Psychology, Honours Double-Major Interdisciplinary BA Program, Psychology, Health (ASCP, November)

New Rubrics Approved by Academic Standards, Curriculum and Pedagogy

- COMS for BA program in Communications, Glendon (ASCP, October)
- DEMS for Bachelor of Disaster & Emergency Management, Administrative Studies (ASCP, January-)
- LYON for York-EM Lyon Dual Credential BBA – ILST program, International Studies, Glendon (ASCP, January)

Changes in Admissions Requirements and Transfer Credit

- Computer Science, PhD Program, Lassonde School of Engineering / Graduate Studies (January)
- Dance, BFA and Programs, Arts, Media, Performance & Design - Transfer credits for eligible graduates of the Sampradaya Dance Academy Professional Training (ASCP, April)
- Education BEd (Technological Education) Program (ASCP, February)
- Masters Programs, Schulich School of Business / Graduate Studies (ASCP, February)
- Translation, MA, School of Translation, Glendon / Graduate Studies (ASCP, January)

Changes in Degree Requirements (Programs)

During the year the Academic Standards, Curriculum and Pedagogy Committee sought Senate approval or reported its own approval of revisions to the requirements for the following:

- Anthropology, BA Programs, Anthropology, Liberal Arts & Professional Studies (February)
- Bilingual Requirement, All Undergraduate Programs, Glendon (February)
- Biology, BSc Program, Science (March)
- Biology, Honours Minor Degree Option, Biology, Science (January)
- Chemistry, Pharmaceutical and Biological Stream, Honours BSc in Chemistry Science (March)
- Children's Studies, Honours BA Program, Social Science, Liberal Arts & Professional Studies (January)
- Civil Engineering, Specialized Honours BEng Program, Lassonde School of Engineering (February)
- Communications, Bilingual BA Programs, Translation, Glendon (November)
- Computational Arts and Technology, BA Honours Minor, Arts, Media, Performance and Design (February)

- Computer Science, PhD Program, Lassonde School of Engineering / Graduate Studies (January)
- Dance, MFA Program, Arts, Media, Performance and Design / Graduate Studies (February)
- Design, Masters Program, Arts, Media, Performance and Design, Graduate Studies (April)
- Disaster and Emergency Management, BDEM Program, Liberal Arts & Professional Studies (January)
- Economics, PhD, Liberal Arts and Professional Studies / Graduate Studies (February)
- Education, BEd Program (Technological Education), Education (February)
- Educational Studies, BA Programs, Education (ASCP, February)
- Global Health, BA and BSc Programs, Health (March)
- Global Health, Specialized Honours BA and BSc Programs, Health (January)
- History, MA and PhD Programs, Liberal Arts and Professional Studies / Graduate Studies (May)
- iBA Degree Type, Liberal Arts & Professional Studies (February)
- Linguistics, 90-credit BA in, Department of Languages, Literatures and Linguistics, Liberal Arts & Professional Studies (January)
- Mathematics and Statistics, PhD Program, Science / Graduate Studies (April)
- Nursing, MScN, Health / Graduate Studies (April)
- Physics, Specialized Honours BSc, Physics, Science (March)
- Political Science, BA Program, Glendon (May)
- Professional Writing and English & Professional Writing, BA Programs, Writing, Liberal Arts & Professional Studies (February)
- Psychology, BA and BSc Programs in Psychology, Health (November)
- Psychology, BSc Programs (corrections only) Psychology, Health (March)
- Psychology, PhD Program (October)
- Science and Technology Studies, PhD program, (October)
- Science, BA Programs (General Education requirements) (February)
- Social Work, BSW Program, Liberal Arts & Professional Studies (January)
- Social Work, Masters, Liberal Arts and Professional Studies / Graduate Studies (January)
- Social Work, PhD Program, Liberal Arts & Professional Studies / Graduate Studies (February)
- Sociology, PhD Program, Liberal Arts & Professional Studies / Graduate Studies (October)
- Theater, BFA Honours and BA Honours BA Programs, Theatre, Arts, Media, Performance and Design (February)
- Theatre, BA Honours Minor (Production), Arts, Media, Performance and Design (February)
- Translation, BA, iBA and Accelerated BA Programs, Translation, Glendon (November)
- Visual Arts, BFA Program, Arts, Media, Performance and Design (January)

Program, Certificate and Diploma Restructuring

- International & Security Studies Diploma, rehoused from the York Centre for International & Security Studies to the Department of Political Science, Liberal Arts & Professional Studies (ASCP, April)
- Master of Leadership and Community Engagement Program (ASCP, October)
- Mathematics for Commerce, BA Program, Mathematics & Statistics, Science (ASCP, March)

Changes in Requirements (Certificates and Diplomas)

- Certificate in Spanish-English Translation, Translation, Glendon (May)
- Certificate in Technical and Professional Communication, Translation, Glendon (ASCP, January)
- Certificate of Italian Language Proficiency, Liberal Arts and Professional Studies (ASCP, May)
- Diploma in Health Psychology, Health / Graduate Studies (February)

- Diploma in International & Security Studies Diploma, Liberal Arts and Professional Studies, Graduate Studies (ASCP, April)

Sessional Dates

During the year ASCP advised that it had reviewed proposed sessional dates for Summer 2017 and Fall-Winter 2017-2018 and confirmed that they were consistent with Senate policy. The Committee also agreed to work with the Registrar's Office to develop a three-year outlook on sessional dates.

Recipients of the President's Research and Teaching Awards (Awards, April)

- President's Research Excellence Award: Anne Russon, Psychology, Glendon
- President's Emerging Research Leadership Award: Amro Zayed, Biology, Science
- President's University-Wide Teaching Award for Senior Full-Time Faculty Members: Andrea Davis, Humanities, Liberal Arts and Professional Studies
- President's University-Wide Teaching Award for Full-time Faculty: Alex Czekanski, Mechanical Engineering, Lassonde School of Engineering
- President's University-Wide Teaching Award for Contract and Adjunct Faculty: Véronique Tomaszewski, Sociology, Glendon
- President's University-Wide Teaching Award for Teaching Assistant: Sabina Mirza (PhD Program in Education), Sociology and Social Science, Liberal Arts and Professional Studies

Endowed Chairs and Professorships

- Renaming, Chair in Business History to the Richard E. Waugh Chair in Business History, Schulich School of Business (APPRC, Nov.)
- Establishment, Timothy R. Price Chair in Real Estate and Infrastructure (APPRC, November)
- Establishment, Helen Carswell Chair in Community Engaged Research in the Arts (APPRC, April)

New University Professors (Awards, May)

- Dawn Bazely, Biology, Science

Distinguished Research Professor (Awards, May)

- Jonathan Edmondson, History / Program in Classical Studies, Liberal Arts and Professional Studies
- Joel Katz, Psychology, Health

Additions to the Pool of Prospective Honorary Degree Recipients

During the year the Executive Committee approved the addition of 22 individuals to the pool of prospective honorary degree recipients and the extension of 5 previously approved individuals for a further five year term. The Committee's decisions were based on recommendations made by its Sub-Committee on Honorary Degrees and Ceremonials. The Sub-Committee adopted a successful expedited process for approving candidates, and signaled its intention to revise guidance and forms to enhance and expedite. It also called on colleagues to establish processes by which to promote the nomination of worthy candidates, and to help expand and diversify the pool.

Organized Research Unit Charters

- Suspension of the York Institute for Health Research as options are explored (reported by APPRC, February)

Other Motions and Actions

- Declaration of November 2, 2016 as a day of academic accommodations (September)
- Discussion of due diligence in the acceptance of gifts to the University (Executive Committee auspices, September)
- Hortative motion on the York University Advisory Committee on Responsible Investment (May)

Senate Officers and Committee Chairs

George Comninel, Chair of Senate

Leslie Beagrie, Vice-Chair of Senate / Chair of Senate

Franck van Breugel, Vice-Chair of Senate

Maureen Armstrong, Secretary of Senate

Lesley Jacobs, Chair of the Academic Policy, Planning and Research Committee

Lisa Farley, Chair of the Academic Standards, Curriculum and Pedagogy Committee

Natalie Coulter, Chair of the Appeals Committee

Robert Kennedy, Chair of the Awards Committee

George Comninel and Lesley Beagrie, Chairs of the Executive Committee

Victor Shea, Co-Chair of the Tenure and Promotions Committee

Simone Bohn Co-Chair of the Tenure and Promotions Committee

Shayna Rosenbaum, Chair of the Sub-Committee on Honorary Degrees and Ceremonials

University Secretariat

Maureen Armstrong, University Secretary and General Counsel

Robert Everett, Senior Assistant Secretary of the University

Terry Carter, Assistant Secretary of the University

Cheryl Underhill, Assistant Secretary of the University

Elaine MacRae, Coordinator, Board and Senate Support

Michelle Roseman, Administrative Assistant

Academic Standards, Curriculum and Pedagogy Committee Report to Senate

At its meeting of 15 June 2017

For Action

New Degree Programs

1. **Establishment of a Specialized Honours BFA Program in Intermedia •
Departments of Computational Arts and Visual Arts & Art History • School of
the Arts, Media, Performance & Design**

ASCP recommends,

That, subject to approval by the Quality Council, Senate approve the establishment of a Specialized Honours BFA program in Intermedia co-housed in the Departments of Computational Arts and Visual Arts & Art History within the School of the Arts, Media, Performance & Design, effective FW 2018-2019.

Rationale

Spurred by aspirations to at once draw students interested in the unique intersection of art and technological design, boost enrolments and further the goals and mission of the School, AMPD has developed an exciting new BFA program in Intermedia. It will be offered in collaboration by the Departments of Computational Arts and Visual Arts & Art History, targeting students interested in computational media, but who lack the background and/or interest in the more mathematics and computer science-based BA program in Digital Media. Its integration of traditional art disciplines and contemporary technology, including basic coding (a “core 21st century literacy”), effectively captures the niche between the two areas and sets the program apart from similar post-secondary offerings in Ontario. And convincing admissions data indicates the potential demand for the program at York.

Degree and student learning outcomes for the Intermedia program have been articulated and the requirements have been mapped to illustrate the correlation between the curriculum and the learning outcomes. The external reviewer concluded that

“The program is well structured, with a mix of studies and studio classes, along with outside classes to provide breadth. The breadth of studio classes is excellent. It will allow students to gain depth in particular areas or explore a range of media.”

By its nature, the program is interdisciplinary and experiential. Moreover, students will also benefit from opportunities for experiential education in the Toronto arts community generated by faculty members from both departments. These features nicely align it

Academic Standards, Curriculum and Pedagogy Committee

Report to Senate

with key UAP priorities. Overall the reviewer found that “The intellectual quality of the student experience has the potential to be excellent.”

The two-department structure for this program means that resources are shared, and the need for new resources, modest. The existing course offerings within Computational Arts and Visual Arts & Art History provide the bulk of the curriculum, with five of the seven core courses being the new component. The supporting statements from the Dean and the Interim Provost confirm the dedication of resources for the additional courses along with a new CLA-appointment to commence the program; additional full-time faculty appointments will be commensurate with enrolment growth.

The full proposal and statements of support are attached in Appendix A.

Approvals: AMPD Council 18 January 2017 • ASCP 10 May 2017 •
APPRC (Concurrence) 8 June 2017

2. Establishment of Graduate Degree Programs in Digital Media • School of the Arts, Performance, Media & Design / Lassonde School of Engineering / Faculty of Graduate Studies

ASCP recommends,

That, subject to approval by the Quality Council, Senate approve the establishment of MA, MSc and PhD degree programs in Digital Media, co-anchored in the Department of Computational Arts in the School of the Arts, Performance, Media & Design and the Electrical Engineering and Computer Science Department in the Lassonde School of Engineering, effective FW 2018-2019.

Rationale

Attached in Appendix B are the full proposal, report of the external reviewers and the statements of support from the Dean, Interim Vice-President Academic & Provost, University Librarian and external professional associations. The questions and suggestions raised by the external reviewers of the proposal were addressed by the proponents and clarifications made to the documentation accordingly.

Broadly defined, digital media combines the research areas of media arts with the STEM disciplines; more specifically, it integrates critical artistic discourse and scientific inquiry with application to the creative forward-looking industries such as informatics, data visualization, games and mobile application development, next-generation performance. The digital media landscape is an evolving one with high demand for skilled people in the industry. To that end the proposed three new graduate programs in Digital Media will fill a unique and important niche in post-secondary education in

Academic Standards, Curriculum and Pedagogy Committee

Report to Senate

Ontario. The external reviewers' concluded that the programs "will offer an intensive graduate education that addresses the challenges of 21st century scholarship, research and artistic practice in a world suffused with digital technologies."

There is strong symmetry between the introduction of the graduate programs and academic plans at the University. The success of the undergraduate program in Digital Media, the identification of the area for growth in the first Strategic Mandate Agreement with the Province, the alignment with several UAP priorities, the recent establishment of the Department of Computational Arts in AMPD, the addition of four Canada Research Chairs in related fields over the past few years at York, and the ongoing development of Lassonde's Faculty partnerships towards the achievement of its "Renaissance Engineer" mission, all serve as an impetus to the creation of graduate programming in Digital Media.

As required by the Quality Assurance Procedures, the learning outcomes for the MA, MSc and PhD degree programs have been articulated and mapped to the respective requirements. The reviewers find that the degree structure and curriculum "clearly support the intellectual quality of the student experience" and the programs should "produce a unique form of highly qualified personnel with deep technical and artistic knowledge". Statements from key industry and/or association persons highlight the value of the real-world skills and the dual competency in formal logic and abstract thinking that the programs will provide students.

Extensive consultation on the new programs has taken place, with strong support registered by the two host Schools, their respective Deans and the Interim Vice-President Academic & Provost. After thorough discussion and planning, the Faculties and the Provost have provided confirmation that the required resources are in place to launch and sustain the new graduate programs at the targeted enrolments.

Approvals: FGS Faculty Council 4 May 2017 • ASCP 7 June 2017 •
APPRC (Concurrence) 8 June

Consent Agenda

3. Changes to the requirements for the OMIS field in PhD program in Administration • Schulich School of Business / Faculty of Graduate Studies

ASCP recommends,

That Senate approve the following changes to the Operations Management and Information Systems (OMIS) field within the PhD program in Administration:

Academic Standards, Curriculum and Pedagogy Committee

Report to Senate

- an increase in the combined number of required and elective credits from 27 to 45
- a restructuring of the Comprehensive exam into two components: a closed-book quantitative exam and an open-book take home exam
- inclusion of a new dissertation proposal and oral defence requirement

Rationale

In order to maintain its currency and strength amidst the changing external environment, the Operations Management and Information Systems (OMIS) field within the doctoral program in Administration undertook a fundamental review of its requirements. Guided by a set of criteria, the curriculum and program components were methodically examined. The proposed revisions to the requirements will deepen students' analytical skills and disciplinary knowledge, positioning them well for a career in a research-intensive university business school. The changes to the comprehensive exam and dissertation preparation will ensure students stay focused on developing their research skills throughout their program, culminating in a successful dissertation defense. Collectively the revised requirements support the program's learning outcomes and its goal of providing graduates with the necessary tools to become productive and successful research-oriented faculty members at the world's leading business schools.

Supporting documentation is attached as Appendix C.

Approvals: FGS Council 4 May 2017 • ASCP 24 May 2017

4. Changes to the admission requirements for BA and BSc programs • Faculty of Science

ASCP recommends,

That Senate approve changes to the admission requirements for the following programs effective FW 2018-2019, as set out in Appendix D:

- Chemistry (BSc)
- Environmental Science; Life Sciences Stream (BSc)
- Mathematics; Applied Mathematics; Mathematics for Education; Computational Mathematics; Statistics (BSc)
- Science & Technology Studies (BSc and BA)
- Undecided Major (BSc)

Academic Standards, Curriculum and Pedagogy Committee Report to Senate

Rationale

The Faculty of Science recently reviewed the admission requirements for its undergraduate programs with a review to reducing unnecessary complexity and, in some cases, onerous entrance requirements. The goal was to simplify the requirements for the various programs in the Faculty, while also maintaining academic standards and supporting student success. Thorough consultation among the relevant programs and the Office of the Dean informed the proposed revisions. There is confidence that the revised requirements are aligned with the achievement of the respective degree level expectations and the unique learning outcomes of each of the programs. There are no resource implications brought by the admission changes.

Approvals: Science Faculty Council 9 May 2017 • ASCP 24 May 2017

5. Changes to Admission Requirements and Transfer Credits for the Delayed-Entry Pathway of the BBA and iBBA Programs • Schulich School of Business

ASCP recommends,

That Senate approve:

- that the 30 credits of specific prerequisite York courses required for admission to the BBA and iBBA degree programs through the delayed-entry option be changed to 30 York University credits; and that
- the Undergraduate Program Director and the Undergraduate Program Committee will determine a student's specific courses that are eligible as transfer credits from the 30 York credits towards the BBA or iBBA degree program requirements.

Rationale

Schulich currently offers York students a delayed-entry pathway into both its BBA and iBBA programs. To be eligible for this option, non-Schulich students must take a specific set of courses totaling 30 credits in their first year. As an example, the delayed-entry pathway to the iBBA is as follows:

- AP/ECON 1000 3.00 – Introduction to Microeconomics
- AP/ECON 1010 3.00 – Introduction to Macroeconomics
- AP/ADMS 2200 3.00 – Introductory Marketing
- SC/MATH 1550 6.00 or equivalent – Introductory Calculus
- SC/MATH 1131 3.00 or equivalent – Introductory Statistics
- 12.00 credits non-business electives

Academic Standards, Curriculum and Pedagogy Committee Report to Senate

Typically, 12-elective credits are recognized towards the programs' non-Business or Language requirements, plus 12 credits of business-related or methods courses required by the 1st year curriculum. Delayed-entry students enrol in 'make-up' Accounting courses during the Summer term in order to be prepared to commence the BBA / iBBA program in the F/W session in Year 2 of the program.

The current pathways provide potential applicants with a clear indication of what courses they need to take to proceed in Year 2 of the BBA / iBBA program. However, the pathway lacks the flexibility to admit a broader array of students whose initial undergraduate program does not contain the very specific prerequisite courses. The clear intent of the change to the admission requirements is to open up pathways to students at York University, rather than one particular program within the University.

The BBA/ iBBA program has set out a framework for the assessment of the broader courses eligible to meet the late-entry option admission requirements. The determination of a student's transfer credits towards the Schulich program will be determined jointly by the Undergraduate Program Director and the Undergraduate Programs Committee (i.e., the programs' de facto experts on content and learning outcomes). Similarly they would confirm a resulting study plan for students admitted through the delayed-entry option to ensure their preparation for the successful completion of the BBA / iBBA degree requirements.

The remaining requirements and admission standards of the delayed-entry option will be maintained, including:

- The maximum transfer credit awarded is 30
- A supplementary application is required in addition to the completion of 30 York credits
- Students may not be admitted to Schulich at any level higher than Year 2
- Applicants must achieve a minimum grade of C in SB/ACTG 2010 3.00 and SB/ACTG 2011 3.00 taken in the summer session prior to Year 2 to be eligible for admission consideration

Approvals: Schulich Faculty Council 26 May 2017 • ASCP 8 June 2017

For Information

a. Minor Modifications to Curriculum / Academic Policies

The following changes / additions have been approved / received for information as appropriate by ASCP:

Academic Standards, Curriculum and Pedagogy Committee Report to Senate

Liberal Arts & Professional Studies

Establishment of GCIN as a new rubric for use for the new Internship Program Work Term.

Senate

Minor revision to the Senate Progression Requirements to Maintain Honours Standing, to reflect the change in degree type from BAS to BCom, and the addition of the BEng degree type on the list of Exempted programs.

b. Farewell and Thanks

Professors Jennifer Steele (Psychology, Health) and Lisa Farley (Education) are completing their terms this year. Members and the Secretariat staff wish to thank each for their valuable contributions to the work of the committee, particularly Professor Farley for her commitment, collegiality and acumen as Chair this past year.

York University

New Program Brief

of the

Bachelor of Fine Arts

in

Intermedia

Department of Computational Arts

Department of Visual Art and Art History

Submitted: January 2017

Revised: May 2, 2017

1. Introduction

1.1 Provide a brief statement of the degree program(s) being proposed, including commentary on the appropriateness and consistency of the degree designation(s) and PROGRAM TITLE with current usage in the discipline or area of study.

Rapidly changing technological environments of the 21st century have connected individuals to the world in unprecedented ways across a multiplicity of apps, interfaces, and platforms. In addition to altering the ways in which social institutions like education, government, and business operate, these developments have led to innovations in the art world. These new technologies provide artists a fertile ground to work from, allowing their sensitivities to the phenomenal world and dynamic creativity to locate new, disruptive, and powerful outlets of expression. In addition to their valuable reconfiguring of modes of expression, new technologies, in their multiple intersections with artistic practice, have opened opportunities in the creative economy in which practicing artists may find themselves, including the emerging solid state printing industry, digital photography, software development, advertising, and gaming.

By the same token, artists are also faced with challenges arising from continuous technological evolution which are difficult to fully address within the boundaries of traditional art disciplines that need to contend with the past, present, and future boundaries of their respective fields. New technological developments inevitably lead to an expansion of constraints associated with traditional disciplines, critical for understanding art as a practice and intellectual framework. Building on the long history of York's success in fostering innovation in the fields of visual arts and technology, the proposed Intermedia program is designed to meet a demand from emerging artists who want to delve more intently into the critical, pragmatic, and artistic possibilities that lie at the intersection of art and technology.

The Intermedia Specialized Honours BFA Program is a unique, interdisciplinary collaboration between the Department of Computational Arts (CA) and the Department of Visual Art and Art History (VAAH). The program offers the young artist access to cutting-edge hardware and software while fostering a comprehensive range of skills combining creative coding with intensive explorations of emerging media environments involving photo, sound, video, interactive installation, and networked intervention, as well as the disciplines of painting, drawing, sculpture, and print media in their digital expansions. The program focuses on the unexplored spaces between disciplines: students will invent new hybrids to best render their creative ideas in the studio, grounded in critical and historical contexts through a broad infusion of art history and critical digital theory in a way that would be otherwise difficult to fulfill given the requirements of these areas of study as they are currently constituted.

Intermedia is classic term coined in the mid-sixties by Fluxus and Dick Higgins ("Statement on Intermedia". *Artpool*. New York: Something Else Press. 1967.) which accounts for practices that fall in the margins of conventional disciplines. Intermedia programs focus on transdisciplinary

art-making firmly situated in conceptual frameworks. According to Higgins what constitutes an intermedia practice will shift as marginal practices become widely adopted. In typically student-centered programs, agency and an understanding of themselves as situated artists shifts emphasis to students to explore and invent new hybrid forms. Intermedia programs exist across North America and Europe including Nova Scotia School of Art and Design, Concordia University, Arizona State University, University of Iowa (the first university program in the United States to offer an M.F.A. in intermedia in 1968), West Virginia University, and University of Edinburgh College of Art.

1.2 Not applicable

1.3 Provide a brief description of the method used of the development and preparation of the New Program Brief, including faculty and student input and involvement

The Department of Computational Arts and the Department of Visual Art and Art History have consulted extensively with faculty in both departments regarding the development of this program. The initial plan for the program was presented to AMPD's Academic and Administrative Policy and Planning Committee (AAPPC), with representation from all Departments in AMPD, for discussion and feedback. As the proposed BFA program has implications for and complements existing programs including the Digital Media Program, faculty in the Department of Electrical Engineering and Computer Science reviewed this proposal. Based on feedback and discussion in Digital Media Undergraduate Program Council, the proposal was revised to more clearly articulate the relationship between this BFA and existing programs (section 3.1). As well, the two creative coding courses' descriptions and learning objectives were updated. The proposal was approved in AMPD Faculty Council (January 18, 2017). We have also worked closely with the Dean's office in order to understand the demand for a program of this nature. We are conscious of the need to not duplicate existing courses or programs.

1.4 Indicate the Faculty/unit in which the program will be housed.

This program will be co-housed in the departments of Computational Arts, and Visual Art and Art History within the School of the Arts, Media, Performance and Design (AMPD). The interdisciplinary nature of this BFA will reflect the diverse interests of faculty associated with these two departments, who span from practicing artists in traditional disciplines, to theorists and studies-oriented researchers, to researchers with direct experience with the evolving tools central to an arts practice concerned with emerging digital technologies and processes.

The decision to co-house the program in the departments of Computational Arts, and Visual Art and Art History is critical to its distinctiveness. Explicitly integrating faculty members from both units in the administration of the program provides a formal link to both units through committed faculty participation. As the program is premised on integrating visual arts and computational arts methodologies as an explicit interdisciplinary strength, co-housing the program helps to preserve a

balanced connection to each area. By making explicit the connection to both CA and VAAH, students in the program have a unique sense of place as Intermedia majors complemented by an awareness of the relationships to the parent units through interactions and connections with a diverse set of students in both CA and VAAH courses.

In order to reflect the expertise of both departments, this new program will be jointly administered through a Program Council that consists of two tenured or tenure stream faculty from each of the Department of Computational Arts and the Department of Visual Art and Art History, along with the chair of these departments. The program council will be responsible for all administrative tasks related to this program, input into departmental faculty hiring that is relevant to the program, academic and degree requirements, new course proposals, exhibitions, etc. Given that this is a joint program, pursuant to approval by the Program Council, each department must approve new course proposals and/or degree requirement changes. The administrative support staff already shared by the Department of Computational Arts and the Department of Visual Art and Art History will assist in this new program, with the added bonus that we do not require any additional resources to begin offering this program.

2. General Objectives of the Program

2.1 Provide a brief description of the general objectives of the program.

There is no doubt that the increasing proliferation of digital technologies is having a major impact on how artists design, conceptualize and fabricate contemporary cultural artifacts. More than simply tools, the digital capacities now available to artists involve entirely new processes, immersing the artist in ecologies whose boundaries are as yet unknown, requiring a revision of conceptual standpoints and ways of thinking about objects, as material entities, art works, or commodities. The main goal of this program is to provide students with the necessary technical and conceptual frameworks to position their practice in relation to this evolving technological constellation.

The program's unique approach to examining and manipulating the operating structures of divergent digital processes through conceptually engaged lenses will lead to the training of a new hybrid artist/researcher capable of both grasping the mechanics of digital production processes and evolving these skills as new technological innovations emerge. Though it is impossible to exhaustively list the manifold possibilities opened up by a creative integration of coding with art practices and media, by way of examples, a given student may: develop networked frameworks for online intervention; design applications which harness, analyze and repurpose environmental sound; perform novel image recombinations by drawing on massive online data banks; study the modes by which memes spread through online experimentation; design responsive apps which modify ambient soundtracks according to particular acoustic conditions; fabricate objects which track viewer activity, implicating them within evolving databases; visualize or sonify network transactions in manners that allow the viewer to grasp algorithmic processes (such as those

involved in High Frequency Trading); make wearable network-interfaced objects that collapse physical and virtual (data) worlds; invent protocols for networked, telepresent collaboration; design virtual reality environments that position the viewer in new perceptual relationships with the “offline” world; experiment with generative practices that resituate the boundaries of intelligent life; etc.

2.2 Describe how the general objectives of the program align with University and Faculty missions and academic plans.

Through its emphasis on pushing the boundaries of art and technology, the BFA in Intermedia will continue to fulfill and enhance AMPD’s mission to offer an education that is “creatively daring” and which will help shape “tomorrow's world”.¹ AMPD’s exploratory environment will encourage students to shore up the intellectual, creative, and technical skills needed to navigate the implementation of emerging technologies in the creative industries in which they may find themselves. Further, the proposed BFA’s emphasis on joining individual creative practice with technological tools and intellectual inquiry aligns with York University’s larger academic vision. The very nature of this interdisciplinary and experiential program addresses key priorities outlined in York’s University 2015-2020 Academic Plan². With regard to “Priority 1: Innovative, quality programs for academic excellence,” this new program will help alleviate the problem outlined in the 2015-2020 plan regarding “declines in application” in disciplines like the “creative arts” as it will offer more options for students who cannot pursue their scholarly and creative interests at York because they fall outside the purview of the programs currently in place. By encouraging students to inhabit new territories opened up by the intersection of technology and art practice, this program provides a technical and conceptual toolbox relevant to their everyday lives and to their creative work as artists as well as to the industries to which they may contribute after university, and will thus be enticing to applicants who may pursue these interests elsewhere. In the process of offering these new opportunities, the collaboration between Computational Arts and Visual Art and Art History directly addresses the university’s recommendation to accommodate changing student interests through “new and unique combinations between degree programs.” (See 1:1.1; 1:2.2)

Additionally, the studio courses related to the creative arts have the distinction of being centred around experiential education, one of the priorities outlined in the 2015-2020 strategic plan (see the Plan’s “Priority 3: Enhanced Quality in Teaching and Student Learning”). This interdisciplinary BFA adds to this core component by opening new opportunities for students to explore their artistic practice as it intersects with the evolving technological world. Opening up the creative arts in this way allows for those students who may not fit within the traditional disciplines related to the fine arts to engage with experiential learning in a studio context, and in the process, hone their technical and creative practice in relation to an ever-changing technological world. (See 3:1; 3:1.1)

¹ “Mission,” School of the Arts, Media, Performance & Design website.

² *York University Academic Plan 2015-2020*, February 25, 2016. Pgs. 11-15.

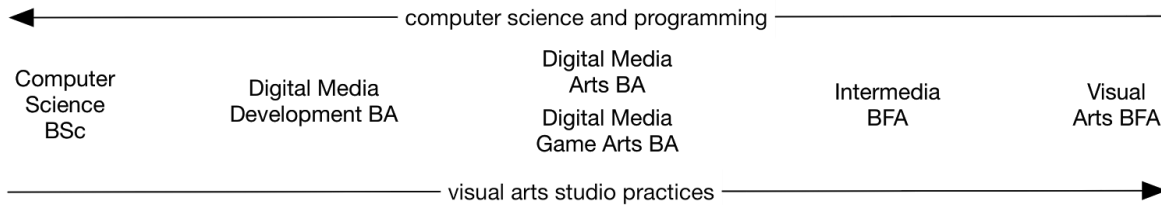
While this program can address these priorities in the immediate future, it also has the potential to intersect with York's future initiatives, like the Markham Centre campus slated to open in 2020. The Visualization, Entrepreneurship, Research, Games and Entertainment (VERGE) program that will be located primarily at the Markham campus emphasizes transdisciplinary work geared towards the needs of employers in the region, something that could benefit from the BFA in Intermedia at the Keele campus. While there is indeed room to collaborate between campuses, one of the key points to delineate the BFA in Intermedia from those being prepared for the Markham campus is that this program makes use of existing strengths and facilities on the Keele campus. Additionally, the Markham campus will not be a reality for many years, whereas our faculty and facilities will allow us to immediately begin this program upon the proper approval.

3. Need and Demand

3.1 Identify similar programs offered at York and/or by other Ontario universities, with special attention paid to any innovative and distinguishing aspects of the proposed program.

The proposed program is unique in AMPD and at York as it offers students the opportunity to maintain a sustained focus in interdisciplinary visual arts-based artistic practice that integrates established areas including drawing, painting, photography, print media, sculpture, and time-based art (performance, video and sound), studio-based history/critical theory and software based art techniques needed to fully evolve as digitally-based creative practitioners and innovators, whether as artists, writers, curators, gallerists or one of the many other types of careers available in the art world.

This collaborative effort between the departments of Visual Art and Art History and Computational Arts is uniquely poised to offer students the opportunity to pursue their interest in digitally-based practices in light of the most recent technological evolutions relevant to the art world. The Intermedia BFA is strategically situated to complement streams in the the Digital Media BA jointly offered by the Department of Computational Arts and the Department of Electrical Engineering and Computer Science in the Lassonde School of Engineering. which employs an integrated art and science curriculum requiring significant expertise in Computer Science and Mathematics. By focussing on the use of new technologies in the context of a broader ecology mixing humans and machines, and examining the nature of these new processes from different conceptual frameworks grounded in visual arts studio practices, with an end goal of creating studio art works, the Intermedia BFA provides an alternative that is methodologically distinct from the integrated science/arts based approach of the Digital Media BA. The position of the new program in relation to existing programs can be illustrated by placing programs on this (albeit simplistic) combination of axes:



Students in the Intermedia BFA are required to take one 3 credit creative coding course (one additional 3 credit creative coding course is optional) that introduces artists to the use of code in creating new artworks as the project outcomes, with aesthetic considerations forming a primary category of evaluation. By comparison, students in the Digital Media Arts stream are required to take 6 credits in math and 21 credits in computer science.

In the proposed collaboration, the core strengths of each program are comprehensively exploited. Faculty from Visual Art and Art History offer expertise in studio-based practices spanning drawing, painting, photography, print media, sculpture, and time-based art (performance, video and sound), situating these practices within the wider scholarly and critical context proper to studies courses. Computational Arts faculty offer students the opportunity to bring technological tools and coding skills to bear on expansive studio practices involving visual, sonic, haptic and immersive environments. Moreover, an interdisciplinary visual-arts based approach to digital art gains its innovative power by being specifically directed by each student's interests as they are forged within the broader framework of the program. Photo, video and sound courses play an essential part in the program, especially in their interrogation of the new functions, modes of expression and networked communication that transform the possibilities available to image and sound makers. In addition, as a core 21st century literacy, creative coding is an integral part of the Intermedia BFA, specifically oriented towards the demands of art making. Many of the courses hosted by the Department of Computational Arts that are available to students in the Intermedia BFA also serve the Digital Media BA. The presence of Intermedia BFA majors in courses will diversify and enhance class environments, particularly in the collaborative work central to both programs.

While everyday life in the 21st century involves an immersion in a wide variety of technologies, the skills to creatively harness and repurpose these environments have typically lagged behind in the art world, a situation that is beginning to change. This new program is committed to the core philosophical position that “doing is knowing,” and that experimentation with the aesthetics, functionalities and infrastructures of technological environments is essential to the flourishing of innovative knowledge.

Indeed, a BFA in Intermedia will provide York with a distinct advantage over universities in Southern Ontario who offer interdisciplinary study between art and technology in a narrower framework. Many Visual Arts programs across Southern Ontario incorporate digital media components in their studio courses but stop short of creative coding. For example, programs offer students an opportunity to pursue—within a larger exposure to various fine arts disciplines—“integrated media” (University of Windsor's BA in Studio Arts), “Extended Practices”

(University of Guelph's BA in Studio Arts), or “digital technologies and hybrid practices” as part of a program that additionally emphasizes the function of art in industry and business (McMaster's BFA in Visual Arts). Still other programs, like Brock University's BA in Interactive Media and Science, offer students an opportunity to pursue art-technology intersections, but only within a narrative framework best suited for a specific range of industries (e.g. gaming) and not necessarily applicable to other avenues of arts exploration³.

The proposed BFA in Intermedia would also allow York to remain competitive with the studio arts programs in Toronto that offer interdisciplinary programs focused on integrating digital technologies within art practice. York's competitive advantage over these programs lies in its ability to emphasize specialities that differ from these already established programs. For example, Ryerson's BA in Creative Industries focuses on the ways in which technology intersects with media arts for business, angled towards industry and entrepreneurship through more traditional communication and business studies approaches (as noted in course content). As far as we are able to determine, this particular program's valuable emphasis on the business world overshadows opportunities for more in-depth experiential development of tools crucial to the arts in the 21st century. OCADU's Digital Futures program is perhaps one of the closest in the region to the BFA program proposed here, as it also concentrates exclusively on the application of emerging technologies within the art world. However, its emphasis on Computer Science and Engineering courses in the first year of study would align it more with the Digital Media program already established here at York and might accordingly deter students who are not interested in Computer Science courses.

3.2 Provide brief description of the need and demand for the proposed program, focusing as appropriate on student interest, social need, potential employment opportunities for graduates, and/or needs expressed by professional associations, government agencies or policy bodies.

This interdisciplinary BFA reflects approaches taken towards “The Arts” in secondary education in Ontario. As outlined in the most recent publication for coursework in the Arts in Grades 11 and 12, this area of study is seen as critical for students to not only become lifelong learners, but to be both University/College and Workplace ready upon graduation⁴. In addition to strengthening the skills of young artists, the curriculum emphasizes the power of the arts to produce culturally sensitive citizens who are able to critically analyze different kinds of “texts” (including the digital, visual and auditory) from a critical position that requires problem solving. For the Ontario Ministry of Education, these skills translate into student success in other academic disciplines as well as varied employment opportunities encountered upon entering the workforce: “Arts education prepares students for the fast-paced changes and the creative economy of the twenty-first century.”⁵ These “fast paced changes” most certainly include the consideration of technology as it intersects with

³ All information regarding specific programs at universities in Southern Ontario and in Toronto (in the paragraph to follow) has been taken directly from their respective websites.

⁴ The Ministry of Education, *The Ontario Curriculum for Grades 11 and 12, 2010*.

⁵ *Ibid.*, pg. 4.

traditional art disciplines, notable in the “Media Arts” course offered in addition to disciplines like Dance, Drama, Music, and the Visual Arts⁶. The Media Arts course as outlined by the Ministry of Education gives students exposure to emerging technologies and how they can be implemented in their artistic practice, as well as how these technologies and their creative applications can be considered within a larger social and cultural context. The Ministry emphasizes a process of “hybridization” as an organizing principle within the Media Arts program in the latter years of secondary school, noting the highly interdisciplinary nature of some of the educational experiences students participate in. In fact, the “University/College preparation” stream in Ontario's secondary Media Arts curriculum explicitly addresses the centrality of technology in reimagining multiple forms of art, from the student's creation of “hybrid” pieces to their understanding of the place of these works in a broader ecology of concerns. The proposed BFA deepens the study and practice of novel forms of art in which traditional practices, new technologies and critical theory intermingle in a sustained fashion, encouraging the student to extend the knowledge and skills learned in secondary school to a more complex post-secondary context.

Part of the province's view of arts education includes an emphasis on the “technological advances” that continue to reshape our society.⁷ In this conception, developing approaches to new technologies through artistic practice not only enhances the art world at large, but may potentially also lead to innovations within the workforce. As this curriculum has stated, there is a growing need in the workforce for technologically creative students. Knowledge of coding is quickly becoming an essentially literacy for 21st century citizens and is integral to a number of courses within the program. Such knowledge also helps develop forms of algorithmic thinking, which enhances the ability to grasp the operational nature of technologies and the problems they raise, knowledge that is applicable to a great number of contexts beyond the explicitly technological. Moreover, the student is part of a highly complex world in which images and sounds circulate via new technological modes that structure meaning and influence culture and politics. The proposed program addresses these new creative potentials through photo, video and sound courses combining critical theory and experimental art making, preparing the student to respond to a rapidly changing landscape.

In this way, the BFA program addresses some of the recommendations put forward by the Conference Board of Canada, an organization that is “dedicated to building a better future for Canadians by making our economy and society more dynamic and competitive.”⁸ In their *How Canada Performs* report, the Conference Board isolated “advanced skills and innovation” as a key component to a healthy workplace, economy, and society, and recommends that “innovation skills” be part of a student’s schooling at any level.⁹ As the Conference Board notes, these innovation skills are central to an economy that relies heavily on a post-secondary educated workforce, especially

⁶ Ibid., pg. 121-123.

⁷ Ibid., pg. 41.

⁸ “About Us,” *The Conference Board of Canada* website.

⁹ The Conference Board of Canada, “Advanced Skills and Innovation,” *How Canada Performs*. <http://www.conferenceboard.ca/hcp/hot-topics/innovation.aspx>

one that needs to adapt to the evolving technology that pervades many industries. In fact, one of the core components of innovation, as defined by the Conference Board, is “people who can perform research that generates new ways of thinking and new knowledge, who can apply their knowledge and skills, who can adopt new technologies and processes, and who can adapt to change.”¹⁰ From the very first year of study, this BFA offers students an immersive environment that explores the intersection of changing technologies and individual practice, requiring a continual evaluation of the impact of such changes in their real-world applications. This experiential component will give students an opportunity to remain competitive in many industries comprising the Canadian job market, one example being the Information and Communications Technology (ICT) sector. According to Industry Canada, the growth of the ICT sector points to its centrality to the 21st century Canadian economy; pointing to its continued strength, every year since 2007, the growth of the ICT sector has slightly outpaced the growth of the overall Canadian economy.¹¹ In order to participate in this sector, workers need to be highly educated. In its evaluation of the ICT sector, Industry Canada recognizes that, compared to other industries in Canada, ICT is comprised of a “knowledge-intensive workforce,” with over half of its workers holding a university degree¹². The value in a program that exposes students to a variety of tools and applications as they pursue their degree will make them career-ready in industries that, in addition to merely requiring workers with a university education, require workers who are technically savvy and adaptable to the changing digital tools that they will encounter on the job. Graduates of BFA programs tend to have varied career paths and one should not expect that they will exactly match existing job descriptions as say engineering students might. With extensive experience with hybrid artistic creation across a wide range of media from sound to still/moving image to 3D modelling/animation, along with an understanding of coding, graduates of the program will be well equipped for a variety of opportunities for employment as creators, curators and digital innovators in a range of sectors.

The opportunity to work at the vanguard of new artistic potentials made possible by cutting-edge technologies is fuelling the interest of students moving from their secondary education into university careers. According to data from the Office of the Dean of AMPD, it is clear that our current programs are not attracting a significant portion of our potential undergraduate market share, from both provincial and out-of-province students, due to the lack of a program that effectively bridges technological innovation and the arts. This most recent data covers those applicants who were rejected from admission to Design and Digital Media in 2015 because of reasons other than not having the necessary GPA. In this one sampling year alone, AMPD lost 551 students because of the skill-set required for these respective programs, whether related to the math component integral to the Digital Media BA or the evaluation score of Design portfolios (see chart 1). Of course, we cannot assume that all of these students would be automatically accepted into this new BFA or, upon acceptance, would choose to pursue such a degree at York. However, we can assume that the majority of students who stated that Digital Media and Design would be their

¹⁰ Ibid.

¹¹ Industry Canada, *2014 Canadian ICT Sector Profile: Information and Communications Technology Branch* (updated 2016).

¹² Ibid.

first and second choice of programs would perhaps be interested in an interdisciplinary program that meets the intellectual, creative and career interests not already served by these respective programs. From the data that we were given, hundreds of students who ranked these two programs as their first and second choice of degree were not allowed to pursue this avenue as the programs are currently structured (see chart 2).

Major	Current H.S.	GPA Range			Total
		75 - 80	80 +	Unknown	
Design	No		3	144	147
	Yes	88	188	3	279
Design Total		88	191	147	426
Digital Media	No	1	1	68	70
	Yes	22	33		55
Digital Media Total		23	34	68	125
Grand Total		111	225	215	551

Chart 1
 Courtesy of Ron Mitchell,
 Office of the Dean,
 School of the Arts, Media, Performance and Design

Major	Applicant Choice					Total
	1	2	3	4	Other	
Design	98	139	112	28	49	426
Digital Media	27	30	23	12	33	125
Grand Total	125	169	135	40	82	551

Chart 2
 Courtesy of Ron Mitchell,
 Office of the Dean,
 School of the Arts, Media, Performance and Design

According to figures from the Office of the Dean of AMPD, over one hundred of these students ultimately chose to pursue studies at another Ontario postsecondary institution other than York. We can only speculate as to how many more potential applicants interested in the intersection of art and technology forego the opportunity to study in the Visual Art and Art History program and pursue these options at Ryerson or OCAD.

4. Program Content and Curriculum

4.1 Describe the program requirements, including the ways in which the curriculum addresses the current state of the discipline or area of study. Identify any unique curriculum or program innovations or creative components.

The Intermedia BFA program brings students together each year in shared courses while allowing each student to focus on particular areas of interest drawn from both Visual Art and Art History and Computational Arts studio and studies offerings. In their first year, students are exposed to an expansive set of approaches to digitally-based art forms, and historical overviews of contemporary art practices. VISA 1999 6.0 Intermedia Fundamentals is offered as an intensive in second term of first year to facilitate both fall and winter admits. One foundational coding course, DATT 2400, is required of all students in the program. Most DATT courses are based on coding as part of the curriculum and further develop student skills to support their creative practice. A second coding course, DATT 3400 is a prerequisite to DATT courses that require more advanced knowledge of coding.

The program culminates in a fourth-year capstone project in which students work on larger-scale projects, orienting them with strategies designed to facilitate their transition into the professional art world, as creators, curators and digital innovators. The innovative structure of this program requires the creation of only 24 credits of new courses that form the core curriculum of the program. The additional 'in program' credits will come from selected existing courses in the Departments of Computational Arts and Visual Art and Art History. Due to this innovative hybrid model the Intermedia program will make use of existing teaching capacities that already exist in AMPD and require minimal investment in the first few years. (See 7.5 below)

Degree Requirements

Program Core (33 credits):

FA/VISA 1999 6.0; FA/VISA 2999 3.0; FA/DATT 3999 3.0; FA/DATT 4999 6.0;
FA/DATT 1100 3.0; FA/VISA 1000 3.0; FA/ARTH 1130 6.0;
FA/DATT 2400 3.0;

List A - 21 credits chosen from:

FA/DATT 2000 3.0, FA/DATT 2010 3.0, FA/DATT 2300 3.0, FA/DATT 3400 3.0, FA/DATT 2500 3.0,
FA/DATT 3300 3.0, FA/DATT 3930 3.0, FA/DATT 3931 3.0, FA/DATT 3935 3.0, FA/DATT 3940 3.0,
FA/DATT 3941 3.0, FA/DATT 4010 3.0, FA/DATT 4300 3.0, FA/DATT 4931 3.0, FA/DATT 4932 3.0,
FA/DATT 4940 3.0, FA/VISA 3072 3.0, FA/VISA 3074 3.0, FA/VISA 3033 3.0, FA/VISA 3034 3.0,
FA/VISA 2055 3.0, FA/VISA 2056 3.0, FA/VISA 3055 3.0, FA/VISA 3056 3.0, FA/VISA 3057 3.0,
FA/VISA 3058 3.0, FA/VISA 4056 6.0, FA/VISA 4090J 6.0, FA/VISA 2061 3.0, FA/VISA 2065 3.0,
FA/VISA 3060 3.0, FA/VISA 3063 3.0, FA/VISA 3066 3.0, FA/VISA 3067 3.0, FA/VISA 4090 6.0,
FA/VISA 3022, FA/VISA 3024B 3.0, FA/VISA 4090 A 6.0, FA/VISA 4090 J 6.0, FA/VISA 4090 Z 6.0,

List B - 12 credits chosen from: DATT 2100 3.0, DATT 2301 3.0, FA/VISA 4001 3.0, FA/ARTH 3450 3.0, FA/ARTH 3610 3.0, FA/ARTH 3650 3.0, FA/ARTH 3680N 3.0, FA/ARTH 3710 6, FA/ARTH 4351 3.0 FA/ARTH 4640B 3.0, FA/ARTH 4800L 3.0, FA/VISA 3001 (A,B,C,D,E,K) 3.0

6 credits in AMPD not DATT, VAAH, or VISA

12 credits outside AMPD

12 credits electives

6 credits FA/XXXX 1900 (faculty requirement)

18 credits general elective

Overall 36 credits are required at the 3000 or 4000-level including at least 18 credits at the 4000-level with at least 12 major credits at the 4000 level.

Suggested progress:

Year 1					
fall	VISA 1000	DATT 1100	ARTH 1130	GE	GE
winter	VISA 1999	VISA 1999	ARTH 1130	FA/XXXX 1900	GE
Year 2					
fall	VISA 2999	DATT 2400 CC I	DATT/VISA B list	FA/XXXX 1900	GE
winter	DATT/VISA A list	DATT/VISA A list	DATT/VISA B list	GE	outside
Year 3					
fall	DATT 3999	DATT/VISA A list	DATT/VISA B list	GE	outside
winter	DATT/VISA A list	DATT/VISA A list	in/out	elective	outside
Year 4					
fall	DATT 4999	DATT/VISA A list	DATT/VISA B list	elective	elective
winter	DATT 4999	DATT/VISA A list	in/out	elective	outside

4.2 Provide a list of courses that will be offered in support of the program. The list of courses must indicate the unit responsible for offering the course (including cross-lists and integrations, as appropriate), the course number, the credit value, the short course description, and whether or not it is an existing or new course. For existing courses, the frequency of offering should be noted. For new courses, full course proposals are required and should be included in the proposal as an appendix. (The

list of courses may be organized to reflect the manner in which the courses count towards the program requirements, as appropriate; e.g. required versus optional; required from a list of specified courses; specific to certain concentrations, streams or fields within the program, etc.)

All courses with the rubric DATT will be the responsibility of the Department of Computational Arts. All courses with the rubric VISA or ARTH will be the responsibility of the Department of Visual Art and Art History. New core courses, VISA 1999, VISA 2999, DATT 3999, and DATT 4999 (proposals accompanying this submission) and will managed by the Intermedia Program Council.

Core courses:

+ indicates new course - see full proposals in Appendix A:

+FA/VISA 1999 6.0 Intermedia Fundamentals: Concept, Creativity and Production

Introduces students to a wide variety of creative and theoretical approaches involved in making art within ecologies that mix humans and machines, and a spectrum of production methods addressing two dimensional, three dimensional and the element of time in art making in the context of technology. Classes consist in a blend of presentations on diverse art-technology histories, introductions to Intermedia faculty and studios, experiential exercises centered on specific applications and digital environments, cursory portraits of digital practices through specific artists, and critiques of major projects that combine theoretical and pragmatic approaches. This forms a starting point for research, conceptualization and exploration of fundamental processes as a means of visualizing students' creative ideas. Students acquire experience with a range of methods and techniques for creating work including creative coding tools and media production. Course work is presented at an end of term exhibition.

FA/DATT 1100 3.0 Fundamentals of Digital Media Studies

Offers students a survey of digital media through an investigation of historical and theoretical sources that explore the intersection of art and technology. Potential topics include cybernetics, artificial intelligence, human-computer interfaces, artScience, hypertext, net technologies, and the philosophy of science.

FA/VISA 1000 3.0 Critical Issues in the Studio

Introduces students to visual, conceptual and theoretical language as it relates to studio practice. Ideas are examined through various disciplines from different points of view.

+FA/VISA 2999 3.0 Critical Issues

This course is intended to expand a student's awareness and understanding of the critical and theoretical debates affecting art ecologies that mix humans and machines. The main focus of this class is the intersection of technology and art in contemporary cultural production; this is a wide ranging plastic category that can be used to engage questions about space, time, language, commerce, production, culture, identity, etc. The course will explore the impact digital practices on museum systems, display environments, digital practices and events, as well as new technologies, and screen culture. These relations begin to blur a great variety of boundaries and allow for a speculative combination of discourses. This course will explore the legacies of modernism and post modernism, and look towards current dialogues which originate in post-structuralism, feminism, psychoanalysis, media theory, in the identification of objects.

+FA/DATT 3999 3.0 Collaborative Project

In this course students work in large groups to realize substantial creative projects. Students work together as a creative team by taking on roles where they focus on specific aspects of the project. The creative team structure is modeled on teams used in large-scale project development such as those used in contemporary art practice, and interactive experience development that rely on collaboration and interdisciplinary research. The projects will vary from year to year, but will be significant works that are clearly defined by the instructor. The course instructor will prepare descriptions of the projects at the beginning of the course. The details of the projects will be developed as part of the class activities. The culmination of this course will be a final presentation, which will be open to the public. In addition to group assignments, students are evaluated based on their individual contribution, teamwork, and presentations.

Prerequisites: Open to students in the third year of the Intermedia program. FA/VISA 2999 3.00

+FA/DATT 4999 6.0 Capstone Project

In this year long studio course students complete a significant creative work responding creatively to ongoing technological innovation and change. Projects combine coding with intensive explorations of emerging media environments involving photo, sound, video, interactive installation, and networked intervention, as well as the disciplines of painting, drawing, sculpture, and print media in their digital expansions, and grounded in critical and historical contexts of art history and critical digital theory using research-creation methodologies. Projects are chosen in consultation with the course director(s), and may be solo projects or collaborations between two or more students. The project as it progresses will be presented in the context of classroom critiques with response from both students and professors, and in its final form in at least one public event towards the end of the year.

Prerequisites: Open to students in the final year of the Intermedia program. FA/DATT 3999 3.0.

+FA/DATT 2400 3.0 Creative Coding I

This course introduces students to writing computer code that is the basis of art projects. As software now pervades all aspects of contemporary culture, artists and designers can significantly expand their creative palettes through knowledge of and experience with coding. By engaging with the computer more directly students explore the potentials of software to create and form systems and environments. In course projects, students will address contemporary aesthetic and conceptual concerns, and develop their works in a current creative coding environment with coding concepts explored transferable to a range of related software and practice contexts.

Studies Courses (B list):

FA/VISA 1000 3.0 Critical issues In the Studio

Introduces students to visual, conceptual and theoretical language as it relates to studio practice. Ideas are examined through various disciplines from different points of view.

FA/DATT 2100 3.0 Publishing in Digital Media

Introduces techniques and strategies for the documentation and dissemination of work in the digital age. Students will expand their skills in traditional and internet-based research in tandem with developing competence in the clear, concise communication of ideas through appropriate integration of text, visual, sonic and interactive components. Overview of tools such as image processing, web development, mobile content development, and content management systems.

FA/DATT 2301 3.0 Game History, Genre, and New Directions

Examines the development of computer and video games from an historical and genre perspective. Provides a foundation for thinking critically about the history of games and how they are situated in culture, including their practices of representation of women, racial minorities and others. Provides a broad study of games, gamification, and game play and their use in various applications, including video games, simulations, serious gaming, and art making contexts. The course considers implications of game techniques in a variety of fields including interactive art, multi-stakeholder engagement, serious gaming, learning, and other problem solving scenarios. It also explores new and cutting edge trends in gaming, such as in the areas of alt gaming, queer games, Not Games, and urban gaming where the potential and boundaries of games and game play are being challenged and tested.

FA/VISA 3001 3.0 (A,B,C,D,E,K) Critical Issues in the Studio II

Explores the intersections between art, design and architecture as mutually informative. Each area borrows and transforms strategies from others in order to engender new ways of seeing and living. Prerequisite: FA/VISA 1000 3.0.

Studio Courses (Computational Arts) (A list)

FA/DATT 2000 3.0 Introduction to Physical Computing

Explores embodied approaches to combining hardware, software and materials to create art works. Students will be introduced to the world of physical computing: combining simple computers (e.g. Arduino), sensors, LEDs, motors etc. in physical forms.

FA/DATT 2010 3.0 Physical Computing II

Builds on the material covered in Introduction to Physical Computing to explore new forms of engagement and interaction in specific areas including: wearable computing, wired and wireless communication, and instrument creation. Students will develop a larger work for public presentation.

Prerequisite: FA/DATT 2000 3.0 or permission of the course director

FA/DATT 2300 3.0 Game Development I

Introduces the essential workflows and requisite knowledge for game development through the design and creation of game prototypes using a game engine. Provides an introductory hands-on approach to the study and practice of games, gamification, and game play and their use in various applications, including video games, simulations, serious gaming, and art making contexts. The course will take practical and theoretical approaches to game production in a variety of gaming contexts. Emphasis will be on implementation, using software tools and engines found in professional game development and in the making of technology-based art practice. While a large part of the focus of the course will be on standard game techniques as applied in gaming contexts, this course will also focus on the applications in non-gaming contexts, known as gamification. Gamification involves the larger implications of game techniques in a variety of fields including interactive art, multi-stakeholder engagement, serious gaming, learning, and other problem solving scenarios. This course will also explore new and cutting edge trends in gaming, such as in the areas of alt gaming, Not Games, and urban gaming where the potential and boundaries of games and game play are being challenged and tested.

FA/DATT 2500 3.0 Introduction to 3D Modelling

This course provides a foundation in 3D modelling using state of the art render time 3D modelling software such as Maya, Blender, and 3DS Max. The course will provide a survey of various modelling techniques and approaches with an emphasis on modelling used in 3D art, 3D animation and games. Topics include photorealistic rendering, scene building, character modelling, and the use of 3D graphics in simulation and visualization.

FA/DATT 2501 3.0 Introduction to 3D Animation

This course provides a foundation in 3D animation using state of the art render time 3D modelling and animation software such as Maya, Blender, and 3DS Max. The course will provide a survey of various animation techniques and approaches with an emphasis on render time animation as it is used in 3D art, 3D animation, data visualization and games. Topics include, scene building, character animation, timeline based animation techniques, and the use of 3D graphics in simulation and visualization.

Prerequisite: DATT 2500 3.0, or by permission of the instructor.

FA/DATT 3300 3.0 Game Mechanics

Explores the rules and procedures followed by players and games—more broadly and not limited to computer games—that are the building blocks that make up gameplay. Students look at the various aspects of game mechanics; what they are, how they can be formed, how they interact with each other, what values they transmit and topics relating to the application of game mechanics. Examines system dynamics, balancing luck and skill, cooperation and competition, in variety of gaming and non-gaming contexts. Students will prototype, test, and implement mechanics in games and learn how to visualize, simulate and operationalize game mechanics. Topics include: emergent gameplay, balancing game mechanics and level design, and scripted events vs. dynamic progression systems.

Prerequisite: FA/DATT 2300 and FA/DATT 2301, or permission of the instructor.

+FA/DATT 3400 3.0 Creative Coding II

This course extends the concepts and techniques introduced in DATT 2400 Creative Coding I. Topics addressed will include: working in three dimensions, interaction in art works, selecting and using algorithms and libraries, and nature-inspired processes. Students will advance their abilities, through course projects, to address contemporary aesthetic and conceptual concerns, and develop their works in a current creative coding environment with coding concepts explored transferable to a range of related software and practice contexts.

Prerequisite: FA/DATT 2400 3.0

FA/DATT 3930 3.0 Screen-Based Fluid Interfaces

Looks beyond the vocabulary of the point-and-click gesture to fluid mouse gestures in interactive new media art. Fluid mouse gestures, those that involve reacting to movement, provide a vast array of possibilities to generate complex meaning.

Prerequisite: FA/DATT 1000 6.0 or permission of the course director.

FA/DATT 3931 3.0 Interactive Installation and Performance I

Provides students with an opportunity to explore interactivity in public physical settings. Students create works where the performer and/or audience interact with media on the computer through means other than the keyboard and mouse.

Prerequisite: FA/DATT 1000 6.0, or FA/DATT 2400 3.0 or permission of the instructor.

FA/DATT 3935 3.0 Creative Data Visualization

Explores data visualization as an artistic practice. Engage with interdisciplinary practices involving the mapping of data to aesthetic form, gaining inspiration from a wide range of topics as musical graphic/abstract notation, conceptual/instructional art, animation, social media analyses and computational sciences. Examines the database as a pervasive cultural and computer form. Students will learn how to manipulate and organize open source data, as well as engage in alternative forms of archiving. Through this hybrid process, students will work towards a summative data art project that is both aesthetically compelling and revelatory in its informational content.

Prerequisite: FA/DATT 1000 6.0 or permission of course director.

FA/DATT 3940 3.0 / FA/VISA 3033 3.0 Modelling for 3D Fabrication

Introduces students to the possibilities for creating digital objects using advanced 3D design software and 3D scanning technologies, and the related conceptual concerns.

Prerequisite: VISA: 3 credits of 203x series of courses DATT: FA/DATT 2050 3.0.

FA/DATT 3941 3.0—FA/VISA 3034 3.0 Digital Fabrication

This course introduces students to the possibilities for translating digital objects into physical objects using three-dimensional printing technologies, and the related conceptual concerns.

Prerequisite: FA/DATT 3940 3.0 or FA/VISA 3033 3.0.

FA/DATT 4010 3.0 Physical Computing III

Builds on the material covered in Introduction to Physical Computing II to explore more advanced topics in physical computing such as circuit board design and manufacturing, embedded computing, communications and protocols, among other topics, with an emphasis on research-creation in the development of novel projects. During the course students will develop a larger work for public presentation.

Prerequisites: DATT 2010, or by permission of the instructor.

FA/DATT 4300 3.0 Game Development II

Advanced topics in game development and implementation such as game engine techniques, game engine scripting, prototyping, player controls, and level design building on previous courses in game development and game mechanics. Advanced hands-on approach to the study and practice of games, gamification, and game play and their use in various applications, including video games, simulations, serious gaming, and art making contexts. Further explores new and cutting edge trends in gaming, such as in the areas of alt gaming, queer games, Not Games, and urban gaming where the potential and boundaries of games and game play are being challenged and tested.

Prerequisite: FA/DATT 3300, or permission of the instructor.

FA/DATT 4931 3.0 Interactive Installation and Performance II

Extends on the foundation laid in FA/FACS 3931: Interactive Installation and Performance I in an advanced studio setting. Students will pursue advanced, self-directed individual and group projects.

Prerequisite: FA/DATT 3931 3.0

FA/DATT 4932 3.0 The Interactive Stage

Explores the creation of interactive stage environments for live performance. Students will investigate various strategies where-by on-stage 'events' (physical, vocal, physiological, etc.) manipulate audio, video and/or lighting events. Students will be introduced to dedicated interactive and show control software, and become adept at programming interactive environments. Through a contextual survey of the history of intermedial performance, students will develop a critical understanding of the use of digital media in contemporary live performance.

Prerequisite: FA/DATT 1000 6.0, or FA/DATT 2400 3.0 or FA/DANC 3220 3.0 or FA/DANC 4220 3.0 or permission of the course director.

FA/DATT 4940 3.0 Generative and Parametric 3D Modeling for the Arts

Explores the techniques of generative and parametric 3D modeling through the use of scripting and programming interfaces to professional grade render-time 3D modeling software tools such as Rhinoceros/Grasshopper, Maya, Solid Works, and Blender, and real-time 3D graphics tools and software such as Max, Processing, and software libraries such as OpenFrameworks, and Cinder which incorporate OpenGL and GLSL Shading Languages. These tools represent two domains, where one domain is geared toward the development of fixed content and 3D fabrication; the other is primarily virtual and interactive. A generative and parametric 3D modeling approach facilitates the integration of these two domains, whereby there is a real-time, interactive approach to the development of spatial content. Because the techniques presented in this course have wide implications, concepts and approaches will draw from fields of architecture, industrial design, art making, and other fields where computational methods are use to create 3D objects and forms.

Prerequisite: FA/DATT 3940 or FA/VISA 3033 or FA/DATT 2500 or permission of the course director.

Studio Courses (Visual Art and Art History) (A list)

FA/VISA 2055 3.0 Time-Based Art: Performance and Everyday Life

Focuses on individual and group projects plus readings on time-based media, especially contemporary performance art. Students participate in exercises that promote original responses to the everyday environment, and are encouraged to use a variety of media in making works.

FA/VISA 2056 3.0 Time-Based Art: Introduction to Video Art – Production

Introduces students to the creative practice of video art in a production studio environment, including both concepts and techniques. Classes include workshops on camera, lighting, video effects and sound recording techniques. Students create individual creative video projects. Students gain experience with directing, blocking, shooting and lighting short video productions. The course explores use of video production effects including chroma key. Creative and conceptual issues of video language, continuity, narrative structures and creative camera techniques will form the basis of class discussions and critiques in relation to demonstrations of techniques and individual student video projects.

FA/VISA 2061 3.0 Photo Studio 1

Offers an introductory studio in photographic theory and practice fundamentals. Tools, techniques and ideas related to seeing and camera art are explored with emphasis on the photographer as informed image-maker.

FA/VISA 2065 3.0 Photography: Camera to Print

Introduces photographic production practices in a digital environment. Explores image production using Camera Raw and Photoshop, printing and conceptual approaches related to image creation. A digital camera is required. Compulsory supplementary fees.

FA/VISA 3022A 3.0 Painting: The Body and Technology

Offers a thematic studio course that examines contemporary debates on the body and technology primarily through painting and secondarily through the discussion of selected readings and the viewing of relevant images of works by artists.

FA/VISA 3024B 3.0 Painting and Mass Media

Explores and utilizes the flow of media images from newspapers, television and the Internet to then translate them in painting. Students manipulate and re-contextualize found images in order to weave formal, narrative and process threads, thereby producing new meaning.

FA/VISA 3033 3.0 / FA/DATT 3940 3.0 Modelling for 3D Fabrication

Introduces students to the possibilities for creating digital objects using advanced 3D design software and 3D scanning technologies, and the related conceptual concerns.

Prerequisite: VISA: 3 credits of 203x series of courses DATT: FA/DATT 2050 3.0.

FA/VISA 3034 3.0 / FA/DATT 3941 3.0 Digital Fabrication

This course introduces students to the possibilities for translating digital objects into physical objects using three-dimensional printing technologies, and the related conceptual concerns.

Prerequisite: FA/DATT 3940 3.0 or FA/VISA 3033 3.0.

FA/VISA 3055 3.0 Time-Based Art: Video Installation

This course explores various approaches to video installation utilizing multi-channel video or video in combination with other visual art studio practices. Technical workshops are given in video and audio installation, camera, editing, lighting and audio techniques. Work in video installation by contemporary artists are shown and discussed and knowledge of video art history and practice is gained. The course responds to the diverse range of practices of video installation including the use of simultaneous playback, consideration of scale and physical space, site-specific installation, video and audio installation in combination with computer-based applications, and video installation in combination with performance.

FA/VISA 3056 3.0 Time-Based Art: Sound For Artists

This studio course is dedicated to an exploration of sound art both as a distinct practice and through its interdisciplinary intersections with sculptural, installation, performative, musical, and other time-based practices. The history of sound art will be explored including soundscape, speech-based and radio art practices. The student will produce sound projects applying both analog and digital technologies within the context of their own practice, or as free-standing works.

FA/VISA 3057 3.00 Time-Based Art: Video in the Expanded Field

This studio course is dedicated to an exploration of video through its interdisciplinary intersections with sculptural, installation, performative, musical, and other practices. The history of video will be explored, from the pioneers of the 1960s and 1970s to internet-based and real-time environments, from documentary to reality-based practices, from single channel to video installation practices, from early activist video to explorations of present-day panoptic conceptions, from early filmic practices to materialist / structuralist conceptions, to a study of the framing mechanisms of television from its beginnings to the present, through both analog and digital manifestations.

FA/VISA 3060 3.0 Hybrid Approaches to Black and White Photography

Intermediate studio focuses on black and white photography as a distinctive medium encompassing analog and digital methods. Skills, knowledge, aesthetic awareness and critical understanding are developed through creative projects.

FA/VISA 3063 3.0 Photography: Space and Site Photo Studio II: Landscape and Place

This is an intermediate level photography course focusing on improving camera skills and production techniques, concept development, and image presentation strategies. During the course, students will explore a range of photographic techniques and genres; develop technical and creative skills in photographic production and modes of print and/or screen-based presentations; develop confidence in their artistic practice, technical competence and creative skills; acquire critical skills in photography and in the broader discourses related to cultural production; be exposed to a range of photographic practices as a source of inspiration and to further an understanding of issues of representation.

FA/VISA 3066 3.0 Photography: Space and Site

Investigates a range of installation techniques and approaches that extend the traditional boundaries of the photographic medium. Documentation of ephemeral works and installations is examined.

FA/VISA 3067 3.0 Photography: The Constructed Image

Explores concepts and processes related to photographic narrative, tableau and constructed images in this hands-on course. Directorial methods, studio and camera skills, and creative thinking are emphasized. Some group work and a DSLR are required. Compulsory supplementary fees apply.

FA/VISA 3070/4070 6.00 Extended Print Practice

Building upon knowledge gained from introductory printmaking courses, students will have the opportunity to work in various print media as well as investigate extended print media practice such as artist books, printed ephemera, print installation and digital imaging. Compulsory supplementary fees. Mandatory safety equipment is required.

FA/VISA 3072 3.0 Photo-Digital Print Processes: Intaglio and Lithography

Considers a range of ideas and material practices in the area of photo-digital print media. Focuses on photo-intaglio and photolithography processes providing students with opportunities to develop an advanced body of work. Compulsory supplementary fees apply.

Prerequisite: FA/VISA 2070 3.00 and FA/VISA 2071 3.00

FA/VISA 4056 6.0 Time-Based Art: Sound for Artists II

This project-driven, student-centred studio course is dedicated to an exploration of sound art both as a distinct practice and through its interdisciplinary intersections with sculptural, installation, performative, musical, and other time-based visual art practices. As such, it follows *Sound for Artists* (VISA 3056) and allows the student to deepen areas of investigation pertinent to his/her practice. Topics around which projects are centred will be divided into four 6-week periods: 1. sound / noise / music / silence continua; 2. sound in space / social conditioning / installation; 3. conceptual / non-cochlear / linguistic approaches / visual music; 4. recording intervention / subliminal and infra-sound / collage and found sound.

FA/VISA 4090 6.0 A,B,C,D,E,

Offers a focused practicum for senior students that addresses the origins and history of installation art including site-specificity, the context of the gallery/museum, alternate environments and artist collectives. Compulsory supplementary fees.

Prerequisites: Third- or fourth-year standing and at least six credits in studio at the 3000-level with a grade of B or better.

FA/VISA 4090J 6.0 Time-Based Art: Media Integration

Directed studio practice centering on individual and collective investigations with a focus on combining digital techniques in audio and video. Through seminars and discussions, students become familiar with a range of concepts explored by contemporary media and video artists. Students are asked to develop themes for their own practice that engage with narrative, installation, performative or the manipulation of space and time. Students should already have a repertoire of digital skills that they want to extend, including at least one time-based technique (digital video or digital audio; interactive, multimedia or Web programs). Solo and/or group productions and presentations are required.

4.3 For undergraduate programs, comment on the anticipated class sizes.

FA/VISA 1999 6.0 Fundamentals: Concept, Creativity and Production - 80

FA/VISA 2999 3.0 Critical Issues - 80

FA/DATT 3999 3.0 Collaborative Project - 80

FA/DATT 4999 6.0 Capstone Project - 80

FA/DATT 2400 3.0 Creative Coding 1 - Multisection class size of 200

4.4 As an appendix, provide a copy of the program requirements as they will appear in the Undergraduate Calendar.

5. Program Structure, Learning Outcomes and Assessment

The intent of this section is to provide reviewers with an understanding of the knowledge, methodologies, and skills students will have acquired by the time they complete the program (i.e. the program learning outcomes), including the appropriateness of the program learning outcomes and how they will be supported and demonstrated. With that in mind, and with explicit reference to the relevant degree level expectations, it would be useful to focus on what students in the program will know and/or be able to do by the end of a defined period of time and how that knowledge, methodology and/or skill will be supported and demonstrated.

5.1 Provide a detailed description of the program learning outcomes and indicate how the program learning outcomes are appropriate and align with the relevant degree level expectations.

The BFA in Intermedia is dedicated to an exploration of new, interdisciplinary artistic practices made possible by cutting-edge technologies. Through work undertaken in the program, students will adapt the knowledge and methods pertaining to traditional art disciplines according to new emerging technological capacities, which are also deeply integrated within the perpetually evolving creative industries in which our students may find themselves working.

	Program Learning Outcomes	Courses through which learning outcomes are addressed and embodied
1. Depth and Breadth of Knowledge	<p>The BFA in Intermedia is awarded to students who have demonstrated a:</p> <ul style="list-style-type: none"> - developed knowledge, critical understanding and ability to apply the key artistic concepts in art and technology - developed understanding of the key areas, including from interdisciplinary perspectives, and how other fields intersect - developed ability to gather, review, and interpret information and compare and contrast creative options in art and technology - developed critical thinking and ability to apply concepts and methods inside and beyond art and technology 	<p>FA/VISA 1999, FA/VISA 2999</p> <p>studio and studies course choices (for example: FA/VISA 1000 3.0, FA/DATT 2000 3.0, FA/DATT 2301 3.0, FA/VISA 3022A 3.0)</p> <p>studio course choices (for example: FA/DATT 3400 3.0, FA/VISA 3057 3.0)</p> <p>FA/DATT 3999, FA/DATT 4999</p>
2. Knowledge of Methodologies	<p>The BFA in Intermedia is awarded to students who have demonstrated an understanding of methods of enquiry and creative activity in art and technology that enables the student to:</p>	

	<ul style="list-style-type: none"> - evaluate the appropriateness of different approaches to artistic creation using well established ideas and techniques - apply the techniques, formats, styles and aesthetics of art and technology practices, including the ability to integrate various media, to the creation of art works - describe and comment upon particular aspects of current and historical art works - work effectively in a team context in which team member skills are complementary and overlapping 	<p>FA/VISA 1999, FA/VISA 2999, studio and studies course choices</p> <p>studio course choices (for example: FA/DATT 3935 3.0, FA/VISA 3060 3.0)</p> <p>DATT 1100, VISA 1100</p> <p>FA/DATT 3999, many studio courses (DATT 2000, DATT 4932)</p>
3. Level of Application of Knowledge	<p>This degree is awarded to students who have demonstrated:</p> <ul style="list-style-type: none"> - the ability to review, present and critically evaluate and apply information/techniques to the creation of an art work and its documentation - the ability to effectively employ techniques and carry out creative experimentation with a variety of materials and techniques, in the development of Intermedia projects - to make use of scholarly articles and primary sources so that both creative and writing projects address and expose the importance of art and technology within culture at large 	<p>FA/DATT 3999, FA/DATT 4999, studio courses (for example: FA/DATT 4010 3.0, FA/VISA 4090J 6.0)</p> <p>FA/DATT 3999, FA/DATT 4999, studio courses (for example: FA/VISA 3067 3.0, FA/DATT 4931 3.0)</p> <p>DAAT 1100, VISA 1100, studies courses, studies courses</p>
4. Awareness of Limits of Knowledge	<p>This degree is awarded to students who have demonstrated an:</p> <ul style="list-style-type: none"> - understanding of the limits to their own knowledge and ability, and an appreciation of the uncertainty, ambiguity and limits to knowledge and how this might influence analyses and interpretations - understanding of the importance of continued education, especially in the face of ongoing technological innovation and change 	<p>FA/DATT 3999, FA/DATT 4999</p> <p>FA/DATT 3999, FA/DATT 4999, upper level studio courses (for example: FA/DATT 4932 3.0, FA/VISA 4056 6.0)</p>
5. Level of Communication Skills	<p>This degree is awarded to students who have demonstrated the ability to:</p>	

	<ul style="list-style-type: none"> - communicate accurately and reliably, orally and in writing, to a range of audiences (artists, non-artists, academic and non-academic). This includes understanding and employing discipline-specific terminology and presenting it clearly to others - present work, from first to final year, in the context of classroom critiques with response from both students and professors - understand and articulate the role and impact of art and technology within the larger society 	<p>FA/VISA 1999, FA/VISA 2999, FA/DATT 3999, FA/DATT 4999, most courses</p> <p>FA/DATT 3999, FA/DATT 4999, all studio courses</p> <p>DATT 1100, VISA 1100, studies courses</p>
6. Autonomy and Professional Capacity	<p>This degree is awarded to students who have demonstrated:</p> <ul style="list-style-type: none"> - the qualities and transferable skills necessary for further study, employment, or community involvement in the field of art and technology, e.g., technical skills, critical thinking, historical awareness, aesthetic sensibility, ability in written expression - the ability to identify and address personal learning needs in changing circumstances - personal responsibility, ethical decision-making and leadership, and an ability to work effectively with others 	<p>FA/DATT 3999, FA/DATT 4999, all studio courses</p> <p>FA/DATT 3999, FA/DATT 4999, all studio courses FA/DATT 3999, FA/DATT 4999, all studio courses</p>

5.2 Address how the program curriculum and structure supports achievement of the program learning outcomes. For undergraduate programs, comment on the nature and suitability of students' final-year academic achievement in the program.

In the above chart, we have mapped out the relationship between the program curriculum and the Ministry of Education's degree level expectations. This relationship also speaks to the program's main objective to provide students with the knowledge and experience to develop new approaches to creative practice and research through evolving technologies, both as an individual practitioner and innovator within one of the many creative industries. In the 1000 and 2000 level courses, (including core courses) and fundamental courses in Visual Art and Art History and Computational Arts, students will gain context to understand these new hybrid art forms and practices. In lower-level studio courses, students will learn basic skills and practices that bridge traditional art disciplines and technological innovations. In DATT 3999, a collaborative course, and DATT 4999, the capstone course (to be taken the last year of study), students will be able to conceptualize and

create hybrid art projects that demonstrate their sophistication with technological and artistic practice, with an eye towards how these projects are relevant in a larger art context.

5.3 Address how the methods and criteria for assessing student achievement are appropriate and effective relative to the program learning outcomes and Degree Level Expectations.

The program will use a diverse range of assessment methods appropriate to a hybrid studio/studies curriculum including assignments, tests, creative projects, collaborative projects, responding to creative research problems, organization of and participation in exhibitions and events, presentations, and critiques.

5.5 Describe the proposed mode(s) of delivery, including how it/they are appropriate to and effective in supporting the program learning outcomes.

In order to reach these objectives, students will be exposed to hybrid studies and studio courses that cover the canonical texts and practices that inform the departments collaborating on this program. From this interdisciplinary knowledge base, students will be able to explore new possibilities emerging from unique intersections of artistic practice and emerging technologies, while gaining the ability to critically situate them in a broader ecology. Students will engage with a range of modes of learning from lecture/tutorial, lecture/lab, studio, seminar, and collaborative projects all with varying degrees of technological enhancement from course web sites to fully online learning. The required core courses for this program (VISA 1999 6.0 *Intermedia Fundamentals: Concept, Creativity and Production* and VISA 2999 3.0 *Critical Issues*, FA/DATT 1100 3.0 *Fundamentals of Digital Media Studies* and FA/VISA 1000 3.0 *Critical Issues in the Studio*) provide students with the opportunity to rapidly acquire a level of comfort with a breadth of knowledge from multiple fields while being introduced to methodologies they will apply in their own creative practices. These fundamentals will be further applied in studio courses like FA/DATT 2000 3.0 *Introduction to Physical Computing*, FA/VISA 3060 3.0 *Hybrid Approaches to Black and White Photography* and FA/VISA 3056 3.0 *Sound for Artists* where students will have the opportunity to extend the limits of their knowledge and deepen their relationship with new technologies. In upper-level courses like FA/DATT 3999 3.0 *Collaborative Project* and FA/DATT 4999 6.0 *Capstone Project*, students will hone their written and verbal skills via essays, collaborative group activity, and critiques directed at their peers' work in addition to strengthening their own practice in relation to feedback from colleagues and professors. Moreover, with our connections to creative industries via coursework and other experiential education opportunities, students will be able to apply their education and practice to professional contexts.

6. Admission Requirements

6.1 Describe the program admission requirements, including how these requirements are appropriately aligned with the program learning outcomes.

In addition to the requirements needed for acceptance into any program at York, this BFA in Intermedia will require students to submit a portfolio of 8 art works that demonstrate their technical and creative abilities. At least two different media should be represented from the following: new media environments including sound, video, photo, documentation of interactive installations, and the disciplines of drawing, painting, print media, and sculpture in their digital extensions. The portfolio may include work carried out for class assignments as well as independent projects. A current sketchbook, idea book or journal is required and will count as one of the 8 pieces. The portfolio will be submitted electronically.

6.2 Explain any alternative requirements, if any, for admission into an undergraduate, graduate or second-entry program, such as minimum grade point average, additional languages or portfolios, along with how the program recognizes prior work or learning experience.

N/A

7. Resources

7.1. Comment on the areas of strength and expertise of the faculty who will actively participate in delivering the program, focusing on its current status, as well as any plans in place to provide the resources necessary to implement and/or sustain the program.

This program will draw on the expertise of faculty members in both Computational Arts and Visual Art and Art History who are working at the intersection of art and technology. Expertise in Computational Arts includes the design and building of interactive art and immersive environments, maker methods, physical computing, digital fabrication and creative coding towards the creation of novel digital media works; virtual reality; computer games; audio-visual signal processing and digitally-mediated performance. Currently, two Canada Research Chairs are cross-appointed in Computational Arts; their research focuses on the ways in which emerging technologies continue to help shape practices in sound, performance and visualization. Faculty members in Visual Art and Art History have been working within technologically mediated forms of art for over 20 years, producing work in digital sculpture and photography and within time-based art practices such as video, sound and performance. Professor Couroux teaches a critical theory course at the graduate level delving into the implications of digital technologies on art and thought, as a laboratory for the development of new curricular ideas at the undergraduate level. Looking forward, the Visual Art and Art History program is currently undertaking a search to fill a new studio arts position centered on The Expanded Image, emphasizing the evolving role of drawing, image making and representation in contemporary society. Additionally, the Department of Computational Arts is currently searching for a position in Games, Gaming, and Gamification.

7.2 Comment on the anticipated role of retired faculty and contract instructors in the delivery of the program, as appropriate.

Retired faculty will play a small role as Computational Arts has no professors emerita and Visual Arts and Art History has few professors who might participate in this program nearing retirement. Contract instructors will be employed as necessary to help buffer program expansion. The Digital Media Graduate Programs currently in the approval process will help to provide TA support for multi-section Computational Arts courses.

7.3 As appropriate, identify major laboratory facilities/equipment that will be available for use by undergraduate and/or graduate students and to support faculty research, recent acquisitions, and commitments/plans (if any) for the next five years.

The Intermedia program will make use of existing facilities in the Department of Computational Arts and the Department of Visual Art and Art History, including computer labs, classrooms, exhibition venues and lecture halls in the Goldfarb Centre for Fine Arts and Accolade West.

The Department of Visual Art and Art History is committed to leveraging its existing digital facilities in support of this new program, including the Digital Sculpture Laboratory, digital photo facilities and the Time-Based Area's 25-seat computer lab.

The Digital Sculpture Laboratory (DSL) is a one-of-a-kind facility developed with funding from several faculty research awards, dedicated to examining the impact of emerging digital technologies on contemporary sculptural practices. This facility seeks to integrate several advanced 3D printing systems, 3D design software, and 3D scanning devices into the contemporary discourse surrounding studio and post-studio based art making practices. Students have the opportunity to work with Computer Numerically Controlled (CNC) routing machines, Makerbots, rapid prototypers, laser etchers/cutters and 3D scanners. The DSL's unique approach to examining and manipulating the operating structures of divergent software that this course will engage will lead to the training of a new hybrid artist/researcher who understands the mechanics of the production processes and who is also capable of evolving his/her skills as new technological innovations emerge.

The Photography Area's focus on digital photography is as an art form, within a contemporary context. The area's digital facilities maximize hands-on learning and conceptual development through project-based engagement. Photography Area studios include: a large smart classroom; a comprehensive digital imaging facility with small and large-format colour printing capacity, flatbed and IMACON scanners, a lighting studio and mural facilities.

The Time-Based Art area is committed to the encouragement of student learning and creative exploration within a range of studio practices in a variety of media including performance, video, and sound, all substantially involving digital technologies, explored as autonomous practices, in installation contexts and in combination with other disciplines. Emphasis is placed on the historical and critical implications of human-machine couplings and an exploitation of novel aspects of technologies as implicated in the making of art. Technology in this area includes video and sound

equipment (high-end HD cameras, sound recorders, digital interfaces) and computer-based hardware and software, dispersed over three studio spaces and one 20-seat digital computing lab (Goldfarb 328). The computing lab is a shared facility supporting both Time-Based Art and Photography, and houses digital video and sound editing equipment. The studio spaces include one video lighting studio (326), a performance/video/interactive studio (330) which provides students more studio space to develop video installation projects and explore digital and analog media installation (ideal for interactive work). A third smaller space (334B) is dedicated to sound-based practices and video editing, with a fully equipped recording and editing suite (two workstations).

The Department of Computational Arts employs three main facilities for undergraduate teaching. The Art & Technology Learning Lab (ATLL) is a 30-seat Macintosh computer lab located in Accolade West 102. The Transmedia Lab is a multipurpose classroom, performance space and studio located in Accolade West 103 that supports immersive environments with spatial sound and surround projection. The Digital Fabrication Lab or Fab Lab is a collaboration between the Departments of Visual Art and Art History and Computational Arts. The lab contains three MakerBots and one laser cutter, and is located in the L.L. Odette Centre for Sculpture.

Importantly, Computational Arts faculty members run labs that student researchers can work in. Hosale's StudioLab is a multi-purpose facility designed for the research and development of transmodal artworks, located in the Burton Auditorium. Van Nort has established the Distributed Digital Performance Laboratory (D2PL – Goldfarb 334), a space dedicated to the exploration of collective creation in digitally mediated performances. Wakefield's Computational Worldmaking Lab centres on the creation of responsive artificial worlds for exploratory experience emphasizing continuity across real and virtual spaces. The Sonic Research Initiative housed at York, directed by Visual Art Professor Couroux and York Humanities professor David Cecchetto, is a transdisciplinary setting where faculty and graduate students collaborate on projects that explore the full range of potential opened by sonic theory and practice, inflected by ubiquitous digital technologies. Work accomplished as part of the Initiative typically trickles down into undergraduate curricula.

7.4 As appropriate, provide information on the office, laboratory and general research space available that will be available for faculty, undergraduate and/or graduate students; the availability of common rooms for faculty and graduate students; administrative space; as well as any commitments/plans (if any) for the next five years.

7.5 As appropriate, comment on academic supports and services, including information technology, that directly contribute to the academic quality of the program proposed.

Administrative support will come from existing staff and resources, although some increase in staff capacity may be required (i.e. additional hours). Additionally, the new program will require the immediate creation of a CLA position in the first year; when the program reaches capacity this position will need to be converted to a tenure-stream hire (approximately by year three). As enrollment in the program grows, a commitment to new YUFA hires in DCA and VAAH will be

required, once the demand for courses outpaces our current teaching capacity. Furthermore, the technology-intensive nature of this program will require the hiring of one dedicated technician who will look after computational needs, audio-visual equipment maintenance and troubleshooting, and overall technical support for teaching.

7.7. For undergraduate programs, indicate anticipated class sizes and capacity for supervision of experiential learning opportunities, as appropriate.

The class sizes that students in this BFA will encounter will vary based on the content and level of the coursework. For example, lower-level introductory studies courses may very well reach the capacity of many lecture courses across the university (approximately 100 students) but in upper-division studies courses, the class size will decrease dramatically to only 30 or 40 students per course. In studio courses, on the other hand, students will be in much smaller classroom environments of 20-30 as is necessary to developing technically and creatively with the guidance of faculty members.

Students will also benefit from opportunities for experiential education in the Toronto arts community generated by faculty members from both departments. A partnership with Trinity Square Video is currently in the works, which will afford exhibition opportunities for undergraduate video artists. Other collaborations with Toronto artist-run institutions are planned in the name of developing new outlets for the public display of student work. In addition, Visual Art Professor Couroux’s organization of the yearly *Tuning Speculation* conference provides students, undergraduate and graduate alike, an intensive opportunity to explore intersections between sound, new media and experimental artistic practice. With a program devoted exclusively to the manifold potentials at the intersection of art and technology, these partnerships will have a greater pool of students to work with, deepening the already existing links between the Toronto professional arts community and York.

Table 1 – Listing of Faculty

For undergraduate programs: Identify all full-time faculty who will actively participate in delivering the program, as follows.

Faculty Name & Rank	Home Unit	Area(s) of Specialization
Marc Couroux Associate Professor	Visual Art & Art History	Sound, Video, Performance, Tactical Media, Critical (Digital) Theory
Mark-David Hosale Associate Professor	Computational Arts	Physical Computing, Digital Fabrication/Sculpture, Interactive Environments
Katherine Knight	Visual Art & Art History	Digital Photography

Associate Professor		
Yam Lau Associate Professor	Visual Art & Art History	Digital Painting
Nina Levitt Associate Professor	Visual Art & Art History	Digital Photography
Michael Longford Associate Professor	Computational Arts	Interface Design, User Experience, Graphic Design
Joel Ong Assistant Professor	Computational Arts	Visualization, Art-Science, art and the environment
Don Sinclair Associate Professor	Computational Arts	Interactive Art, Digital Dramaturgy, Creative Coding
Nell Tenhaaf Professor	Visual Art & Art History	Artificial Life, Art-Science
Doug Van Nort Assistant Professor Canada Research Chair	Computational Arts/Theatre	Digital Performance, Digital music, Computational creativity
Brandon Vickerd Associate Professor	Visual Art & Art History	Digital Sculpture, 3D Modeling
Graham Wakefield Assistant Professor Canada Research Chair	Computational Arts/Visual Art and Art History	Interactive Generative Art, Mixed Reality (VR/AR), Creative Coding

8. Enrolment Projections

8.1 Indicate the anticipated implementation date (i.e. year and term of initial in-take), and provide details regarding the anticipated yearly intake and projected steady-state enrolment target, including when steady-state will be achieved.

We would like to begin entry into this program as soon as possible, but realistically, the first pool of applicants will not occur until Fall of 2018. As this is a new collaboration between faculty in two different programs, we would like to start our numbers at 40 entrants per year, with the goal of reaching 80 entrants per year. We believe that we can hit our enrolment target within three years, and that the program will be self-sustaining around the fifth year that it is implemented. At full capacity this program would have a projected maximum number of majors of 250.

Year	2017	2018	2019	2020	2021
------	------	------	------	------	------

Annual intake	40	80	80	80	80
Total Majors	40	110	160	220	250

9. Support Statements

Support statements are required from:

- relevant Dean(s)/Principal, with respect to the adequacy of existing human (administrative and faculty), physical and financial resources necessary to support the program, as well as the commitment to any plans for new/additional resources necessary to implement and/or sustain the program
- Vice-President Academic and Provost, with respect to the adequacy of existing human (administrative and faculty), physical and financial resources necessary to support the program, as well as the commitment to any plans for new/additional resources necessary to implement and/or sustain the program
- University Librarian confirming the adequacy of library holdings and support
- University Registrar confirming the implementation schedule and any administrative arrangements
- relevant Faculties/units/programs confirming consultation on/support for the proposed program, as appropriate
- professional associations, government agencies or policy bodies with respect to the need/demand for the proposed program, as appropriate

Note: Not copied for Senate; available upon request from the University Secretariat.

Appendix A

New Course Proposals

INTERMEDIA

The Graduate Program in Digital Media offers courses and opportunities for advanced training and research leading to the degrees of Master of Arts (MA), Master of Science (MSc), and Doctor of Philosophy (PhD). The Program is jointly offered by the Department of Computational Arts (CA), and the Department of Electrical Engineering and Computer Science (EECS). The program provides highly qualified students with the opportunity to do specialised hybrid research work in a program that uniquely combines computational science and artistic practices. Work in digital media focuses on a broad range of current and emerging forms of digitally supported media, with applications that range from computer games to interactive art.

The degree designations for the MA and MSc programs provide students the opportunity to tailor their program to suit the methodology required for their Major Research Project. Students pursuing an MA focus on research-creation for art applications, which combines creative and academic research practices to produce critically informed work in a variety of media. Students pursuing an MSc focus on scientific/engineering research methods for technology, hardware and/or software development within digital media.

Across all three Digital Media graduate degrees, in both courses and project development, students work within a shared environment that enables them to develop expertise complementary to their research specialization in computational science or artistic practice.

BACHELOR OF FINE ARTS PROGRAM

Admission Requirements

Graduates with an honours degree or equivalent from a recognized university in Digital Media or related Bachelor's program, such as an art program that focuses on technology, with at least a B average in the final two years of study, may be considered for admission as candidates for the MA degree. Applicants are expected to provide a portfolio, a Statement of Interest letter, a curriculum vitae, and two recommendations. Applicants must show that they have experience in both programming and the arts, and in particular a cross-disciplinary approach. For students who have not graduated from a university where the language of instruction is English, there is no formal language requirement but the supervisory committee will require a student to demonstrate an acceptable competence in a language which is considered necessary for purposes of doing their research.

Degree Requirements

Program Core (33 credits):

FA/VISA 1999 6.0; FA/VISA 2999 3.0; FA/DATT 3999 3.0; FA/DATT 4999 6.0; FA/DATT 1100 3.0;
FA/VISA 1000 3.0; FA/ARTH 1130 6.0; FA/DATT 2400 3.0;.

List A - 21 credits chosen from:

FA/DATT 2000 3.0, FA/DATT 2010 3.0, FA/DATT 2300 3.0, FA/DATT 3400 3.0, FA/DATT 2500 3.0,
FA/DATT 3300 3.0, FA/DATT 3930 3.0, FA/DATT 3931 3.0, FA/DATT 3935 3.0, FA/DATT 3940 3.0,
FA/DATT 3941 3.0, FA/DATT 4010 3.0, FA/DATT 4300 3.0, FA/DATT 4931 3.0, FA/DATT 4932 3.0,
FA/DATT 4940 3.0, FA/VISA 3072 3.0, FA/VISA 3074 3.0, FA/VISA 3033 3.0, FA/VISA 3034 3.0,
FA/VISA 2055 3.0, FA/VISA 2056 3.0, FA/VISA 3055 3.0, FA/VISA 3056 3.0, FA/VISA 3057 3.0,
FA/VISA 3058 3.0, FA/VISA 4056 6.0, FA/VISA 4090J 6.0, FA/VISA 2061 3.0, FA/VISA 2065 3.0,
FA/VISA 3060 3.0, FA/VISA 3063 3.0, FA/VISA 3066 3.0, FA/VISA 3067 3.0, FA/VISA 4090 6.0,
FA/VISA 3022, FA/VISA 3024B 3.0, FA/VISA 4090 A 6.0, FA/VISA 4090 J 6.0, FA/VISA 4090 Z 6.0,

List B - 12 credits chosen from: DATT 2100 3.0, DATT 2301 3.0, FA/VISA 4001 3.0, FA/ARTH 3450
3.0, FA/ARTH 3610 3.0, FA/ARTH 3650 3.0, FA/ARTH 3680N 3.0, FA/ARTH 3710 6, FA/ARTH 4351
3.0 FA/ARTH 4640B 3.0, FA/ARTH 4800L 3.0, FA/VISA 3001 (A,B,C,D,E,K) 3.0

6 credits in AMPD not DATT, VAAH, or VISA

12 credits outside AMPD

12 credits electives

6 credits FA/XXXX 1900 (faculty requirement)

18 credits general elective

Overall 36 credits are required at the 3000 or 4000-level including at least 18 credits at the
4000-level with at least 12 major credits at the 4000 level.

Time Requirements

Normal expected degree completion time for full-time MA students is 5 terms (2 years). All
requirements for a Master's degree must be fulfilled within 12 terms (4 years) of registration as a
full-time or part-time Master's student in accordance with Faculty of Graduate Studies' registration
policies.

Appendix C

Support Letters

Office of the Vice-President Academic and Provost

Memorandum

To: L. Jacobs, Chair, Senate APPRC
L. Farley, Chair, Senate ASCP

From: Lisa Philipps, Interim Vice-President Academic & Provost

Date: May 9, 2017

Subject: BFA in Intermedia, AMPD

I have reviewed the proposal from the School of Arts, Media, Performance and Design to introduce a BFA (Specialized Honours) program in Intermedia to be offered jointly by the Departments of Computational Arts and Visual Art and Art History. In reviewing the proposal, I had before me the letter of support provided by former Provost Lenton prior to the external reviewer's report, and this communication should be read in conjunction with that earlier letter.

I am pleased to see a highly positive reviewer's report, which underlines the clarity and appropriateness of the alignment of this program with institutional and School academic priorities, and supports its attractiveness for students whose interests lie in the intersection and integration of art and technology and/or whose backgrounds do not prepare them to undertake more specialized study in areas such as design or digital media. Indeed, the breadth of the program and its integration of art and technological innovation will contribute to its distinctiveness and its potential to support enrolment growth in the School. The proposal also documents the alignment of the program with growing needs in the workplace for technologically creative students, and anticipates that graduates will find careers as "creators, curators and digital innovators in a range of sectors". The incorporation of significant opportunities for experiential education and community outreach into the structure of the program (consistent with institutional priorities) will also be factors in its potential to attract applications.

The proposal projects an initial intake to the program of 40 students, growing to a steady state of 250 students. The curriculum relies to a large extent on courses already offered in the participating departments by current faculty members, with the equivalent of four new courses to be added to serve the needs of this program. The Dean's letter indicates strong support for the program and the commitment to provide resources

Office of the Vice-President Academic and Provost

(faculty, staff, studio and lab space, etc.) to support its introduction. Searches are under way in areas of the Faculty that could contribute to this program. A contractually limited appointment will be required to cover teaching needs at the launch of the program, with the expectation that enrolment growth will support the appointment of tenure stream faculty as the program develops.

I am pleased to record my support for this proposal.

Cc: Dean S. Brixey
A. Pitt

A handwritten signature in black ink, appearing to read "Dean Brixey". The signature is written in a cursive, flowing style.

SCHOOL OF THE ARTS,
MEDIA, PERFORMANCE &
DESIGN

May 4, 2017

Office of the Dean

201 | Goldfarb Centre for Fine
Arts
4700 KEELE ST
TORONTO ON
Canada
M3J 1P3
T 416 736 2100 x33881
F 416 736 5447

brixey@yorku.ca

<http://ampd.yorku.ca/>

Cheryl Underhill
Assistant Secretary to the University
University Secretariat, York University
Kaneff 1050
via email: underhil@yorku.ca

To All Reviewing Committees:

I am pleased to write in full support of the Department of Visual Arts and Art History and Department of Computational Arts proposal for a Major Modification to their current Honours BA Degrees by adding a new specialized collaborative degree stream in Intermedia.

The proposed BFA was collegially developed with input from across the departments and Faculty, builds on the strengths of the unit and responds to UAP priorities by addressing York's longstanding pedagogic goal of nurturing 'creative and critical skills' for a range of students who are artists, theorists and critical practitioners. Further, it approaches degree and curriculum changes with an increasingly student centric approach, as well as focuses strongly on increasing access to high quality interdisciplinary programs in support new kinds of creative hybridization and innovation that is an emerging market for the arts.

The proposed BFA degree in Intermedia responds decisively to a large, well documented unmet demand for a combined theory/practice degrees focused on contemporary arts and digital practices. The new degree is also a unique, interdisciplinary collaboration between the Department of Computational Arts and the Department of Visual Art and Art History. The program offers the emerging artist access to cutting-edge hardware and software while fostering a comprehensive range of skills combining creative coding with intensive explorations of emerging media environments involving photo, sound, video, interactive installation, and networked intervention, as well as the disciplines of painting, drawing, sculpture, and print media in their digital expansions. The program focuses on the unexplored spaces between disciplines: students will invent new arts hybrids to best render their creative ideas in the studio, grounded in critical and historical contexts through a broad infusion of art history and critical digital theory in a way that would be otherwise difficult to fulfill given the requirements of these areas of study as they are currently constituted. The program addresses the very real and current undergraduate demand for hybrid practice between the two areas actively promoting a pedagogical framework which is reflected in the learning outcomes they have proposed.

The initial request for (start-up) resources is acceptable and my Office supports it. Future resource needs should not present a challenge as the department has scaled the targeted enrolments and teaching costs in such a way that they will be able to build a sustainable



program. The department also has access to AMPD's competitive Strategic Technology Fund (which replaces the campus AEF program), allowing DCA/VAAH annually to apply for innovation funds, that will support possible need to augment the revenue generated from the new program.

The program new not only provides exciting educational and creative opportunities for the students, but will increasingly expand community partnerships and experiential learning as an essential element of the new degree helping the program develop a unique environment to support York's unique interdisciplinary mission.

After receiving the external reviewer's report, I confirm I fully support the program and there are no updates or additions to my initial support letter. Please contact me if there are any outstanding questions.

Kind regards,

A handwritten signature in blue ink, appearing to read 'Shawn Brixey', with a stylized flourish at the end.

Shawn Brixey
Dean

YORK UNIVERSITY
LIBRARIES

Office of the
University Librarian

516 Scott Library
4700 Keele Street
Toronto ON
Canada M3J 1P3
Tel 416 736 5601
Fax 416 736 5451
www.library.yorku.ca

MEMORANDUM

To: Professor Donald Sinclair
Co-ordinator, Digital Media Program
School of the Arts, Media, Performance and Design.

From: Joy Kirchner, University Librarian 

Date: January 25, 2017.

Subject: Library Statement of Support for the proposed Bachelor of Fine Arts in Intermedia in the School of the Arts, Media, Performance and Design.

York University Libraries are well positioned to provide strong support for the proposed Bachelor of Fine Arts in Intermedia in the School of the Arts, Media, Performance and Design. As Rob van der Bliëk and Mary Kandiuk have noted in their comprehensive statement, we are pleased to offer a wide array of resources, instructional services and research support across many disciplines that provide strong foundational library support.

Students in the School of the Arts, Media, Performance and Design have been extremely well served by the outreach activities and expertise of all of the librarians and committed staff in York University Libraries. In addition to continuing to build extensive collections for teaching, learning, and research in the field, targeted library instruction has bolstered students' research skills. Research assistance continues to be offered both in the libraries and online, and students may use the librarian consultation service which is available by appointment. The Libraries also have a complement of digital specialists on digitization, data mining, data management, digital publishing platforms and metadata expertise. There is opportunity to explore Library programmatic partnerships in a variety of areas where we have complementary expertise in the digital arena and research methods.

These programs situate York in the important strategic area of digital culture research – an area of strategic interest for York University Libraries as well. In conclusion, the Libraries are well-positioned to support this program and we look forward to continuing collaboration with AMPD in this critical emerging discipline.

cc: Rob van der Bliëk, Liaison Librarian, Digital Media
Mary Kandiuk, Liaison Librarian, Visual Arts, Design & Theatre
Adam Taves, Acting Associate University Librarian, Collections and Research



York University Quality Assurance Procedures (YUQAP) New Program Appraisal

External Appraisal Report on the Proposed New Bachelor of Fine Arts in Intermedia

Please provide feedback, as appropriate, on the evaluation criteria provided below.

External Reviewer(s) (Name, rank, university and unit/department/program)

Michael Neff, Associate Professor of Cinema and Digital Media & Computer Science, Chair of Cinema and Digital Media, University of California, Davis

1. Outline of the Visit

- Who was interviewed

The review was performed as a desk audit.

- What facilities were seen

I had previously visited York to review the Graduate Program in Digital Media. Relevant facilities seen during that visit include:

Alice Lab for computational worldmaking (Graham Wakefield) <http://worldmaking.github.io>

n-D::StudioLab (Mark-David Hosale) <http://www.ndstudiolab.com>

DisPerSion Lab (Doug Van Nort) <http://dispersionlab.weebly.com>

Two flexible teaching spaces, one computer lab and one configurable studio/lecture space.

- Any other activities relevant to the appraisal

NA

2. General Objectives of the Program

- Is/are the program name and degree designation(s) appropriate?

The name is appropriate and likely to be intriguing to students. I expect some potential students will not be familiar with the term "Intermedia", but those interested are still likely to find the program through searches for either the Digital Media or Visual Arts programs that sit beside it.

- For graduate programs that wish to have a Quality Council endorsed field(s), are the fields indicated in the proposal appropriate?

NA

- Are the general objectives of the program clear and are they consistent with University and Faculty missions and academic plans?

The objectives are well articulated and the proposers have aligned the program with the University's broader academic plans.

3. Need and Demand

- Is there sufficient explanation of need/demand for the program?

The proposal makes a good case there will likely be demand for the program by arguing that there are a large number of applicants that are being turned away from the current Digital Media and Design programs. This case is strongest when it suggests that there are students interested in computational media, but lacking in the mathematical background necessary for the Digital Media program. This is a student group that I'm familiar with and will be particularly well served by the new program. It is less clear that students that failed to meet the portfolio requirements for Design would meet the portfolio requirements for Intermedia.

The case for the need for the graduates of the program is less clear. Certainly ICT is an important field, but students are only required to take one programming class, so it would help to articulate the roles students would assume within this field upon graduation. While helpful to tie in with the secondary school curriculum to argue that there will be a flow of students prepared for the program, this argument is less effective in articulating the broader need for program graduates. Section 3.2 could be strengthened by articulating the careers graduates of the program are likely to pursue. Section 4.1 suggests they will enter the art world as "creators, curators and digital innovators", but this is not discussed in Sec. 3.2. Graduates of BFA programs tend to have varied career paths and one should not expect that they will exactly match existing corporate job descriptions as say engineering students might, but it still seems worthwhile to articulate the potential opportunities open to program graduates. This could be established in part by looking at the paths taken by the alumni of the two existing programs in Digital Media and Visual Arts, as well as the new opportunities likely created by the hybrid program.

4. Program Content and Curriculum

- Does the curriculum reflect the current state of the discipline or area of study? If applicable, comment on the appropriateness of any unique curriculum or program innovations or creative components.

The program is an appropriate reflection of the state of the field. It combines existing courses from Visual Art and Art History as well as Digital Media and provides a core set of classes, mostly new, to unify the major.

- For undergraduate programs, comment on the appropriateness of the anticipated class sizes. For graduate programs, is there adequate evidence that each graduate student in the program will take a minimum of two-thirds of the course requirements from among graduate level courses?

The class sizes are generally appropriate. The proposal suggests studio classes will range from 20 to 30 students. Twenty seems like a manageable number for such classes, but it may prove a challenge to provide adequate attention for thirty students.

5. Program Structure, Learning Outcomes and Assessment

- Are the program requirements and learning outcomes clear, appropriate and in alignment with the relevant degree level expectations?

The program requirements are well articulated and appropriate.

- Comment on the appropriateness of the program curriculum and structure to support the program learning outcomes. For undergraduate programs, comment on the nature and suitability of students' final-year academic achievement in the program. For research-focused graduate programs, comment on the nature and suitability of the major research requirement(s).

The program is well structured, with a mix of studies and studio classes, along with outside classes to provide breadth. The class mix is weighted more heavily towards studio classes, which is appropriate for a BFA program. The breadth of studio classes is excellent. It will allow students to gain depth in particular areas or explore a range of media. Requiring only one creative coding class is light, but justified in that the program is designed to appeal to students with less of a technical leaning. Hopefully many students will elect to take the optional second class in this series.

The core classes provide appropriate structure to the program. Having these courses only open to majors will help build the cohesive social structure that is important for the health of any interdisciplinary program. I expect that the collaborative project class in third year (FA/DATT 3999) will be particularly rewarding to the students, and likely also the faculty member that teaches it. The six credit capstone course in the final year of the program is an appropriate and necessary requirement for students to establish themselves as practicing artists.

Overall, the range of elective classes, particularly a rich set of studio classes, is a definite strength of the proposal. This will be an exciting curriculum for students.

I am not clear what the “6 credits XXXX 1900” refers to. Also, the ARTH class descriptions are not included in the current draft of the proposal. These minor issues could be corrected if the proposal is revised.

- Are the methods and criteria for assessing student achievement appropriate and effective relative to the program learning outcomes?

A range of evaluation methods are proposed, based on the nature of the course. These vary from tests and assignments to projects and exhibitions. These are standard assessment techniques and appropriate for the nature of the material covered.

- For graduate programs, comment on the appropriateness of the program length, including on how students’ time-to-completion will be supported and managed to ensure that the program requirements can be reasonably completed within the proposed time period.

NA

- Comment on the appropriateness of the proposed mode(s) of delivery to meet the program learning outcomes.

As with evaluation, the delivery methods are varied based on the content of different courses. This is a highly appropriate mix of lecture, hands on studio, group critique and seminar. The methods are those expected for a program that spans studies and production. It is a strength that students will have an opportunity to engage in both individual and large group projects during their degree.

6. Admission Requirements

- Are the admission requirements appropriately aligned with the program learning outcomes?

Yes.

- Is there sufficient explanation of any alternative requirements, if any, for admission into an undergraduate, graduate or second-entry program, such as minimum grade point average, additional languages or portfolios, along with how the program recognizes prior work or learning experience?

There is a portfolio requirement. It is clearly explained.

7. Resources

For all programs

- Adequacy of the administrative unit’s planned utilization of existing human, physical and financial resources, and any institutional commitment to supplement those resources, to support the program.

One of the strengths of the proposal is that it makes excellent use of existing resources. Most of the courses are already on the books and the content of the major is well suited to existing faculty. The proposal posits the need for one CLA short term that will be converted to a tenure track faculty line

based on the success of the program. This is a reasonable starting point, but may be a slightly light request, given that there are five new courses as part of the degree and the influx of students could necessitate more sessions of popular studio classes already on the books. The need for an additional staff person has been identified to provide technical support to the classes. It seems likely that fulltime administrative and advising support will be needed as the program grows towards capacity. This need was likely understated in the proposal. The Dean appears committed to providing the necessary support.

- Appropriateness of the collective faculty expertise to contribute substantively to the program.

The faculty are well qualified to offer this program.

- Participation of a sufficient number and quality of faculty who are competent to teach and/or supervise in the program, including qualifications, research, innovation and scholarly record.

Twelve faculty have been identified to participate in the program and they effectively cover the major curricular areas. That is certainly sufficient to launch the program. With a target population of 250 students, the program will have a student-faculty ratio of about 21. However, these faculty are also assigned to other degrees, so the actual student-faculty ratio may be much higher. It is important to monitor this going forward to ensure that it stays at a reasonable level.

- Evidence that there are adequate resources (e.g. library, laboratory) to sustain the quality of scholarship produced by undergraduate students as well as graduate students' scholarship and research activities.

Library support is appropriate.

Additional criteria for undergraduate programs only

- Evidence of and planning for adequate numbers and quality of: (a) faculty and staff to achieve the goals of the program; or (b) of plans and the commitment to provide the necessary resources in step with the implementation of the program; (c) planned/anticipated class sizes; (d) provision of supervision of experiential learning opportunities (if required); and (e) the role of adjunct and contract faculty.

The faculty and staff appear adequate to achieve the goals, with the provisos offered above: additional administrative and advising staff may be required as the program grows and additional faculty may be required long term. The Dean has offered a strong commitment to provide the necessary resources. The planned class sizes are appropriate. As more students may wish to take courses now shared between multiple degrees, class enrollments should be monitored to ensure that classes remain accessible. The program offers a good mix of experiential learning through a large number of individual and group studio classes. The role of contract faculty is limited, with one CLA requested that will turn into a permanent faculty member based on enrolments.

Additional criteria for graduate programs only

NA

8. Quality of Student Experience

- Is the evidence of a program structure and faculty research that will ensure the intellectual quality of the student experience?

Note: Reviews are urged to avoid using references to individuals. Rather, they are asked to assess the ability of the faculty as a whole to deliver the program and to comment on the appropriateness of each of the areas/fields of the program that the university has chosen to emphasize, in view of the expertise and scholarly productivity of the faculty.

The intellectual quality of the student experience has the potential to be excellent. The faculty interests cover a broad cross-section of visual and computational arts. It should be particularly engaging for the students to have these two areas in conversation with each other. This should naturally lead to the

questioning of assumptions that might go unnoticed by students studying in only one of the areas and offers the potential for a dynamic fusion of ideas. I expect the students will find the program highly intellectually stimulating.

9. Other Issues

NA

10. Summary and Recommendations *(Note: The responsibility for arriving at a recommendation on the final classification of the program belongs to the Appraisal Committee. Individual reviewers are asked to refrain from making recommendations in this respect.)*

This proposal recognizes an excellent opportunity in terms of both programmatic need and resource availability. In terms of programmatic need, there are students with an interest in computational media that may not wish to enter the Digital Media program, either because they wish a fuller training in “traditional” visual media or they lack the mathematical and technical background for such a program. Similarly, there may be Visual Art students that wish a larger exposure to computational media, but wish to maintain a deep grounding in drawing, sculpture, painting, photography and time-based art that are the foci of the Visual Art and Art History Department. The Intermedia BFA effectively articulates the niche between these two programs.

From a resource perspective, it is possible to offer this degree with a modest investment in additional resources by leveraging off the faculty and course offerings already available through the departments of Computational Art and Visual Art and Art History. The proposal requires seven core courses for the new major, five of which are new. The remaining requirements can be satisfied through existing courses.

There may be a need for future faculty growth to maintain a reasonable student-faculty ratio as the enrollment grows, depending on the student populations in the other degrees offered by the two departments. It will also be important to monitor enrollments in small studio classes to ensure that they remain accessible. I do anticipate that the advising and administrative staffing needs may be underestimated, especially as enrollments grow towards the targeted 250 student population.

In summary, Intermedia offers the potential to be a very exciting program of study for students and does an excellent job leveraging existing resources. Some additional infusion of resources may become necessary, but this is likely modest. The Dean appears committed to providing the necessary resources going forward.

York University

New Program Brief

of the

M.A., M.Sc. and Ph.D. Programs

in

DIGITAL MEDIA

Department of Computational Arts

Department of Electrical Engineering and Computer Science

May 2017

Table of Contents

1. Introduction	3
2. General Objectives of the Program	5
3. Need and Demand	9
4. Program Content and Curriculum	12
5. Program Structure, Learning Outcomes and Assessment	25
6. Admission Requirements	39
7. Resources	41
8. Enrolment Projections	48
9. Support Statements	49

Appendices

Appendix A: New course proposals

- GS/DMG 5010 3.0 Foundations of Digital Media
- GS/DMG 5020 3.0 Advanced Vertical Studio/Lab I
- GS/DMG 6020 3.0 Advanced Vertical Studio/Lab II
- GS/DMG 5200 3.0 Experimental Telepresence
- GS/DMG 5510 3.0 Physical Computing III
- GS/DMG 5520 3.0 Spatial Computing and Responsive Environments
- GS/DMG 5940 3.0 Generative and parametric modelling
- GS/DMG 5950 3.0 Artificial Life, Generative Art and Creative Code
- GS/DMG 5960 3.0 Applications of Machine Learning & Artificial Intelligence to the Performing Arts
- GS/DMG 5990 3.0 Directed Reading

Appendix B: Digital Media Calendar Copy

Appendix C: Degree and Examination requirements

Appendix D: Support Letters

- Dean Brixey
- Dean Kozinsky
- Vice-President Academic and Provost Lenton
- University Librarian Kirchner
- University Registrar Altilia
- The Canadian Digital Media Network
- Ellefson Technology Consulting
- Interactive Ontario

Appendix E: Appointment Criteria

Appendix F: CVs

1. Introduction

1.1 Provide a brief statement of the degree program(s) being proposed, including commentary on the appropriateness and consistency of the degree designation(s) and program name with current usage in the discipline or area of study.

The Graduate Program in Digital Media (DM) will offer advanced training leading to the MA, MSc and PhD degrees. In parallel with the Digital Media BA Program that is in its eighth year, the proposed Program is to be jointly offered by the Lassonde School of Engineering, through the Department of Electrical Engineering and Computer Science (EECS), and the School of the Arts, Media, Performance and Design (AMPD) through the Department of Computational Arts (CA). Drawing upon the demonstrated expertise of a wide range of faculty members, the DM Program will provide highly qualified students with the opportunity of doing specialised research work in a program that uniquely combines computational science and artistic practices. Work in digital media focuses on a broad range of current and emerging forms of digitally supported media, with applications that range from computer games to interactive media art.

The degree designations for the MA and MSc programs provide students the opportunity to tailor their program to suit the methodology required for their Major Research Project. Students pursuing an MA focus on research-creation for art applications, which combines creative and academic research practices to produce critically informed work in a variety of media. Students pursuing an MSc focus on scientific/engineering research methods for technology, hardware and/or software development within digital media.

Across all three Digital Media graduate degrees, in both courses and project development, students work within a shared environment that enables them to develop expertise complementary to their research specialization in computational science or artistic practice. As in the undergraduate program, the name Digital Media for the graduate program reflects the breadth and the hybrid nature of the area of study, which applies the methods and theories of computer science and art to the design, implementation, evaluation and study of the multiple forms of contemporary digital media.

This area of academic research that combines media arts with a strong STEM (Science, Technology, Engineering, Math) foundation is relatively new. Whereas older scholarship in New Media concentrated on the transformation of electronic media such as video into fully digital formats, many researchers in the last decade have taken up the term Digital Media for work that pays closer attention to the full integration of STEM practices as part of the artistic process, as well as the use of computation as a form of art. The 2001 survey book *Information Arts: Intersections of Art, Science, and Technology* by American scholar and artist Stephen Wilson, as well as his 2010 *Art+Science Now*, exemplify this trend through hundreds of examples of artists worldwide as well as collaborative teams of scientists and artists. The Graduate Program in Digital Media responds and contributes to this important aspect of research in technological culture through the exploration and development of novel forms of digital media, for example, next-generation spatial display systems, interactive digital environments and new forms of multimedia for mobile devices. These will integrate critical artistic discourse and scientific inquiry with

broad application to the creative industries of tomorrow, including next-generation performance, screens, mixed reality, informatics, data visualization, games and mobile applications development.

1.2 For graduate programs that wish to have a Quality Council endorsed field(s), please indicate the field(s) for each of the master's and Ph.D. programs.

No fields are proposed for the program.

1.3 Provide a brief description of the method used of the development and preparation of the New Program Brief, including faculty and student input and involvement.

This brief has been prepared collaboratively by faculty members affiliated with the Digital Media undergraduate program who come from both the Lassonde School of Engineering, through the Department of Electrical Engineering and Computer Science, and the School of the Arts, Media, Performance and Design (AMPD) through the Department of Computational Arts. Key proponents of the brief have drawn upon their substantial Digital Media experience at York over the past decade, including leadership of and/or participation in several major interdisciplinary digital media and computational art projects supported by the university. The York-led initiative Consortium on New Media, Creative and Entertainment R&D in the Toronto Region (CONCERT), 2007-2009, was the first instance of an institutional catalyst for Digital Media team building across AMPD and Lassonde plus other Toronto academic institutions and industries. York has contributed substantially to two innovative interdisciplinary Digital Media projects since 2009, \$1.5 M to the Centre for Innovation in Visualization and Data-Driven Design (CIV-DDD, 2010-15), co-led by York and OCAD University and including computer science and engineering researchers, artist-researchers, designers, media scholars and 20-plus Small/Medium Enterprises (SMEs); and \$500 K to the AMPD-led 3D Film Innovation Consortium (3D FLIC), a capacity-building project that included a dozen active industry partners. The presence of the proposed graduate program will be deeply beneficial to such projects in the future, linking the R&D of Digital Media researchers to both SMEs and to the talent that they have expressed a need for, and simultaneously engaging and supporting many graduate students. Proponents of the brief have a well-founded understanding of Digital Media SMEs who want to attract multidisciplinary talent capable of working in flexible environments and responding to the changing needs of the Digital Media industries. Participation in these projects has highlighted the absence of appropriate graduate level student research capacity in these areas. During the search processes for two Digital Media CRCs in AMPD and one in Lassonde, over the period 2013-15, AMPD and Lassonde faculty on the hiring committees were able to clearly communicate more broadly to colleagues following the hiring process that a graduate program proposal was already well formulated so as to meet the needs of the CRCs.

York University has recently been awarded a highly competitive grant from the Canada First Research Excellence Fund (CFREF) for the research program, Vision: Science to Applications (VISTA) <http://vista.info.yorku.ca>. VISTA is a \$33.3 million project that builds on York's world-class interdisciplinary research in biological and computational vision. Over the next 7 years, VISTA researchers will advance interdisciplinary vision science in a wide range of areas including, but not limited to aging, robotics, security and surveillance, cognitive science, 3D film, ethics of

human-computer interaction and stereoscopic vision. Six faculty who are members of these proposed programs are core members of this award and will fund some students enrolled in these programs.

Through representation from AMPD and Lassonde, extensive consultation has taken place with input from students in the Digital Media undergraduate program through a survey that is presented in section 3.2.

1.4 Indicate the Faculty/unit in which the program will be anchored.

The program will be co-anchored in the Department of Computational Arts in the School of the Arts, Media, Performance and Design and the Department of Electrical Engineering and Computer Science in the Lassonde School of Engineering.

2. General Objectives of the Program

2.1 Provide a brief description of the general objectives of the program.

Foster a rich research and creation environment:

- bring together students from different areas of Digital Media research;
- support hybrid forms of expression utilizing current technologies as well as technologies developed by students themselves;
- develop and deploy interdisciplinary approaches to computational art-making and technology development;
- to provide students with two distinct programs at the master's level: an MA that focuses on research-creation for art applications, which combines creative and academic research practices to produce critically informed work in a variety of media, and an MSc that focusses on scientific/engineering research methods for technology, hardware and/or software development within digital media;
- to provide students with a PhD program that synthesizes the ability to formulate and apply methodologies from research-creation and scientific research.

Enhance student experience:

- focus on 21st century “real-world” skills such as creativity, critical thinking, teamwork and collaboration;
- consider related practices through an international outlook.
- Contribution to the field of study:
- develop leaders who are both thinkers and creators;
- develop critical scholars who engage with their material world in a way that directly interfaces and transforms the world.

The Program will offer an intensive graduate education that addresses the challenges of 21st century scholarship, research and artistic practice in a world suffused with digital technologies. This means developing leaders who are both thinkers and creators, able to deeply engage in their own cultural

milieu as expressed through the computational medium, by which we mean combining computational and engineering design best practices with innovative artistic expression. This unique approach of integrating practices and methods from complementary disciplines creates an educational environment that will bring together students from a wide diversity of backgrounds. The development of critical scholars who engage with their material world in a way that directly interfaces and indeed transforms the pervasive digital layer that mediates contemporary life is a high-need area not only at the scale of the university, but certainly at the provincial and national level as well. Further, within an overall international outlook and context for the Program, students will consider related practices worldwide under the guidance of internationally known faculty supervisors.

The Graduate Program in Digital Media will promote an interdisciplinary approach to art-making and technology development that integrates methodologies from research-creation and scientific research. The Social Sciences and Humanities Research Council defines research-creation as “an approach to research that combines creative and academic research practices, and supports the development of knowledge and innovation through artistic expression, scholarly investigation, and experimentation. The creation process is situated within the research activity and produces critically informed work in a variety of media (art forms).” The Graduate Program in Digital Media will foster academic quality by the integration of theory and practice, providing students with the ability to think critically about their practices and projects, and to consider their relation to society as a whole.

Faculty in the Digital Media Program are fully committed to both the principles of research-creation and to a basis for the graduate program in project-based research. Project-based research is well-established and gaining further ground in STEM, based in the premise that higher education needs to focus on 21st century “real-world” skills such as creativity, critical thinking and collaboration. The scope of projects that will be supported in the proposed graduate program expands current definitions of project-based, because students will draw upon established methods in different disciplines, as described above, to develop innovative hybrid methodologies for developing dissertation projects. The following examples illustrate the potential range of projects a student might undertake through the Masters programs detailing coursework necessary for MA or MSc. As well, the examples illustrate the potential methodologies to be utilized in MA and MSc programs.

1. **MSc:** Student comes with a degree in Computer Science, and has an active live performance practice. MRP: Utilizing methods of parsing and code generation drawn from computer science compiler theory in order to create custom languages that radically extend the range of algorithmic audio-visuals in the new performance practice of “live coding” in virtual reality.
 - a. Core: DMG 5010, DMG 5020
 - b. Depth: GS/EECS 5351 3.00 Human-Computer Interaction , GS/EECS 6490A Concurrent Object-Oriented Languages
 - c. Elective: GS/DMG 5200 3.0 Experimental Telepresence, GS/FILM 6246 Future Cinema II: Applied Theory
2. **MSc:** Student comes with a degree in Computer Science with a minor in Game Development. MRP: Development of adaptive artificially intelligent agents that learn and adapt to players in immersive game environments.

- a. Core: DMG 5010, DMG 5020
 - b. Depth: GS/EECS 5326 3.00 Artificial Intelligence ,
GS/EECS 5327 3.00 Introduction to Machine Learning and Pattern Recognition
 - c. Elective: GS/DMG 5950 3.0 Artificial Life, Generative Art and Creative Code,
GS/DMG 5960 3.0 Applications of Machine Learning & Artificial Intelligence to the
Performing Arts
3. **MA:** Student comes from a Digital Media program with minor in Dance. MRP: Extending dance practice by developing a virtual partner adapting to movement through customized machine learning algorithms.
- a. Core: DMG5010, DMG5020;
 - b. Depth: *FA/DANC 5221 Interactive Stage: Explorations in electronically mediated performance,
GS/EECS 5327 3.00 Introduction to Machine Learning and Pattern Recognition
 - c. Elective: *GS/DANC 5225 Choreography,
GS/DANC 5300, Methods and Materials for Movement Observation
4. **MA:** Student comes from a Digital Media program with active arts practice in physical computing. MRP: The production of interactive sculptural objects whose form emerges from personalized, simulated biological models of organism development, and which is invested with responsive sensors and actuators via physical computing.
- a. Core: DMG5010, DMG5020
 - b. Depth: *GS/DMG 5940 3.0 Generative and parametric modelling,
GS/EECS 6324 3.00 From Control to Actuators
 - c. Elective: *GS/DMG 5950 3.0 Artificial Life,
GS/VISA 5620 Visual Arts Graduate Seminar

A key method in New Media art developed over the past decades is interactive installation, or artwork that is responsive to and even co-created by the viewer. In the Digital Media Graduate Program, this kind of work that is already solidly grounded in digital strategies will be enhanced by specialized skills brought by Engineering or Design students in the program. The Program will focus on teamwork and professionalization as core aspects of its project base. Students in the program will also be supported in developing themes for their research-creation and technology development projects.

2.2 Describe how the general objectives of the program align with University and Faculty missions and academic plans.

The Strategic Mandate Agreement (SMA 2014-17) between York University and the Ministry of Training, Colleges and Universities (MTCU) was signed in April 2014. The SMA identifies “Arts, Digital Media, Performance and Design” as one of five core program areas for growth in the University.

Further, the York University Strategic Research Plan (SRP 2013-2018) outlines six comprehensive areas of research excellence, and five opportunities for strategic development. Regarding the former, the Graduate Program in Digital Media aligns with three research excellence themes: “Advancing Fundamental Discovery and Critical Knowledge,” “Analyzing Cultures and Mobilizing Creativity,” and

"Exploring the Frontiers of Science and Technology." One of the examples described in the first of these themes is "from poetic representations of data and generative systems in light and sound installations to the novel use of artificial agents in interactive environments," demonstrating that York embraces the integration of creative and computational means as a method for fundamental discovery and critical knowledge. The theme Analyzing Cultures and Mobilizing Creativity explores culture and creativity at the intersections of social innovation and tradition. On this theme, the SRP notes that "critical and creative features are mutually informative and often interwoven, whether in the publications of scholars in our research programs, the practice-based production of artists, designers and performers in York's studio programs or in areas that traverse the two." The third relevant thematic area, Exploring the Frontiers of Science and Technology, makes special mention of the undergraduate Digital Media Program: "York's Electrical Engineering and Computer Science Department is a core partner with the Faculty of Fine Arts' (former name of AMPD) interdisciplinary Digital Media Program. This is the only program in the Greater Toronto Area that combines a rich blend of technology, media and communication that is drawn from the strengths of the computer science, fine arts, cultural studies and social sciences."

The York SRP includes "Digital Cultures" and "Engineering Research That Matters" as compelling opportunities for the strategic development of research. Digital Cultures emphasizes research that "supports new applications, interfaces and content creation, scientific inquiry, design, policy development and critical discourse in digital media." The Graduate Program in Digital Media is an ideal portal through which students can engage in advanced interdisciplinary research that addresses the development of new digitally mediated interfaces and experiences. These will integrate critical artistic discourse and scientific inquiry with broad application to the creative industries of tomorrow, including next-generation performance, screens, mixed reality, informatics, data visualization, games and mobile applications development. Addressing the emergent strengths of the new Lassonde School of Engineering, which houses the EECS Department, Engineering Research That Matters reflects the following mandate: "over the next five years engineering research at York will be guided by our commitments to social justice and interdisciplinarity... Existing research areas will be complemented by new and expanded research programs." This aligns directly with the commitment of EECS to enhance an existing area of interdisciplinary research strength by offering graduate degrees in Digital Media.

Substantial development has occurred in digital media at York over the past decade as noted in section 1.3. A research-focused graduate program that is project-based reflects core principles and commitments in both AMPD and Lassonde Schools at York. It builds on York University's strategic research support of Digital Media endeavours that is clearly delineated through the commitment to Canada Research Chairs (CRC) in AMPD and in EECS. Two CRCs have been recently hired in AMPD, one in Interactive Information Visualization and the other in Digital Performance, and are integrated into Digital Media Graduate Program planning. The CRC in Digital Media in Lassonde was hired in 2015 (Kyan). An AMPD search for CRC in Games, Gaming and Gamification is currently underway with a starting date of July 1, 2016. Graduate program development thus is designed at the ground level of CRCs developing research programs and laboratories that will act as important vessels of technology development and research-creation for future graduate students in digital media. Digital media research is also supported by the Organized Research Unit *Sensorium: Centre for Digital Arts and Technology*, which brings together faculty researchers from across AMPD. Currently the ORU is Faculty-supported,

and while there is already some integration of researchers from Lassonde and the Humanities under the umbrella of intersections among the arts, sciences, and science and technology studies, expansion into a fully interdisciplinary research institute is anticipated. The proposed program thus builds upon CRC research laboratories; *Sensorium* as an important hub of research exchange; and current AMPD plans in play to establish large-scale immersive laboratories that will provide for world-class research.

3. Need and Demand

3.1 Identify similar programs offered at York and/or by other Ontario universities, with special attention paid to any innovative and distinguishing aspects of the proposed program.

The integration of capacities in science, technology, engineering, mathematics, creativity and cultural literacy is an innovative feature of the proposed program, and is not available at York or elsewhere in Ontario. In the York context, this novel program will align with several existing programs that offer complementary foci and are therefore a source of both elective courses and possible supervisory participation, such as Science and Technology Studies (MA/Ph.D.), Communication & Culture (MA/Ph.D.), Computer Science (MSc/Ph.D.), Information Systems & Technology (MA), Cinema and Media Studies (MA/Ph.D.), Visual Arts (MFA/Ph.D.), Theatre & Performance Studies (MFA/MA/Ph.D.), and Design (MDes). Regarding the last four in the list, which are programs in AMPD, there is a movement within the Faculty to integrate resources across graduate programs, i.e., to share courses, supervisory capacity, and event planning. Resourcing needs for the proposed program will draw from this model. Across York, the proposed program will be innovative for reaching across Faculty silos.

More broadly in Ontario, related graduate programs are those that integrate a creative component with digital technology skills, where the creative aspect is taken to mean an emphasis on either game development or web-based media and the technological aspect focuses on production of media environments and interaction design. This perspective is much narrower than the program we propose but some affinities should be noted, through which (in agreement with the guidelines of the Ontario Research and Innovation Council) a greater critical mass can be achieved via recruitment and collaboration between research labs. The University of Waterloo has a Master of Digital Experience Innovation (MDEI) that, like our program, is built around project-based learning and interdisciplinary courses, but has no computer science component and is geared toward project management credentials. The Ryerson MDM (Masters of Digital Media), OCAD University's Digital Futures degrees (MA, MDes, MFA), McMaster's MA in Communication and New Media, Waterloo University's MA in Experimental Digital Media are all related, but they do not aspire to the close integration of the paradigms of STEM and the creative arts that our Digital Media graduate degrees will offer. None of them has a significant computer science component. The core reference point remains the famous MIT Media Lab in Boston, renowned over three decades for its scientific/creative work in developing emerging modes of media engagement.

Elsewhere in Canada there are some more commonalities and potential strong links for recruitment, e.g. for graduates of master's programs into our Ph.D. The Centre for Digital Media in British Columbia (the University of British Columbia (UBC), Simon Fraser University (SFU), Emily Carr Institute of Art and

Design and the British Columbia Institute of Technology (BCIT)) was established over a decade ago, launching Canada's first Master of Digital Media graduate program with a core emphasis on game development and the gaming industry. Concordia University in Montreal has a strong undergraduate program in Computation Arts from which we can recruit into our master's. The Hexagram Centre for Research-Creation in Media Arts and Technologies that crosses Concordia and UQAM is a very strong cluster of digital media researchers, with many affiliated graduate students enrolled in Concordia's Special Individualized Programs (SIP) because their work encompasses more than one recognized field, as do the Hexagram labs. At Simon Fraser University in Vancouver, the School of Interactive Arts and Technology offers MA, MSc, and Ph.D. The latter two integrate arts, science and technology. The Master of Science degree is for students working within a scientific and technological area, including core course work in artificial intelligence, knowledge visualization and cognition. The University of Calgary offers a Computational Media Design (CMD) graduate program (MSc/Ph.D.) that is composed of the Department of Computer Science, the Faculty of Environmental Design and the Faculty of Arts: School of Creative and Performing Arts - Music and Department of Art.

The York Graduate Program in Digital Media will set the bar in Ontario regarding the creative and computational breadth of digital media today, with cognizance of complementarity in other universities whose students may want to up skill by pursuing our integrated approach. The paucity of graduate programs in Canada that are comparable to ours shows that we are on the leading edge of higher education in this area. The program requirement that potential students must show that they have experience in both computer science and the arts distinguishes the proposed program from existing related programs at Simon Fraser University (MA, MSc, and PhD) and Concordia (MDes).

3.2 Provide brief description of the need and demand for the proposed program, focusing as appropriate on student interest, social need, potential employment opportunities for graduates, and/or needs expressed by professional associations, government agencies or policy bodies.

The Graduate Program in Digital Media addresses a social need for the development of a robust science culture that will be broadly embraced by the public in Ontario and Canada. York University is a leader in the development of this culture, which requires a STEM to STEAM collaboration and education so as to bring basic research from labs and into the imagination of the public (STEM + Art = STEAM is a growing movement, especially in the U.S., that is promoting the integration of creative thinking with traditional STEM research). Leonardo, the journal of the International Society for the Arts, Sciences and Technology, founded in 1968 in Paris by kinetic artist and astronomical pioneer Frank Malina and edited since 1981 by his son Roger F. Malina, also demonstrates a well-established interest worldwide in the hybridization of art and science practices and methodologies. York has pioneered interdisciplinary research across creative arts and sciences over the past decade, the context that now supports the further expansion of Digital Media at the University.

The digital sector is increasingly challenged to seek out and aggressively compete for highly qualified personnel (HQP) who are trained in highly specialized technical, scientific and design training in emerging media (See support letter from Interactive Ontario in particular). New enterprises are emerging to create, deliver and optimize all kinds of content as the digital marketplace extends across a

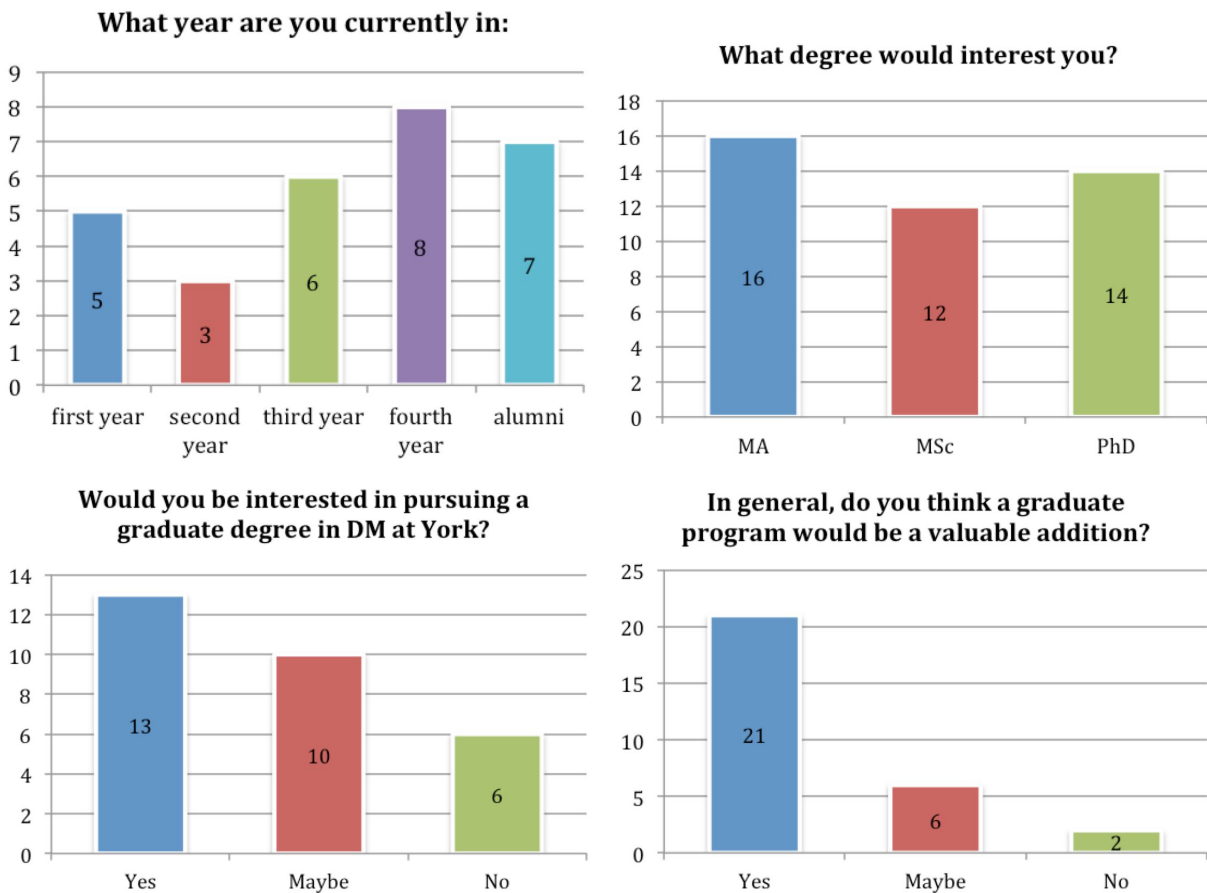
growing array of screens and devices, from skinned onto buildings to worn on the body. Who imagines the next wave in the always expanding digital economy? York's Graduate Program in Digital Media promises to produce a next-generation of HQP with a sophisticated understanding of computational digital media that conjoins capacity in STEM skills with creativity for digital media content (arts, entertainment, engineering design, etc.). Students in the program will learn critical skills in project development and management, interdisciplinary research methods, iterative design and technology application development, as they work in multidisciplinary project-based research. These are all key to the success of students' endeavours in next generation digital media jobs and innovative thinking for creating the technologies of tomorrow. In this respect, see Section 9 for letters of support from one Digital Media development company and two professional industry associations: Ellefson Technology Consulting, Interactive Ontario and the Canadian Digital Media Network.

Digital media are a core area of focus in Ontario's Innovation Agenda (OIA), identified as an area of strength in which targeted investment can place Ontario as a global leader. This brief responds to the goal of the OIA to "invest in, generate and attract a workforce with first-rate skills in science, engineering, creative arts, business and entrepreneurship" (OIA, p. 2). Digital Media students are trained in an integrated approach that emphasizes both computer science and creative skills. The Digital Media graduate program at York is uniquely placed to both retain and attract high quality research talent, leading to world-class, peer-reviewed research that will also stimulate investment and facilitate nimble industry transfer through York's flexible IP policy and convergence acceleration via Innovation York, the BEST program at York, and provincial partners such as MaRS Innovation. Graduate HQP training will build a workforce strong in both engineering and creative arts, developing growth in Information and Communications Technology and the Entertainment and Creative Cluster, both identified by the Ontario government as priority up-and-coming sectors of the job market (<http://www.tcu.gov.on.ca/eng/labourmarket/ojf/upComingJobs.html>) According to the MTCU's Labour Market Information website, the job area "computer programmers and interactive media developers" is still on the upswing: its share in new jobs 2013-17 is projected at 57% while share of attrition is only 43%. The breadth covered in this category is large and highly relevant to the Digital Media Program, i.e., "professional, scientific and technical services" as well as "information and cultural industries."

The Government of Canada's National Occupational Classification (NOC), last published in 2011, shows that new jobs are added all the time and old job titles are updated. The integration of STEM and creative arts skills in the proposed graduate program is novel, and a portion of the job outcomes for graduates will fall into the zone of "new and not yet classified." The NOC has an "interactive media developers" section, which is very oriented toward programming, and the rubric "producers, directors, choreographers and related occupations" includes "cyber-choreographer" and "multimedia audio producer." But these descriptions of job areas tend to separate technological expertise, especially extending into programming, from media production. The renowned Montreal-based new media and entertainment studio Moment Factory posts jobs such as 2D/3D Motion Designer and Multimedia Director that require a very high level of both technical and artistic proficiency, which is expressed as "innovation awareness" and ability to "search for new technology, applications and multimedia principles."

Regarding undergraduate student interest, in the winter of 2015, a survey was sent out to all current Digital Media undergraduates both current and graduated. A total of 29 responses were received out of a possible 160, 55 of which were in their first year of the program. Tables showing this data follow.

All of the alumni who responded thought a graduate program would be a valuable addition and 86% expressed interest in pursuing such a degree.



4. Program Content and Curriculum

4.1 Describe the program requirements, including the ways in which the curriculum addresses the current state of the discipline or area of study. Identify any unique curriculum or program innovations or creative components.

In support of the hybrid nature of the discipline’s research and research-creation practice, graduate degrees in Digital Media combine courses and supervision from both CA and EECS. Masters programs provide students the opportunity to tailor their program to suit the methodology required for their Major Research Project. Students pursuing an MA focus on research-creation for art applications, which combines creative and academic research practices to produce critically informed work in a variety of

media. Students pursuing an MSc focus on scientific/engineering research methods for technology, hardware and/or software development within digital media.

MA program requirements

Course requirements

Complete 18.0 credits (6 graduate three-credit courses), as follows:

- Core:
 - DMG 5010 3.0 *Foundations of Digital Media*
 - DMG 5020 3.0 *Advanced Vertical Studio/Lab I*
- Depth:
 - 3.0 credits from a specified list of computational arts graduate level courses
 - 3.0 credits from a specified list of computer science graduate level courses
- Elective:
 - 6.0 credits at the graduate level, with GPD/principal supervisor approval

The two *core courses* provide students with a breadth component that covers fundamental digital media knowledge, skills and methodologies.

There is an additional *depth requirement* which specializes the student in focus areas; in support of the hybrid nature of Digital Media research-creation, these program requirements combine courses from both CA and EECS. This is complemented by graduate level *electives* strategically chosen from other graduate programs. (For example, a student might take PSYC 6225 in order to broaden their knowledge of methodologies applicable to research-creation projects that focus on integrated human/machine visual perception as a subject matter.)

Depth and *elective* course choices must be approved by the GPD or principal supervisor. In the first year, the graduate program director works with each student to ensure the depth and elective courses are chosen to satisfactorily address and embody the MA's specific program outcomes. From the second year, the student's principal supervisor performs this role.

The principal supervisor will be a faculty member with expertise in research-creation, and a terminal degree in an arts-based discipline (or equivalent). This expertise requirement ensures that the supervisor is capable of guiding a student through all levels of a research-creation project in computational artmaking, up to and including oversight of the MRP project. Current members of the Department of Computational Arts faculty satisfy this expertise requirement, and future hires will be expected to meet this requirement in order to ensure that a growing MA student body is well-supported. In order to ensure timely completion, a supervisor is assigned upon entry. The principal supervisor, whether new or continuing, must be approved no later than the end of the second term of MA study.

No more than one-third (6.0 credits) can be courses integrated with undergraduate programs. DMG 5010 and DMG 5020 are not integrated courses. Additionally, graduate students may not receive credit for an integrated course at the graduate level if they took it at York or elsewhere at the undergraduate level. With permission of the program director, students may elect, on registration, to enrol in additional courses.

Following initial registration in the graduate program, and prior to completion of the first term of study, graduate students may request transfer credit (advanced standing) for graduate-level courses completed at York University or another institution that have not been used to fulfill the requirements of another degree program or graduate diploma. Credit for such work will be determined by the Office of the Dean, Faculty of Graduate Studies, on the recommendation of the program concerned. Transfer credit accepted towards fulfillment of the degree program to which the student has been admitted may count for up to 50% of the coursework requirements.

Major Research Project

Students must conduct an independent Major Research Project (MRP) as the milestone component of the program, under the general direction of a supervisory committee consisting of a principal supervisor and second reader.

The topic of the MRP, as described in a research proposal, must be approved by the student's supervisory committee, including ethics review and approval if appropriate, not less than 6 months prior to the public evaluation date. The academic requirements, format and extents of the MRP should be consistent with master's degree-level **and the outcome expectations detailed in section 5.1.**

In particular, the MA program requires MRP projects of *research-creation*, as defined by the Social Sciences and Humanities Research Council: an approach to research that combines creative and academic research practices, and supports the development of knowledge and innovation through artistic expression, scholarly investigation, and experimentation. The creation process is situated within the research activity and produces critically informed work in a variety of media and art forms.

MRPs are evaluated by the supervisory committee on a pass/fail basis. The evaluation of the MRP incorporates a public presentation with critique. The form of the presentation is at the discretion of the supervisory committee, but could include an exhibition, screening, performance, or other public display of resultant creation. A project report detailing and contextualizing the project must be submitted to the supervisory committee. Writing should be in English but approval may be given to a written request from a student for it to be written in French or in the language of any Aboriginal/First Nations people in North America, subject to confirmation from the director of the graduate program concerned that relevant supervision and sufficient support for the completion of such written work can be provided.

Once in both Fall and Winter semesters students will meet with two randomly-chosen "switch committee" Digital Media-appointed faculty members to discuss the state of their research and prepare their project proposal. Additionally, students are required to submit a progress report to the graduate

program director on an annual basis, normally in the Spring. Reports to the graduate program director of unsatisfactory progress may require a student to withdraw from a program of studies, or withdraw from the graduate program.

MSc program requirements

Course requirements

Complete 18.0 credits (6 graduate three-credit courses), as follows:

- Core:
 - DMG 5010 3.0 *Foundations of Digital Media*
 - DMG 5020 3.0 *Advanced Vertical Studio/Lab I*
- Depth:
 - 6.0 credits from a specified list of computer science graduate level courses
- Elective:
 - 6.0 credits at the graduate level, with GPD/principal supervisor approval

The two *core courses* provide students with a breadth component that covers fundamental digital media knowledge, skills and methodologies.

There is an additional *depth requirement* which specializes the student in focus areas of scientific application through courses chosen in EECS. This is complemented by the graduate level *electives* strategically chosen from other graduate programs. (For example, a student might take CC 8862 in order to broaden their knowledge of new art and design practices and cultural movements in emerging screen-based media to better ground the impact of major research project in virtual or augmented reality).

Depth and *elective* course choices must be approved by the GPD or principal supervisor. In the first term, the graduate program director works with each student to ensure the depth and elective courses are chosen to satisfactorily address and embody the MSc's specific program outcomes. From the second term, the student's principal supervisor performs this role.

The principal supervisor will be a faculty member with expertise in digital media and a terminal degree in engineering, computer science, or equivalent. This expertise requirement ensures that the supervisor is capable of guiding a student through all levels of MSc graduate study and research in digital media up to and including oversight of the MRP project. All of the EECS faculty currently proposed for membership in this program satisfy this expertise requirement. In order to ensure timely completion, a supervisor is assigned upon entry. The principal supervisor, whether new or continuing, must be approved no later than the end of the second term of MSc study.

No more than one-third (6.0 credits) can be courses integrated with undergraduate programs. DMG 5010 and DMG 5020 are not integrated courses. Additionally, graduate students may not receive credit

for an integrated course at the graduate level if they took it at York or elsewhere at the undergraduate level. With permission of the program director, students may elect, on registration, to enrol in additional courses.

Following initial registration in the graduate program, and prior to completion of the first term of study, graduate students may request transfer credit (advanced standing) for graduate-level courses completed at York University or another institution that have not been used to fulfill the requirements of another degree program or graduate diploma. Credit for such work will be determined by the Office of the Dean, Faculty of Graduate Studies, on the recommendation of the program concerned. Transfer credit accepted towards fulfillment of the degree program to which the student has been admitted may count for up to 50% of the coursework requirements.

Major Research Project

Students must conduct an independent Major Research Project (MRP) as the milestone component of the program, under the general direction of a supervisory committee consisting of a principal supervisor and second reader.

Students choose an area of specialization for the MRP, as described in a research proposal, whose content and scope must be approved by the student's supervisory committee, including ethics review and approval if appropriate, not less than 6 months prior to the public evaluation date. The academic requirements, format, quality, and extents of the MRP should be consistent with master's degree-level **and the outcome expectations detailed in section 5.1.**

In particular, the MSc requires an MRP whose topics will include implementation and evaluation of recently published ideas, design and development of novel software/hardware applications, or optimizations of algorithms, processes and systems cognizant of real world constraints, all within the domain of digital media.

MRPs are evaluated by the supervisor and reader on a pass/fail basis according to a final Project Report and a public presentation of the work undertaken. The format of the public presentation is at the discretion of the supervisory committee. The project report must adequately detail and contextualizes the project. Writing should be in English but approval may be given to a written request from a student for it to be written in French or in the language of any Aboriginal/First Nations people in North America, subject to confirmation from the director of the graduate program concerned that relevant supervision and sufficient support for the completion of such written work can be provided.

Once in both Fall and Winter semesters students will meet with two randomly-chosen "switch committee" Digital Media-appointed faculty members to discuss the state of their research and prepare their project proposal. Additionally, students are also required to submit a progress report to the graduate program director on an annual basis, normally in the Spring. Reports to the graduate program director of unsatisfactory progress may require a student to withdraw from a program of studies, or withdraw from the graduate program.

Ph.D. program requirements

Course requirements

The Ph.D. requires 9.0 credits of coursework, unless an assessed deficiency requires additional courses, as follows:

- DMG 6020 3.0 *Advanced Vertical Studio/Lab II*
- 6.0 elective credits at the graduate level, with GPD/principal supervisor approval
- Additional courses if assessed as deficient

No more than one third of the total requirements (3.0 credits) can be integrated with undergraduate courses. DMG 6020 is not an integrated course. It is assumed that Ph.D. students will have the fundamental knowledge gained at the master's level, and so the only required core course is the *Advanced Vertical Studio/Lab II* that is colocated with *Advanced Vertical Studio/Lab I* taken by master's students. This is a particularly innovative pair of courses that are based on collaborative approach to contemporary research problems in Digital Media with real-world applications.

The core requirement is complemented by 6.0 credits of elective courses to specialize the student in the focus area of their research. If a principal supervisor is not determined at entry through direct contact between faculty members and the student, a *pro tem* supervisor is assigned by the GPD. Until the student's supervisory committee is established, the graduate program director and the *pro tem* supervisor work with each student to ensure that elective courses chosen satisfactorily address and embody the PhD's specific program outcomes. Once the supervisory committee is established, the student's principal supervisor performs this role.

An assessment is given at the beginning of the program to determine the student's ability to take the required courses. If they are not ready then they may be asked to take a number of courses to help in resolving these deficiencies. Additionally, graduate students may not receive credit for an integrated course at the graduate level if they took it at York or elsewhere at the undergraduate level. With permission of the program director, students may elect, on registration, to enrol in additional courses.

Dissertation, Supervision and Evaluation

For each Ph.D. student a supervisory committee must be established, which must have at least three faculty members appointed to FGS, at least two of whom must be appointed to the Digital Media Graduate Program. The principal supervisor must be a Full Member of the Digital Media Graduate Program, and shall be accessible to the student, normally meeting once a month and never less than once each term. The *pro tem* supervisor may continue as principal supervisor or, by the end of the second term of the program, facilitate the establishment of the committee including supervisor. Once established, the supervisory committee shall meet annually with the student to evaluate the Report on Progress submitted by the student and submit a completed copy of the Report on Progress to the

graduate program director after the meeting. Students are also required to submit a progress report to the graduate program director on an annual basis, normally in the Spring. Reports to the graduate program director of unsatisfactory progress may require a student to withdraw from a program of studies, or withdraw from the graduate program.

Ph.D. students must complete a comprehensive examination consisting of a written report on the candidate's field of interest, and hold an oral defense of the report. Students must also present a dissertation proposal outlining the anticipated results of their dissertation. The proposal must be approved by the student's supervisor and supervisory committee, including ethics review and approval if appropriate. The supervisory committee reviews a student's dissertation proposal and recommends its approval not less than 6 months prior to the dissertation examination date.

Following approval, students conduct a significant body of original research or research-creation under the supervision of the supervisory committee, and submit a doctoral dissertation embodying its results, demonstrating significant contribution to knowledge and evidence of critical understanding of the relevant literature. The material embodied in the dissertation should merit publication. Students must comply with the requirements for the preparation, submission and distribution of theses as described in the [Faculty of Graduate Studies' Guide for the Preparation and Examination of Theses and Dissertations](#). Writing should be in English, but approval may be given to a written request from a student for it to be written in French or in the language of any Aboriginal/First Nations people in North America, subject to confirmation from the director of the graduate program concerned that relevant supervision and sufficient support for the completion of such written work can be provided.

Candidates defend the dissertation at a public oral examination. Dissertation defenses are evaluated by a dissertation examining committee. A dissertation examining committee shall consist of at least five voting members, including the Dean of FGS or representative, who serves as Chair; two graduate faculty members chosen from the program and/or supervisory committee, at least one of whom must be from the supervisory committee; one graduate faculty member at arm's length from the dissertation, and normally from outside the program; one external examiner, from outside York University, at arm's length from the dissertation, recommended by the program director. The membership of the committee and designation of the chair must be recommended no later than four weeks before the date set for the oral examination.

Oral examinations can be accepted with or without specified or major revisions. In cases of major revision, the nominated Chair of the committee will confirm which of the following two procedures, agreed upon by the examining committee before the exam is adjourned, will be used to finalize the oral results: a) the examining committee will reconvene within twelve months to continue the oral examination; or, b) the revised dissertation will be circulated within twelve months to all members, who will inform the Chair whether they feel the stipulated requirements have been met.

4.2 Provide a list of courses that will be offered in support of the program. The list of courses must indicate the unit responsible for offering the course (including cross-lists and integrations, as appropriate), the course number, the credit value, the short course description, and whether or not it is

an existing or new course. For existing courses, the frequency of offering should be noted. For new courses, full course proposals are required and should be included in the proposal as an appendix. (The list of courses may be organized to reflect the manner in which the courses count towards the program requirements, as appropriate; e.g. required versus optional; required from a list of specified courses; specific to certain concentrations, streams or fields within the program, etc.)

Courses with the rubric DMG are new courses, and will be offered either through AMPD or Lassonde depending on available faculty in any given year.

Six of the courses listed below are new. Three are core graduate-only courses, and three are graduate courses integrated with previously planned Digital Media undergraduate courses, that are well suited to the graduate program proposed.

Core courses:

* indicates courses integrated with 4xxx undergrad

+ indicates new course - proposal in Appendix A: New course proposals where appropriate

+ GS/DMG 5010 3.0 Foundations of Digital Media

Students attain core literacy in mathematical, systems/process, and computational bases for digital media, including sound, image, and 3D environments, and learn the essential skills of postgraduate-level research in areas of digital media and computational arts. Core literacies include: DSP, sound synthesis, FFT, the graphics pipeline, transformations, lighting, shading, and procedural methods. These core literacies support work across areas including information and systems theory, digital signal processing, 3D geometry, software design, acoustics, simulation and complex systems, networking, human-computer interaction, etc. Core literacies are contextualized by reference to exemplary projects in diverse practices of computational art, music, video games, information visualization, web-based media, responsive architecture, physical computing, etc., including the examination of landmark texts and projects in digital media, computational arts and culture spanning the past century, addressing the continual overlap between artistic and scientific practices. Literacy is evaluated through the ability to understand and transfer published research in these fields into creative applications, recreating established research results, projects, or works of specific interest to the student's research area(s).

+ GS/DMG 5020 3.0 Advanced Vertical Studio/Lab I

Teams of students work collaboratively on a large-scale project that tackles a well-defined research problem spanning art and science methods and practices. The problem domain will be defined by contexts such as a research laboratory of a Digital Media faculty member or an outside organization, in order to explore a range of research approaches and issues, professional and research ethics, and reflective practice within academic, professional and arts contexts. An important component is the discussion of critical issues related to cultural interactions with new and emerging technologies, including an appreciation of how art-making practices have shaped, and been shaped by, trajectories of technological change. The Advanced Vertical Studio/Lab will normally be taken in the second year of the program. There is a possibility for student teams to be co-supervised by program faculty and a program associate, which is a practitioner from an outside organization (for-profit -Ubisoft, not-for-profit, NGO,

arts festival, trade organization, artist collective, design group, museum, MCC). Program associates may not be the sole supervisor.

+ GS/DMG 6020 3.0 Advanced Vertical Studio/Lab II

Students will lead a team of Masters students working collaboratively on a large-scale project that tackles a well-defined research problem spanning art and science methods and practices. Students are expected to take leadership roles. The problem domain will be defined by contexts such as a research laboratory of a Digital Media faculty member or an outside organization, in order to explore a range of research approaches and issues, professional and research ethics, and reflective practice within academic, professional and arts contexts. An important component is the discussion of critical issues related to cultural interactions with new and emerging technologies, including an appreciation of how art-making practices have shaped, and been shaped by, trajectories of technological change. Advanced Vertical Studio/Lab I will normally be taken in the second year of the program. There is a possibility for student teams to be co-supervised by program faculty and a program associate, which is a practitioner from an outside organization (for-profit -Ubisoft, not-for-profit, NGO, arts festival, trade organization, artist collective, design group, museum, MCC). Program associates may not be the sole supervisor.

Depth courses:

+ GS/DMG 5200 3.0 Experimental Telepresence

This course engages the Internet as a medium for performance, exploring the concept of remote presence through personal and group projects. Students collaborate on multimedia performance pieces with partner universities in order to develop their own aesthetic vision of this largely-uncharted territory in a way that challenges established notions of audience participation, staging, human/agent interaction and inter-performer dialogue.

+ GS/DMG 5960 3.0 Applications of Machine Learning & Artificial Intelligence to the Performing Arts

This course allows students to apply cutting edge research in machine learning and artificial intelligence to the performing arts, with particular emphasis on music and sonic arts, dance and movement arts, and performance art. Different paradigms for modeling behaviour will be explored (human perception/cognition, artificial evolution, agent-based systems), as well as critical questions surrounding machine creativity and intentionality.

***+ GS/DMG 5510 3.0 Physical Computing III (+ FA/DATT 4010 3.0)**

Builds on the material covered in Introduction to Physical Computing II to explore more advanced topics in physical computing such as circuit board design and manufacturing, embedded computing, communications and protocols, among other topics, with an emphasis on research-creation in the development of novel projects. During the course students will develop a larger work for public presentation.

***+ GS/DMG 5520 Spatial Computing and Responsive Environments (+ FA/DATT 4520 3.0)**

This course addresses 3D space as a creative computational medium, by weaving theory, practice, software, and code drawn from research in human-computer interaction (HCI), mixed reality (a

spectrum of merging real and virtual space, including virtual reality and augmented reality), computer vision, computer graphics, embodied and natural interaction, projection-mapping, ambient intelligence, and responsive environments. Students will develop responsive environments, utilizing technologies such as RGB-D cameras, stereoscopic projections, head-mounted displays, and loudspeaker arrays.

***+ GS/DMG 5940 3.0 Generative and parametric modelling (FA/DATT 4940 3.0 - FA/VISA 4033 3.0 - existing)**

Explores the techniques of generative and parametric 3D modeling through the use of scripting and programming interfaces to professional grade render-time 3D modeling software tools such as Rhinoceros/Grasshopper, Maya, Solid Works, and Blender, and real-time 3D graphics tools and software such as Max, Processing, and software libraries such as OpenFrameworks, and Cinder which incorporate OpenGL and GLSL Shading Languages. These tools represent two domains, where one domain is geared toward the development of fixed content and 3D fabrication; the other is primarily virtual and interactive. A generative and parametric 3D modeling approach facilitates the integration of these two domains, whereby there is a real-time, interactive approach to the development of spatial content. Because the techniques presented in this course have wide implications, concepts and approaches will draw from fields of architecture, industrial design, art making, and other fields where computational methods are used to create 3D objects and forms.

***+ GS/DMG 5950 3.0 Artificial Life, Generative Art and Creative Code (FA/DATT 4950 existing)**

This course addresses computation as a creative medium from a biologically-inspired standpoint to develop artworks, adaptive media and simulations approaching the fascinating complexity of nature. Frameworks explored in the course include complex dynamical systems, fractals, cellular automata, agent-based systems, evolutionary and developmental programming, artificial chemistries, and ecosystems.

*** GS/DANC 5221 3.0 - GS/THEA 5221 3.0 The Interactive Stage (FA/DATT 4932 - existing)**

This course explores the creation of interactive stage environments for live performance. Students investigate various strategies whereby on-stage 'events' (physical, vocal, physiological, etc.) manipulate audio, video and/or lighting events. Students are introduced to dedicated interactive and show control software, and become adept at programming interactive environments.

GS/DMG 5990 3.0 Directed Reading

Students have the option of taking a Directed Reading course with any faculty member appointed to the Program, provided a suitable graduate course is not available in the current curriculum, and provided the course does not overlap significantly with a course taken previously. In all cases, the course will be directly relevant to the student's thesis/dissertation project.

GS/DMG 6000 0.0 MA/MSc MRP Research

GS/DMG 7000 0.0 Ph.D. Dissertation

*** GS/EECS 5323 3.00 Computer Vision**

This course introduces the basic concepts in Computer Vision. Primarily a survey of current computational methods, we begin by examining methods for measuring visual data (image based operators, edge detection, feature extraction), and low-level processes for feature aggregation (optic flow, segmentation, correspondence). Finally, we consider some issues in "high-level" vision by examining current high-level vision systems.

*** GS/EECS 5324 3.00 Introduction to Robotics**

This course introduces concepts in Robotics. The course begins with a study of the mechanics of manipulators and robot platforms. Trajectory and course planning, environmental layout and sensing are discussed. Finally, high-level concerns are introduced. The need for real-time response and dynamic-scene analysis are covered, and recent development in robotics systems from an Artificial Intelligence viewpoint are discussed.

*** GS/EECS 5326 3.00 Artificial Intelligence**

This course will be an in-depth treatment of one or more specific topics within the field of Artificial Intelligence. Integrated with the undergraduate course Computer Science 4401.03.

*** GS/EECS 5327 3.00 Introduction to Machine Learning and Pattern Recognition**

Machine learning is the study of algorithms that learn how to perform a task from prior experience. This course introduces the student to machine learning concepts and techniques applied to pattern recognition problem in a diversity of application areas.

*** GS/EECS 5331 3.00 Advanced Topics in 3D Computer Graphics**

This course introduces advanced 3D computer graphics algorithms. Topics may include direct programming of graphics hardware via pixel and vertex shaders, real-time rendering, global illumination algorithms, advanced texture mapping and anti-aliasing, data visualization.

*** GS/EECS 5351 3.00 Human-Computer Interaction**

This course introduces the concepts and technology necessary to design, manage and implement interactive software. Students work in small groups and learn how to design user interfaces, how to realize them and how to evaluate the end result. Both design and evaluation are emphasized.

*** GS/EECS 5443 3.00 Mobile User Interfaces**

This course teaches the design and implementation of user interfaces for touchscreen phones and tablet computers. Students develop user interfaces that include touch, multi-touch, vibration, device motion, position, and orientation, environment sensing, and video and audio capture. Lab exercises emphasise these topics in a practical manner.

GS/EECS 6324 3.00 From Control to Actuators

A "robot building course", this course will follow the issues involved in building a robot or robotic system from control to actuators. This includes microcomputer control, actuator design, high-level software models, and sensor inputs. Prerequisites: EECS 5324 3.0 Introduction to Robotics, previous experience in electronics would be an asset.

GS/PSYC 6315 3.00 - GS/EECS 6326 3.00 Principles of Human Perception and Performance in Human-Computer Interactions

This course considers the role of human perception in human-computer interaction particularly computer generated graphics/sound and immersive virtual reality. Fundamental findings from sensory physiology and perceptual psychophysics are presented in the context of interface and display design.

GS/EECS 6328 3.00 Speech and Language Processing

Introducing the latest technologies in speech and language processing, including speech and recognition and understanding, key-word spotting, spoken language processing, speaker identification and verification, statistical machine translation, information retrieval, and other interesting topics.

GS/EECS 6329 3.00 Advanced Human-Computer Interaction

This course examines advanced concepts and technologies for Human-Computer Interaction. Students will learn about advanced input and output devices (e.g. for mobile computing and/or Virtual Reality), about advanced design methods, how to implement effective interfaces, and how to perform rapid, effective iterative user tests.

GS/EECS 6330 3.00 Critical Technical Practise: Computer Accessibility and Assistive Technology

Many interactive systems strive to afford the same mechanisms to human users that are used in face-to-face conversation. This course examines the formal models and computational techniques that concern the pragmatics of language use that such systems employ.

GS/EECS 6331 3.00 Advanced Image Synthesis

This course concentrates on raster algorithms for image synthesis. Some of the topics may include visible surface algorithms, modelling, shading, global illumination, anti-aliasing, and texture mapping. Prerequisites: EECS 5331 3.0 Introduction to Computer Graphics.

GS/EECS 6335 3.00 Topics in Virtual Reality

This course considers how to present to a user a compelling illusion of being in an alternate (virtual) reality. It considers how humans perceive visual, audio, haptic and other perceptual inputs, and how technology can be used to stimulate these senses appropriately to simulate some virtual environment. Prerequisite: Computer Science 4471 3.0: "Introduction to Virtual Reality" or equivalent is recommended

GS/EECS 6337 3.00 3D User Interfaces

The course introduces the ways to interact with computers in a three dimensional (3D) environment, where the environment is either fully virtual or represents a mixture of real and virtual. It covers topics ranging from the hardware necessary to interface with virtual worlds, over techniques for interacting with 3D environments, to design and evaluation of 3D user interfaces.

GS/EECS 6340 3.00 Embodied Intelligence

This course is intended as a follow-on from a first course on Artificial Intelligence. Whereas such first courses focus on the important foundations of AI, such as Knowledge Representation or Reasoning, this course will examine how these separate foundational elements can be integrated into real systems. This will be accomplished by detailing some general overall concepts that form the basis of intelligent systems in the real world, and then presenting a number of in-depth cases studies of a variety of systems from several applications domains. The embodiment of intelligence may be in a physical system (such as a robot) or a software system (such as in game-playing) but in both cases, the goal is to interact with, and solve a problem in, the real world.

GS/PSYC 6225 3.00 - GS/EECS 6390D 3.00 Computational Models of Visual Perception

This course examines the problem of developing rigorous computational models for visual processing. Computational strategies may draw upon techniques in statistical inference, signal processing, optimization theory, graph theory and distributed computation.

GS/EECS 6412 3.00 Data Mining

This course introduces fundamental concepts of data mining. It presents various data mining technologies, algorithms and applications. Topics include association rule mining, classification models, sequential pattern mining and clustering.

GS/FILM 6246 - GS/CC 8862 3.00 Future Cinema II: Applied Theory

This hands-on course explores new screen technologies on both practical and theoretical levels within in a lab environment, participating in the evolution of emerging media such as virtual and augmented reality. Students are encouraged to think collectively beyond a century of inherited theory and practice, and imagine the moving images and screens of the future, through discussions interwoven with experimental individual and group projects.

(Cross-listing this course with a DMG rubric in discussion).

Elective:

Courses chosen from the above or elsewhere in the University (5000 or 6000 level) with guidance from the principal Supervisor.

4.3 For graduate programs, comment on how the course offerings will ensure that each graduate student in the program will take a minimum of two-thirds of the course requirements from among graduate level courses.

Any substitution of an undergraduate course requires approval from the Graduate Program Director.

4.4 As an appendix, provide a copy of the program requirements as they will appear in the Graduate Calendar.

Appendix B: Digital Media Calendar Copy

5. Program Structure, Learning Outcomes and Assessment

The intent of this section is to provide reviewers with an understanding of the knowledge, methodologies, and skills students will have acquired by the time they complete the program (i.e. the program learning outcomes), including the appropriateness of the program learning outcomes and how they will be supported and demonstrated. With that in mind, and with explicit reference to the relevant degree level expectations, it would be useful to focus on what students in the program will know and/or be able to do by the end of a defined period of time and how that knowledge, methodology and/or skill will be supported and demonstrated.

5.1 Provide a detailed description of the program learning outcomes and indicate how the program learning outcomes are appropriate and align with the relevant degree level expectations.

The program learning outcomes of the MA, MSc, and Ph.D. programs are designed to foster skills in creativity, critical thinking, computational development, collaborative teamwork, independent research, and research/research-creation dissemination, and have been developed by the existing faculty members of the Digital Media undergraduate program in both AMPD and LSE, who are experts in the various core and interdisciplinary areas of digital media. The learning outcomes of each program aligned to each degree level expectation follow:

Learning Outcomes, MA in Digital Media

The MA in Digital Media is awarded to students who have demonstrated a capacity for:

1. Depth and Breadth of Knowledge
core literacy in mathematical, systems/process, and computational bases for digital media, with the ability to implement in creative projects
articulating major historical and contemporary currents in digital media research and practices, with an emphasis on computational art-making
producing original digital media arts projects for critical engagement with members of the academic and artworld milieu
cooperative work habits
self-reliance and independent and original thinking
critical awareness of current problems and new insights in digital media
evaluative analysis of the student's practices with regard to key concepts, techniques and emerging technologies in the field
2. Knowledge of Methodologies
developing formal and technological strategies for production of digital media arts projects, through experimentation with concepts, materials and techniques, in parallel with critical reading
developing a sustained historically-informed written argument that disseminates knowledge developed through a research-creation project
critical evaluation of current and advanced research-creation practice and scholarship in digital media arts
awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as artificial life, industrial design, or robotics.
recognition and application of a plurality of problem solving techniques
3. Level of Application of Knowledge
implementing established workflows of design, prototyping, testing and refining in order to produce original digital arts projects

understanding the parameters of various types of digital media practices, including how they are unique and specialized, and in what ways they cross over.
applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a novel setting
communicating in visual, oral, and written modes for professional and critical discourse, making use of scholarly articles and primary sources
4. Awareness of Limits of Knowledge
developing a realistic appreciation of one's own skills and shortcomings
determining if the MA/MSc is a step in professionalization as a digital media practitioner or also preparation for Ph.D. study in the area
cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.
recognizing the importance of consulting with experts within and outside of the field
5. Level of Communication Skills
communicating ideas, issues and the core concerns of a artistic practice (spanning gallery to games)
choosing the appropriate mode for the professional presentation of the results of creative projects
presenting material in a coherent and organized form, using an appropriate combination of media, to engage a variety of audiences
6. Autonomy and Professional Capacity
developing collaborative methods for organizing and promoting the dissemination of creative work in forms such as exhibitions
keeping abreast of ever-changing technologies, new materials, processes and ideas to further one's digital media practice
the intellectual independence required for continuing professional development
qualities and transferable skills for employment requiring initiative, decision-making in complex situations, personal responsibility and accountability
understanding the infrastructures of the digital media professional milieu in both the arts and industry
ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research

Learning Outcomes, MSc in Digital Media

The MSc in Digital Media is awarded to students who have demonstrated a capacity for:

1. Depth and Breadth of Knowledge
core literacy in mathematical, systems/process, and computational bases for digital media, with the ability to modify for different application contexts
articulating major historical and contemporary currents in digital media research and practices, with an emphasis on technology development
producing original digital media projects integrating technology development for critical engagement with members of the academic and scientific milieu
cooperative work habits
self-reliance and independent and original thinking
critical awareness of current problems and new insights in digital media
evaluative analysis of the student's practices with regard to key concepts, techniques and emerging technologies in the field
2. Knowledge of Methodologies
developing formal and technological strategies for production of digital media projects integrating technology development, with an understanding of the cultural role of new and emerging digital media technology
developing a sustained written argument, including referencing relevant prior research in the field, that disseminates knowledge developed through a research project
critical evaluation of current and advanced research practice and scholarship in digital media technology development

awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as architecture, neuroscience, linguistics, or philosophy.
recognition and application of a plurality of problem solving techniques
3. Level of Application of Knowledge
implementing established digital media workflows of design, prototyping, testing and refining in order to produce original projects integrating technology development.
developing and utilizing computational techniques for digital media projects
applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a novel setting
communicating in visual, oral, and written modes for professional and critical discourse, making use of scholarly articles and primary sources
4. Awareness of Limits of Knowledge
developing a realistic appreciation of one's own skills and shortcomings
determining if the MA/MSc is a step in professionalization as a digital media practitioner or also preparation for Ph.D. study in the area
cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.
recognizing the importance of consulting with experts within and outside of the field
5. Level of Communication Skills
critically evaluating reports, design documents and academic papers and presenting findings to convey a position
choosing the appropriate mode for the professional dissemination of the results of projects that integrate technology development
presenting material in a coherent and organized form, using an appropriate combination of media, to engage a variety of audiences
6. Autonomy and Professional Capacity
developing collaborative methods for development teams and projects
keeping abreast of ever-changing technologies, new materials, processes and ideas to further one's professional development
the intellectual independence required for continuing professional development
qualities and transferable skills for employment requiring initiative, decision-making in complex situations, personal responsibility and accountability
understanding the infrastructures of the digital media professional milieu in both the arts and industry
ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research

Learning Outcomes, PhD in Digital Media

The PhD in Digital Media is awarded to students who have demonstrated a capacity for:

1. Depth and Breadth of Knowledge
expertise in mathematical, systems/process, and computational bases for digital media, and in their implementation
advanced production of original digital media projects in parallel with critical writing, as a significant contribution to the field, disseminated to the academic milieu
fluency in major historical and contemporary currents in digital media research and practices, to identify gaps in the literature and opportunities for new research to address shortcomings in the field
systematically reviewing, analyzing, assimilating and interpreting a body of relevant scientific and artistic literature, and innovations, in a number of fields outside one's area of research but pertinent to the research being undertaken
evaluative analysis of the student's practices with regard to key concepts, techniques and emerging technologies in the field
2. Knowledge of Methodologies

formulating innovative research questions and proposing historically-informed analytical, and technological strategies to address them
critical evaluation of current and advanced research and research-creation practice and scholarship in digital media arts and technology development
awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as material science, theatre, microbiology, or literature.
producing a sustained written argument demonstrating translation of research techniques into knowledge in digital media
critically assessing a complex problem with opposing and conflicting positions
recognizing and applying a plurality of problem solving techniques, within and across art-making, scientific, and engineering disciplines
3. Level of Application of Knowledge
implementing established and proposing new digital media workflows for design, prototyping, testing and refining in order to produce original research and research-creation
employing creative techniques in computational applications in the production of digital media projects that include comprehensive software/hardware development and/or a professional level of exhibition or performance
initiating and implementing independent, empirically-driven research experimentation
effective application of an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting
communicating in visual, oral, and written modes for professional and critical discourse, making use of scholarly articles and primary sources
4. Awareness of Limits of Knowledge
assessing and questioning the authority of existing bodies of knowledge and practices
identifying how assumptions of one's research may be understood differently within different disciplines
explaining how research findings both blur and distinguish lines between various research fields and disciplines
recognizing the importance of consulting with experts within and outside of the field
5. Level of Communication Skills
debating and defending one's research position, including ideas, issues, and conclusions, with specialists in the field and in open public fora
choosing the appropriate mode and channels for the professional presentation and dissemination of work
presenting material in a coherent and organized form, using an appropriate combination of media, to engage a variety of audiences
6. Autonomy and Professional Capacity
leading development teams and projects, organizing and promoting the dissemination of creative work in forms such as exhibitions, and/or participating successfully in new and established funding opportunities for digital media, computer science, and computational arts
continued activity at the forefront of ever-changing technologies, new materials, processes and ideas to further digital media development and practice
analyzing the critical debates within one's field and more broadly within related fields, including appreciating broader, cultural, social and ethical implications, to predict/identify possible implications of one's research outcomes and applying knowledge to particular contexts
qualities and transferable skills for employment requiring initiative, decision-making in complex situations, personal responsibility and accountability
understanding the infrastructures of the digital media professional milieu in both the arts and industry
ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research

5.2 Address how the program curriculum and structure supports achievement of the program learning outcomes. For research-focused graduate programs, comment on the nature and suitability of the major

research requirement(s) for degree completion. For undergraduate programs, comment on the nature and suitability of students' final-year academic achievement in the program.

The structures and curricula of the proposed graduate programs in Digital Media at York University have been carefully conceived to provide for the breadth and depth of the programs' respective learning outcomes. These programs encompass a wide variety of hybrid interdisciplinary approaches to computational art-making and technology development, which is reflected in the supervised selection of depth and elective courses, however there is a core base shared by programs. Both MA and MSc students require a very strong computational skill set integrated with conceptual strength to succeed in the program, and the DMG 5010 requirement has been designed to meet this core Degree Level Expectation. The MA, MSc and Ph.D. in Digital Media place expertise in project development and execution at the core of degree completion. The Advanced Vertical Studio/Lab I and II (DMG 5020 and DMG 6020) integrate MA and MSc with Doctoral students to support development of collaborative large-scale projects through hands-on work in teams. The Advanced Vertical Studio/Lab also encompasses art and science methods and practices in the formulation of research problems. Through DMG 5020/6020, DMG 5990, the MRP/dissertation, and other depth/elective courses, graduated students from these programs will have learned how to conduct independent, and team-based creative research and to disseminate/communicate results in their field as appropriate.

How each part of the curriculum and program structure supports the achievement program learning outcomes is detailed for each of the MA, MSc, and Ph.D. programs below:

MA in Digital Media

The curriculum core achieves learning outcomes focused on the production of advanced digital media through research-creation (the combining of creative and academic research practices). The depth and elective courses are selected with guidance and approval of the GPD (year 1) or principal supervisor (thereafter) to ensure they align with and embody the program's learning objectives, including broadening knowledge about digital media by merging artistic expression, scholarly investigation, and experimentation, and fostering necessary critical awareness of the program's interdisciplinary context, as they shape the student's progress toward the MRP.

The MA is a research degree. Students must conduct an independent Major Research Project (MRP) as the milestone component of the MA program, under the general direction of a supervisory committee consisting of a principal supervisor and second reader. Projects are defined as a body of work similar to a thesis in quality, scope and/or degree of originality. In particular, the MA program requires MRP projects of *research-creation*, as defined by the Social Sciences and Humanities Research Council: an approach to research that combines creative and academic research practices, and supports the development of knowledge and innovation through artistic expression, scholarly investigation, and experimentation. The creation process is situated within the research activity and produces critically informed work in a variety of media and art forms. The project must be documented with a report that details and contextualizes it, and be presented in public. The form of the presentation is at the discretion of the

supervisory committee, but could include an exhibition, screening, performance, or other public display of resultant creation.

Learning Outcomes, MA in Digital Media	These learning outcomes are addressed and embodied by:					
The MA in Digital Media is awarded to students who have demonstrated a capacity for:	Core DMG 5010	Core DMG 5020	MRP	Depth and elective courses, selected with guidance and approval of GPD or principal supervisor. Examples:		
				DMG (at least 1 for depth)	EECS (at least 1 for depth)	Other
1. Depth and Breadth of Knowledge						
core literacy in mathematical, systems/process, and computational bases for digital media, with the ability to implement in creative projects	X			DMG5960, 5510*, 5520*, 5940*, 5950*	EECS6328, 6329, 6330, 6412, 5323*, 5324*, 5327*	
articulating major historical and contemporary currents in digital media research and practices, with an emphasis on computational art-making	X		X	DMG5960, 5940*		CC8862
producing original digital media arts projects for critical engagement with members of the academic and artworld milieu		X	X	DMG5990, 5200, 5510*, 5520*, 5940*		CC8862, THEA5221*
cooperative work habits		X		DMG5200	EECS5351*	THEA5221*
self-reliance and independent and original thinking			X	DMG5990		
critical awareness of current problems and new insights in digital media				DMG5990, 5200, 5520*, 5940*	EECS6340, 6337, 6335, 6330	PSYC6225
evaluative analysis of the student's practices with regard to key concepts, techniques and emerging technologies in the field			X			
2. Knowledge of Methodologies						
developing formal and technological strategies for production of digital media arts projects, through experimentation with concepts, materials and techniques, in parallel with critical reading		X	X	DMG5200, DMG5960, 5510*, 5520*, 5940*, 5950*		
developing a sustained historically-informed written argument that disseminates knowledge developed through a research-creation project			X			
critical evaluation of current and advanced research-creation practice and scholarship in digital media arts	X			DMG5990, 5960, 5940*		CC8862, THEA5221*
awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as artificial life, industrial design, or robotics.				DMG5960, 5950*, 5510*, 5940*	EECS6390D	Any other LSE, HS, etc. (under guidance of supervisor)
recognition and application of a plurality of problem solving techniques	X	X				
3. Level of Application of Knowledge						

implementing established workflows of design, prototyping, testing and refining in order to produce original digital arts projects		X		DMG5990, 5200, 5510*, 5940*, 5950*		CC8862
understanding the parameters of various types of digital media practices, including how they are unique and specialized, and in what ways they cross over.	X			DMG5200, 5510*, 5520*, 5940*, 5950*		THEA5221*
applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a novel setting			X			
communicating in visual, oral, and written modes for professional and critical discourse, making use of scholarly articles and primary sources			X	DMG5990		
4. Awareness of Limits of Knowledge						
developing a realistic appreciation of one's own skills and shortcomings			X	DMG5200	EECS6324	THEA5221*
determining if the MA/MSc is a step in professionalization as a digital media practitioner or also preparation for Ph.D. study in the area			X			
cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.	X					
recognizing the importance of consulting with experts within and outside of the field		X				
5. Level of Communication Skills						
communicating ideas, issues and the core concerns of a artistic practice (spanning gallery to games)			X			
choosing the appropriate mode for the professional presentation of the results of creative projects		X		DMG5990, 5200, 5510*		CC8862, THEA5221*
presenting material in a coherent and organized form, using an appropriate combination of media, to engage a variety of audiences		X	X	DMG5200, 5510*	EECS6326, 6328, 6329, 5351*	THEA5221*
6. Autonomy and Professional Capacity						
developing collaborative methods for organizing and promoting the dissemination of creative work in forms such as exhibitions		X		DMG5200		THEA5221*
keeping abreast of ever-changing technologies, new materials, processes and ideas to further one's digital media practice			X	DMG5960, 5940*, 5520*, 5510*, 5950*		CC8862
the intellectual independence required for continuing professional development			X			
qualities and transferable skills for employment requiring initiative, decision-making in complex situations, personal responsibility and accountability		X				
understanding the infrastructures of the digital media professional milieu in both the arts and industry		X				

ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research			X			
---	--	--	---	--	--	--

MSc in Digital Media

The curriculum core achieves learning outcomes focused on the production of advanced digital media through research and technology development. The depth and elective courses are selected with guidance and approval of the GPD (year 1) or principal supervisor (thereafter) to ensure they align with and embody the program’s learning objectives, including broadening knowledge about digital media by merging academic investigation with problem-solving in emerging technologies, and fostering necessary critical awareness of the program’s interdisciplinary context, as they shape the student’s progress toward the MRP.

The MSc is a research degree. Students must conduct an independent Major Research Project (MRP) as the milestone component of the MSc program, under the general direction of a supervisory committee consisting of a principal supervisor and second reader. Projects are defined as a body of work similar to a thesis in quality, scope and/or degree of originality. In particular, the MSc requires an MRP whose topics will include implementation and evaluation of recently published ideas, design and development of novel software/hardware applications, or optimizations of algorithms, processes and systems cognizant of real world constraints, all within the domain of digital media. The project must be documented with a report that details and contextualizes it, and be presented in public. The format of the public presentation is at the discretion of the supervisory committee.

Learning Outcomes, MSc in Digital Media	These learning outcomes are addressed and embodied by:				
The MSc in Digital Media is awarded to students who have demonstrated a capacity for:	Core DMG 5010	Core DMG 5020	MRP	Depth and elective courses, selected with guidance and approval of GPD or principal supervisor. Examples:	
				EECS (at least 2 for depth)	Other
1. Depth and Breadth of Knowledge					
core literacy in mathematical, systems/process, and computational bases for digital media, with the ability to modify for different application contexts	X			EECS6328, 6329, 6330, 6412	
articulating major historical and contemporary currents in digital media research and practices, with an emphasis on technology development	X		X	EECS6326, 6328, 6329, 6335, 6340, 5323*, 5324*, 5326*	
producing original digital media projects integrating technology development for critical engagement with members of the academic and scientific milieu		X	X	EECS6324, 6331, 6335, 6337, 5351*	DMG5990
cooperative work habits		X		EECS5351*	DMG5200, THEA5221*
self-reliance and independent and original thinking			X		DMG5990
critical awareness of current problems and new insights in digital media				EECS6340, 6337, 6335, 6330	DMG5990, 5200, 5520*, 5940*, PSYC6225

evaluative analysis of the student's practices with regard to key concepts, techniques and emerging technologies in the field			X		
2. Knowledge of Methodologies					
developing formal and technological strategies for production of digital media projects integrating technology development, with an understanding of the cultural role of new and emerging digital media technology			X	EECS6324, 6326, 6329, 6330, 6335, 6337, 6340, 5351*, 5443*	
developing a sustained written argument, including referencing relevant prior research in the field, that disseminates knowledge developed through a research project			X		
critical evaluation of current and advanced research practice and scholarship in digital media technology development	X			EECS6324, 6326, 6328, 6330, 6335, 6337, 6329, 6340, 5323*, 5324*, 5351*, 5443*, 5326*, 5327*	PSYC6225
awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as architecture, neuroscience, linguistics, or philosophy.		X			Any other AMPD, LAPS, etc. (under guidance of supervisor)
recognition and application of a plurality of problem solving techniques	X	X			
3. Level of Application of Knowledge					
implementing established digital media workflows of design, prototyping, testing and refining in order to produce original projects integrating technology development.		X		EECS6324, 6329, 6337, 6412, 5323*, 5324*, 5327*, 5331*, 5351*, 5327*, 5443*	DMG5990
developing and utilizing computational techniques for digital media projects	X			EECS6324, 6330, 6331, 6335, 6337, 6340, 6412, 5326*, 5331*, 5443*	
applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a novel setting			X		
communicating in visual, oral, and written modes for professional and critical discourse, making use of scholarly articles and primary sources			X		DMG5990
4. Awareness of Limits of Knowledge					
developing a realistic appreciation of one's own skills and shortcomings			X	EECS6324	DMG5200, THEA5221*
determining if the MA/MSc is a step in professionalization as a digital media practitioner or also preparation for Ph.D. study in the area			X		
cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.	X				
recognizing the importance of consulting with experts within and outside of the field		X			

5. Level of Communication Skills					
critically evaluating reports, design documents and academic papers and presenting findings to convey a position	X		X	EECS6326, 6328, 6329, 5351*	DMG5990, PSYC6225
choosing the appropriate mode for the professional dissemination of the results of projects that integrate technology development		X			DMG5990
presenting material in a coherent and organized form, using an appropriate combination of media, to engage a variety of audiences		X	X	EECS6326, 6328, 6329, 5351*	DMG5200, 5510*, THEA5221*
6. Autonomy and Professional Capacity					
developing collaborative methods for development teams and projects		X		EECS6329, 5351*	
keeping abreast of ever-changing technologies, new materials, processes and ideas to further one's professional development			X	EECS6326, 6328, 6329, 6330, 6331, 6335, 6337, 6340, 6412, 5323*, 5324*, 5326*, 5327*, 5331*, 5443*	PSYC6225
the intellectual independence required for continuing professional development			X		
qualities and transferable skills for employment requiring initiative, decision-making in complex situations, personal responsibility and accountability		X			
understanding the infrastructures of the digital media professional milieu in both the arts and industry		X			
ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research			X		

Ph.D. in Digital Media

The course requirements are fewer in the Ph.D. on the assumption that core skills and concepts are in place; courses are chosen under guidance and approval of the GPD or principal supervisor (once assigned) to ensure they achieve program learning outcomes and support the development of the major research contribution of the Ph.D.

The major research requirement at the heart of the Ph.D. forms a significant and original body of research or research-creation with the oversight of a supervisory committee, and submission and defense of a dissertation embodying its results. The requirements for the dissertation research are fully aligned with an integrated project that synthesizes theory and methodology from both STEM and creative domains, resulting in a significant contribution to the advancement of knowledge in the field of Digital Media. The specific requirements of the comprehensive exam, proposal, defence and dissertation are outlined in section 4.1 above. Ph.D. candidates are closely supervised and follow clear Degree Learning Expectation benchmarks to ensure timely completion of each milestone.

Learning outcomes, PhD in Digital Media	These learning outcomes are addressed and embodied by:
--	--

The PhD in Digital Media is awarded to students who have demonstrated a capacity for:	Core DMG 6020	Comps	Proposal	Defence	Dissertation	2 electives, selected with guidance and approval of GPD or principal supervisor. Examples:
1. Depth and Breadth of Knowledge						
expertise in mathematical, systems/process, and computational bases for digital media, and in their implementation						DMG5990, 5960, 5510*, 5520*, 5940*, 5950*, EECS6328, 6329, 6330, 6412, PSYC6225
advanced production of original digital media projects in parallel with critical writing, as a significant contribution to the field, disseminated to the academic milieu	X				X	DMG5200, 5510*, 5520*, 5940*, EECS6324, 6331, 6335, 6337
fluency in major historical and contemporary currents in digital media research and practices, to identify gaps in the literature and opportunities for new research to address shortcomings in the field		X	X			DMG5990
systematically reviewing, analyzing, assimilating and interpreting a body of relevant scientific and artistic literature, and innovations, in a number of fields outside one's area of research but pertinent to the research being undertaken		X				DMG5990
evaluative analysis of the student's practices with regard to key concepts, techniques and emerging technologies in the field				X	X	
2. Knowledge of Methodologies						
formulating innovative research questions and proposing historically-informed analytical, and technological strategies to address them	X		X			DMG5200, DMG5960, 5510*, 5520*, 5940*, 5950*, EECS6324, 6326, 6329, 6330, 6335, 6337, 6340
critical evaluation of current and advanced research and research-creation practice and scholarship in digital media arts and technology development		X				DMG5990, 5960, 5940*, EECS6324, 6326, 6328, 6330, 6335, 6337, 6329, 6340
awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as material science, theatre, microbiology, or literature.	X					DMG5960, 5200, 5940*, 5950*, 5510*, EECS6326, 6328, 6330, 6390D, any other (under guidance of supervisor)
producing a sustained written argument demonstrating translation of research techniques into knowledge in digital media					X	DMG5990
critically assessing a complex problem with opposing and conflicting positions		X				DMG5990
recognizing and applying a plurality of problem solving techniques, within and across art-making, scientific, and engineering disciplines	X	X				

3. Level of Application of Knowledge						
implementing established and proposing new digital media workflows for design, prototyping, testing and refining in order to produce original research and research-creation	X					DMG5990, 5200, 5510*, 5940*, 5950*, EECS6324, 6329, 6337, 6412
employing creative techniques in computational applications in the production of digital media projects that include comprehensive software/hardware development and/or a professional level of exhibition or performance						DMG5200, 5510*, 5520*, 5940*, 5950*, EECS6324, 6330, 6331, 6335, 6337, 6340, 6412
initiating and implementing independent, empirically-driven research experimentation					X	
effective application of an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting					X	DMG5990
communicating in visual, oral, and written modes for professional and critical discourse, making use of scholarly articles and primary sources				X	X	DMG5990
4. Awareness of Limits of Knowledge						
assessing and questioning the authority of existing bodies of knowledge and practices		X				
identifying how assumptions of one's research may be understood differently within different disciplines		X				
explaining how research findings both blur and distinguish lines between various research fields and disciplines		X		X	X	
recognizing the importance of consulting with experts within and outside of the field	X					
5. Level of Communication Skills						
debating and defending one's research position, including ideas, issues, and conclusions, with specialists in the field and in open public fora				X		
choosing the appropriate mode and channels for the professional presentation and dissemination of work				X	X	DMG5990, 5200, 5510*, EECS6326, 6328, 6329, 5351*, THEA5221*
presenting material in a coherent and organized form, using an appropriate combination of media, to engage a variety of audiences	X			X		DMG5200, 5510*, EECS6326, 6328, 6329, 5351*, THEA5221*
6. Autonomy and Professional Capacity						
leading development teams and projects, organizing and promoting the dissemination of creative work in forms such as exhibitions, and/or participating successfully in new and established funding opportunities for digital media, computer science, and computational arts	X					DMG5990, 5200, THEA5221*

continued activity at the forefront of ever-changing technologies, new materials, processes and ideas to further digital media development and practice						DMG5960, 5940*, 5520*, 5510*, 5950*, EECS6326, 6328, 6329, 6330, 6331, 6335, 6337, 6340, 6412, CC8862
analyzing the critical debates within one's field and more broadly within related fields, including appreciating broader, cultural, social and ethical implications, to predict/identify possible implications of one's research outcomes and applying knowledge to particular contexts	X	X				DMG5960, 5950*, EECS6330, 6340
qualities and transferable skills for employment requiring initiative, decision-making in complex situations, personal responsibility and accountability	X					
understanding the infrastructures of the digital media professional milieu in both the arts and industry	X					
ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research					X	

5.3 Address how the methods and criteria for assessing student achievement are appropriate and effective relative to the program learning outcomes and Degree Level Expectations.

Assessment of student achievement is carried out through the courses and research components of the programs as outlined in sections 4.1 and 5.2 above. This includes assignments, tests, collaborative projects, responding to research problems, organization of and participation in exhibitions and events, presentations, and critiques. Additionally, supervisory committees track student progress through regular committee meetings, and give clear oral feedback regarding advancement through the production, creation, technology development and textual aspects of the program and identifying any gaps in knowledge and/or skills, and guidance through the approval process for taking all depth and elective credits. Annual written progress reports are critical as benchmarks for MA, MSc, and Ph.D. students.

In the MA and MSc, Major Research Projects entail a public presentation and critique of the work, which for the MA may take the form of an exhibition, performance, or other presentation of artwork. This format encourages an approach to the work that more closely parallels a non-academic digital media context.

In the Ph.D., successfully completing the comprehensive written report shows evidence of excellence in the candidate's field of interest, and passing the oral examination demonstrates ability to articulate all aspects of the field. The dissertation proposal once accepted by the supervisory committee outlines a research program with clear goals and potential for success.

5.4 For graduate programs, indicate the normal full-time program length (i.e. the length of time in terms in which full-time students are expected to complete the program) including a description of how students' time-to-completion will be supported and managed to ensure that the program requirements can be reasonably completed within the proposed time period. Indicate if the program will be available on a part-time basis, and, if applicable, explain how students' time-to-completion will be supported and managed to ensure that the program requirements can be reasonably completed on a part-time basis.

The Master's programs (MA and MSc) will normally be completed in 2 years (5 terms). Master's are likely to be sought after as terminal degrees by a considerable number of applicants who are professionals in the Digital Media industries. The Digital Media Graduate Program proponents have developed a model for accelerated progress through undergraduate into Master's as well as Master's into Ph.D., built around the core two-year Master's. Coursework in the Master's is expected to be completed in the first 4 terms. The principal supervisor will monitor progress and must be approved no later than the end of the second term of Master's study.

Masters timeline:

Entry: Supervisor assigned
End of Term 2: Supervisor finalized
End of Term 4: Coursework completed
Middle of Term 4: MRP proposal submitted by
End of Term 5: Presentation of MRP

The Ph.D. will normally be completed in 4 years. Coursework is expected to be completed in the first 2 terms. Supervisors will ensure that meetings with the student are held regularly and progress reports are submitted when due.

PhD timeline:

Entry: *Pro tem* supervisor assigned
End of Term 2: Supervisory committee finalized
End of Term 2: Coursework completed
End of Term 5: Comprehensive examination
Beginning of Term 7 (first term of year 3): Dissertation proposal

A caucus meeting of all faculty members who supervise in the three degree programs will be convened annually in the Spring. This meeting allows an overview of all of the graduate students' progress through their degree requirements as well as an exchange of ideas to, in particular, assist those students who are falling behind.

A small number of MA and MSc students may enroll in the DM Graduate Program on a part-time basis. Part-time MA and MSc students will also be expected to complete the degree requirements within 3 years. Under normal circumstances, the part-time option will not be available to Ph.D. students.

Completion of BA+MA/MSc in 5 years would be based on offers of entry into Master's level for the top students completing year 3 in the York Digital Media Honours BA Program. This track makes it possible to finish the MA/MSc by term 3 (summer), for a total of 5 years from the start of the BA.

Continuing Master's students can apply to complete MA/MSc + Ph.D. within 5 years, potentially completing the Ph.D. in an additional 6 to 8 terms after the Master's. This is comparable to SIAT at Simon Fraser University, where graduate students typically take an average total of 13 semesters or 4.5 years to complete a Master's + Ph.D. See below for admission details regarding both of these accelerated tracks.

The program structure clearly supports the intellectual quality of the student experience. A part that was not articulated in the proposal and should be considered is how a healthy and stimulating graduate student community will be developed.

Two mandatory courses across the first two semesters for masters students and one for PhD students support building community amongst the intake cohorts. Further opportunities for connection, both within the program and connecting with graduate students in other programs, are facilitated through breadth courses. As well, students will be associated with a variety of different labs giving opportunities to establish closer relationships. To further foster a healthy and stimulating graduate student community, the program will offer a mandatory graduate colloquium that presents talks from visiting or resident faculty that would form a basis for follow up discourse. Given the disperse nature of such a joint program, we will work with AMPD and Lasonde Deans to allocate a social space for students within the program to connect with each other informally. Such a space would function as a hub for exchanging ideas between students and for informal and semi-formal gatherings.

5.5 Describe the proposed mode(s) of delivery, including how it/they are appropriate to and effective in supporting the program learning outcomes.

Mode of delivery in MA, MSc, and Doctoral core courses is a combination of the following: lecture, lab, small group projects, focused solo studio projects, and performance works. The Advanced Vertical Studio/Lab for both MA, MSc, and Doctoral is focused on collaborative large-scale projects. This deliberately wide range of delivery methods aligns well with learning outcomes that focus on independent research skills in the diverse contexts. Additional elective courses may use any mode of delivery available at the University, including fully online.

6. Admission Requirements

6.1 Describe the program admission requirements, including how these requirements are appropriately aligned with the program learning outcomes.

Students can enter the MA or MSc program either through direct entry or via an integrated Bachelor's/Master's track that is built on the existing Undergraduate Honours BA program. Students can

enter the Ph.D. program by applying directly or through an integrated MA/MSc-Ph.D. track that will be built on the MA/MSc programs.

Applying to the MA:

Graduates with an honours degree or equivalent from a recognized university in Digital Media or related Bachelor's program, such as an art program that focuses on technology, with at least a B average in the final two years of study, may be considered for admission as candidates for the MA degree. Applicants are expected to provide a portfolio, a Statement of Interest letter, a curriculum vitae, and two recommendations. Applicants must show that they have experience in both programming and the arts, and in particular a cross-disciplinary approach. Experience creating art or creative works (including games) using programming languages is required. Those whose formal background in programming is incomplete will be required to take appropriate supplemental undergraduate course(s) in addition to required courses. For students who have not graduated from a university where the language of instruction is English, there is no formal language requirement but the supervisory committee will require a student to demonstrate an acceptable competence in a language which is considered necessary for purposes of doing their research.

Applying to the MSc:

Graduates with an honours degree or equivalent from a recognized university in Digital Media or related Bachelor's program, such as computer science, with at least a B average in the final two years of study, may be considered for admission as candidates for the MSc degree. Applicants are expected to provide a portfolio, a Statement of Interest letter, a curriculum vitae, and two recommendations. Applicants must show that they have experience in the arts, and in particular a cross-disciplinary approach. Those whose formal background in the arts is incomplete will be required to take appropriate supplemental undergraduate course(s) in addition to required courses. There is no formal language requirement but the supervisory committee will require a student to demonstrate an acceptable competence in a language which is considered necessary for purposes of doing their research.

Accelerated Bachelor's+Master's track:

An accelerated Bachelor's+Master's track is available to top students in the undergraduate Digital Media BA Program at the end of year 3. To be eligible, students require a minimum GPA of A, a portfolio, a Statement of Interest that describes the applicant's motivations for entering the Master's program and an initial direction of research, and a support statement from a Digital Media faculty member indicating that the student is qualified and has high potential to succeed. In the 4th year of the BA, successful applicants are offered flexibility in the Digital Media Capstone whereby term 2 might be oriented toward the launch of their Master's project. These students are also to add 2 Master's level 3.0 courses to their 4th year course load, likely the Foundations course, plus one of the depth courses or an elective.

Applying to the Ph.D.:

Students applying to the Ph.D. require a B+ GPA and degree in a related Master's program, a portfolio, a Statement of Interest letter, a qualifying research paper or similar significant contribution to the field, and two recommendations. They also must show that they have experience in both computer science and the arts, especially in a cross-disciplinary approach. If, for example, their previous degree granting program is not a cross-disciplinary program, the application package must include evidence of prior cross/inter-disciplinary work.

6.2 Explain any alternative requirements, if any, for admission into an undergraduate, graduate or second-entry program, such as minimum grade point average, additional languages or portfolios, along with how the program recognizes prior work or learning experience.

A portfolio is required for entry into all programs. A portfolio shows evidence of prior creative outputs primarily in the form of artworks but could also include outputs from computer engineering-based projects. Projects represented in the portfolio should emphasize a cross-disciplinary approach. Examples of art-based portfolios could include drawings/images, audio recordings, sound compositions, video documentation of interactive systems, other gallery/curatorial documentation, games and interactive demonstrations but must include some works that utilize programming. Examples of computer engineering-based projects could include source code for applications (preferably interactive), games, microcontroller code (from physical computing), video documentation of projects, publications, and prototypes but must include some works that engage with the arts.

Letters of recommendation can be from previous professors, employers, or other persons whom the applicant has had interactions with and can attest to their professional and/or academic qualifications.

7. Resources

7.1 Comment on the areas of strength and expertise of the faculty who will actively participate in delivering the program, focusing on its current status, as well as any plans in place to provide the resources necessary to implement and/or sustain the program.

The core faculty supporting the program is comprised of a combination of artist researchers and computer science researchers, with many complementary areas of Digital Media strength among them. Expertise across EECS and CA includes: the design and building of interactive art and immersive environments; the implementation of participatory design, maker methods, physical computing, digital fabrication and creative coding for the creation of novel digital media works; virtual reality; computer games; audio-visual signal processing; computer vision, perception and stereoscopy (members of York's Centre for Vision Research ORU); and digitally-mediated performance.

The minimum number of dedicated new courses to support the program at steady state is three (DMG 5010 3.0, DMG 5020/6020 3.0, and on alternating years DMG 5200 3.0 or DMG 5960 3.0), plus course offload for the GPD. Example loading of these courses for 2018-2019:

1. (Core) DMG 5010: Graham Wakefield

2. (Core) DMG 5020/6020: Joel Ong
3. (Depth) DMG 5200 or DMG 5960 (alternating years): Doug Van Nort

CRCs Wakefield, Van Nort, and new Games, Gaming and Gamification have teaching loads of 1.25 full courses per year. Contribution to loading through EECS faculty is made via the numerous existing graduate-level courses that form part of the Digital Media graduate *depth* course options.

Many EECS courses are offered each year for students to choose from. In the 2015-2016 year, 7 of the courses that are on the list of EECS courses identified in the proposal are offered. According to the projections, the program would require approximately 28 spots, or an average of 4 spots in each of these courses (depending on number of MSc students). The chair, GPD, and a representative of the proposed program in EECS all demonstrated enthusiasm to take on this load.

Within Computational Arts, aside from the new courses outlined above, typically each year 2-3 integrated DMG/DATT courses are offered. Integrated courses are available to Masters students who could take at most 1 such course as an elective. The program would require approximately 9 such spots, or 3-5 new integrated spots in each of these existing DATT courses. The Computational Arts faculty involved are eager to support the program in this way.

7.2 Comment on the anticipated role of retired faculty and contract instructors in the delivery of the program, as appropriate.

Full-time tenure-track faculty will deliver all courses in the proposed Graduate Program.

7.3 As appropriate, identify major laboratory facilities/equipment that will be available for use by undergraduate and/or graduate students and to support faculty research, recent acquisitions, and commitments/plans (if any) for the next five years.

All EECS researchers in the program run labs in which graduate students will work. The Graphics and Media at York (GaMaY) Lab is the site of the conjoined research activities of Faloutsos and Baljko, located in 2023/2027 Lassonde Building. Lab projects are under five rubrics: Assistive and Rehabilitation Technology, Digital Media Learner Experience, Knowledge Production, Tangible Interfaces and Virtual Worlds & Computer Graphics. Allison's Virtual Reality and Perception Laboratory and Elder's Human and Computer Vision Laboratory are located in the Lassonde Building, while Jenkin's Vision, Graphics and Robotics Laboratory is located in the Sherman Health Science Research Building. All three are affiliated with the Centre for Vision Research.

Core AMPD researchers run labs that will incorporate graduate student research. Hosale's nD::StudioLab is a multi-purpose facility designed for the research and development of transmodal artworks, located in the Burton Auditorium. Van Nort has established the Distributed Digital Performance Laboratory (D2PL) in Room 334 of the Goldfarb Centre, a space dedicated to the exploration of collective creation in digitally mediated performances. Wakefield's Computational Worldmaking Lab centres on the creation of responsive artificial worlds for exploratory experience emphasizing continuity across real and virtual

space. The Digital Dramaturgy Lab (DDL), founded in April 2012 by Professor Antje Budde and Professor Don Sinclair, is a creative research initiative of artists, scholars, scientists, technicians, programmers/software developers and students. This lab is a collaboration between the Centre for Drama, Theatre and Performance Studies at the University of Toronto and Digital Media Program at York University. The Mobile Media Lab, led by York Digital Media Professor Michael Longford and Professor Kim Sawchuk, Communication Studies, Concordia University/Montreal, is an interdisciplinary research initiative exploring innovative cultural and social applications of wireless communications and mobile technology, including the incorporation of user-generated content and multi-user engagement.

7.4 As appropriate, provide information on the office, laboratory and general research space available that will be available for faculty, undergraduate and/or graduate students; the availability of common rooms for faculty and graduate students; administrative space; as well as any commitments/plans (if any) for the next five years.

Computational Arts in AMPD has three main rooms for undergraduate teaching that will be available to students in the Graduate Program. The Art & Technology Learning Lab (ATLL) is a 33 seat Macintosh computer lab located in Accolade West 102. The Transmedia Lab is a multipurpose classroom, performance space and studio located in Accolade West 103. The Digital Fabrication Lab or *Fab Lab* is a collaboration between the Departments of Visual Art and Art History and Computational Arts. The lab contains three MakerBots and one laser cutter, and is located in the L.L. Odette Centre for Sculpture of AMPD. Additional Centre for Sculpture facilities can be available to students in the Digital Media graduate program with orientation/safety training.

EECS faculty supervisors who are members of the proposed program will provide office, laboratory or general research space in support of the proposed program from their individual faculty member resources and labs described in 7.3.

7.5 As appropriate, comment on academic supports and services, including information technology, that directly contribute to the academic quality of the program proposed.

The program will require support and services in three major categories in order to successfully deliver the proposed graduate program. A faculty member will be appointed by the Deans of the two collaborating Schools as the Graduate Program Director will be responsible for program administration of these activities and should be provided with appropriate teaching relief as per terms of the YUFA Collective Agreement.

Information Technology and Technical Support: Support will be provided from existing infrastructure in AMPD and LSE. In AMPD, AMPD Computing Services provides Faculty level support and the Computational Arts Technician provides a variety of program specific support including the facilities discussed in 7.4. In LSE EECS operates labs that support teaching including The Digital Media Lab, Embedded Systems Lab, and The Robotics and Graphics Lab. A team of eight technical staff members provide comprehensive support for teaching, research and administration.

Office Support: The Computational Arts Program Assistant in AMPD currently provides Program level support for the Digital Media undergraduate program. This position would need to be expanded to include support for the graduate program.

Resources: The Faculty of Graduate Studies at will oversee the process of graduate student recruitment and admission. The Steacie Science and Engineering Library and the Scott Library/Sound and Moving Image Library provide access to a wealth of appropriate resources. We will continue to liaise with the librarians to refine resources appropriate to this new program.

7.6 For graduate programs, indicate financial support that will be provided to master’s and/or Ph.D. students, including how this support will be sufficient to ensure adequate quality and numbers of students. Comment on how supervisory loads will be distributed, as appropriate. Special attention should be paid to supervisory capacity for new Ph.D. programs.

Master’s students in the MSc program will be funded through a combination of Research Assistant support from faculty grants and York Graduate Assistant/Teaching Assistantships. Master’s students in the MA program will be funded through a combination of York Graduate Assistant and Teaching Assistantships. Ph.D. students will be funded through Teaching Assistantships and faculty grants.

Because the proposed Graduate Program is their primary program, core AMPD faculty appointed as Full to the program (Hosale, Van Nort, Wakefield, and new 2016 Gaming CRC) will be expected to carry 2 principal masters supervisions and up to 3 principal Ph.D. supervisions, plus up to 2 masters secondary and 1 or 2 Ph.D. secondary supervisions.

The Lassonde faculty appointed as Full to the program are all primarily appointed to EECS graduate programs (Baljko, Faloutsos, Allison, Elder, Jenkins, Kyan), therefore they would carry 2 principle masters and 1 principal Ph.D. supervision, plus up to 2 secondary master’s and 1 or 2 Ph.D. secondaries.

Faculty appointed to the program as Associates (Brixey, Longford, Sinclair, Tenhaaf) would carry 2 principal masters, 2 secondary master’s, and 1 or 2 Ph.D. secondary supervisions.

Table 1 – Listing of Faculty

For graduate programs: Identify all full-time faculty, retired faculty, adjuncts and contract instructors who will be appointed to and who will actively participate in delivering the program, as follows:

Faculty Name & Rank	Home Unit	Primary Graduate Program	Area(s) of Specialization		
			Area 1	Area 2	Area 3
Full Members					

Rob Allison	EECS	no	Stereoscopic displays	Eye tracking	3D media
Melanie Baljko	EECS	no	Human-computer interaction	Human-centered design	Assistive and rehabilitation technology
Michael Brown	EECS	no	Computer Vision	Image Processing	Computer Graphics
James Elder	EECS	no	Human vision	Computer Vision	
Petros Faloutsos	EECS	no	Computer Graphics	Autonomous Agents	Computer Games
Mark-David Hosale	CA	yes	Physical Computing	Digital Fabrication/Sculpture	Interactive Environments
Michael Jenkin	EECS	no	Virtual Reality	Computer Vision	Autonomous Systems
Matthew Kyan	EECS	no	Multimedia- & bio-signal processing	Visual data mining / Knowledge-Assisted Visualization	Tangible Interfaces & Mixed Reality (AR/VR)
Doug Van Nort	CA/Theatre	yes	Digital Performance	Digital music	Computational creativity
Graham Wakefield	CA/VAAH	yes	Interactive Generative Art	Mixed Reality (VR/AR)	Creative Coding
Joel Ong	CA	yes	Art/Science	Sound	Environment
New: CRC in Games, Gaming and Gamification July 2017	CA	yes	Games	Gaming	Gamification

Associate Members

Shawn Brixey	VAAH / CA / CMA	no	Art/Science	Bioengineering	Environment
David Gelb	Design	no	Interface Design	Visual Communication	Digital Learning

Michael Longford	CA	yes	Interface Design	User Experience	Graphic Design
Don Sinclair	CA	yes	Interactive Art	Digital Dramaturgy	Creative Coding
Nell Tenhaaf	VAAH/CA	no	Interactive Art	Artificial Agents	Creative Coding

Full Members hold a tenure-track/tenured position at York University. They are eligible for the full range of teaching, examination and supervisory activities, including principal supervision doctoral dissertations.

Associate Members hold a tenure-track/tenured or contractually limited position at York University. They may be eligible for the full range of teaching, examination and supervisory activities, excluding principal supervision of doctoral dissertations. They may serve as a co-supervisor of doctoral dissertations on the condition that the other co-supervisor is a full member of the graduate program.

Primary Graduate Program: An individual may be appointed to more than one graduate program, in which event they shall designate one of the programs as their primary graduate program. Although this designation is intended to signify an individual’s principal, but not exclusive, commitment in relation to graduate supervision, teaching and service, a faculty member may shift their principal commitments over the course of their career.

Table 2 – Graduate Supervision

Please note that although the supervisory experience of those who have this proposed program as their primary graduate program is relatively low, there is capacity and great enthusiasm for supervision. This proposed program is particularly well aligned to faculty members currently without a primary graduate program (Hosale, Sinclair). For new CRCs (Van Nort, Wakefield and Games hire) this program was designed to align with their research and will provide the necessary vehicle for them to attract and support a new pool of students.

Identify the supervisorships of master’s major research papers/projects (MRP), master’s theses, doctoral dissertations, and post-doctoral students (PDF) by each faculty member who will be appointed to the proposed program completed within the past eight years and currently in progress.

Faculty Member	Completed (within past eight years)				In Progress			
	MRP	Thesis	Dissertation	PDF	MRP	Thesis	Dissertation	PDF
Full Members								

Rob Allison	3	8	2	5		2	2	2
Melanie Baljko	1	4		1		5	3	
James Elder		5	2	2		4	3	1
Petros Faloutsos		15	7			2	2	
Mark-David Hosale								
Michael Jenkin	3		2		3			
Matthew Kyan	12	7				2	4	
Doug Van Nort	2						2	
Graham Wakefield		4	1					
Associate Members								
Shawn Brixey								
David Gelb	1							
Michael Longford		5				1		
Don Sinclair		3						
Nell Tenhaaf	1	5	2				1	

Table 3 – Research Funding Received by Faculty

Identify the research funding received for each of the past eight years by members who will be appointed to the proposed program. This table is intended to show the amount of funding available to support faculty research and potentially available to support students’ work, either through the provision of stipends or materials for the conduct of the research. For this reason, grants for travel and publication awarded to faculty should not be included in this table. Major equipment grants, which provide important resources for the work of faculty and students, may be listed separately.

Year	Tri-Council	Other Peer Adjudicated	Contracts	Institutional	Totals
2015	\$2,959,000	\$934,025	\$49,700	\$112,050	\$4,054,775
2014	\$15,000	\$171,058	\$75,400	\$86,400	\$347,858
2013	\$362,000	\$222,600	\$113,600	\$123,500	\$821,700
2012	\$3,000	\$182,100	\$104,499	\$136,500	\$426,099
2011	\$36,500	\$0	\$10,000	\$82,000	\$128,500
2010	\$253,700	\$860,179	\$0	\$80,000	\$1,193,879
2009	\$146,050	\$791,000	\$7,500	\$9,500	\$954,050
2008	\$106,843	\$894,365	\$190,000	\$42,656	\$1,233,864
Totals:	\$3,882,093	\$4,055,327	\$550,699	\$672,606	\$9,160,725

8. Enrolment Projections

8.1 Indicate the anticipated implementation date (i.e. year and term of initial in-take), and provide details regarding the anticipated yearly in-take and projected steady-state enrolment target, including when steady-state will be achieved.

Enrolment projections are based on the following:

- The SFU School of Interactive Arts and Technology graduate program, one of the most similar to the proposed program in Canada, had a 2013-2014 headcount as follows: MA 14, MSc 27, PhD 67.
- There is significant interest from current undergraduate students in the Digital Media program at York, which itself has shown rapid growth in enrolment from 71 in 2009-2010 to 157 in 2015-2016, an average year-on-year increase of 28% – the most recent 2015-2016 intake is also 27% above the previous academic year’s.
- An internal student and alumni survey confirm interest in the graduate program (see section 3.2), in which 72% of all respondents agreed a graduate program would be a valuable addition, and 45% of respondents would be interested in pursuing a graduate degree in this program. 100% of the alumni who responded thought a graduate program would be a valuable addition and 86% expressed interest in pursuing such a degree.
- There are four Canada Research Chairs (the fourth to start in July 2016) whose principal graduate program will be Digital Media. These faculty members have significant capacity to both take on graduate students, and due to their high profiles, attract graduate students.
- There currently exists a broad range of expertise in Digital Media that will be enhanced by new hires commencing in July 2016 in Games, Gaming, and Gamification; Information Design and Data Visualization; and Composition and Sound Design for Cinema, Games, and Motion Media.

Enrolment Projections									
Masters									
Year	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annual Intake	12	12	12	12	12	12	12	12	12
FTE	12	21	22	22	22	22	22	22	22
Attrition		1	2	2	2	2	2	2	2

Ph.D.									
Year	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annual Intake	2	2	2	2	2	2	2	2	2
FTE	2	4	5	7	10	11	11	11	11
Attrition			1		1	1	1	1	1
Extended Degree Completion					2	2	2	2	2

9. Support Statements

Support statements are required from:

- *relevant Dean(s)/Principal, with respect to the adequacy of existing human (administrative and faculty), physical and financial resources necessary to support the program, as well as the commitment to any plans for new/additional resources necessary to implement and/or sustain the program*
- *Vice-President Academic and Provost, with respect to the adequacy of existing human (administrative and faculty), physical and financial resources necessary to support the program, as well as the commitment to any plans for new/additional resources necessary to implement and/or sustain the program*
- *University Librarian confirming the adequacy of library holdings and support*
- *University Registrar confirming the implementation schedule and any administrative arrangements*
- *relevant Faculties/units/programs confirming consultation on/support for the proposed program, as appropriate*

See Appendix C: Support letters

Support letters from the following external organisations:

Interactive Ontario is a not-for-profit industry trade association located in Toronto, committed to the growth of the Ontario interactive digital media (IDM) industry. IO represents approximately 300 IDM companies, with a diverse group of members ranging from SMEs (small & medium enterprises) to large international corporations. They produce innovative experiences in a variety of subsectors including video games, eLearning, transmedia storytelling, mobile apps, augmented and virtual reality, web series

and more. The IO letter attests that employers in the Ontario IDM industry are constantly on the lookout for HQP with a multidisciplinary background in design plus STEAM (Science / Technology / Engineering / Arts / Math).

Ellefson Technology Consulting is a Toronto-based boutique software development company that partners with startups and entrepreneurs, providing the technical expertise to realize their website, mobile app, and software projects. Chris Ellefson's letter focuses on the adaptability required of employees in the digital media sector due to constantly changing technology, and how the integration of aesthetic and pragmatic skills responds to this need.

The Canadian Digital Media Network is a federal Centre of Excellence in Commercialization and Research that is dedicated to creating and enabling connections and collaboration between Canadian digital media entrepreneurs, companies, research institutes, government and intermediary organizations across the country. CDMN is engaged with 3352 startups and SMEs, 2960 companies in the ICT industry, and 166 academic institutions with R&D departments. The CDMN letter says that companies in their network are continually challenged by finding talent, and that the proposed program promises to develop the kind of developers and practitioners needed.

New Program Proposals: Curricula Vitae of the Faculty

For new graduate programs, the Program Brief must include up-to-date CVs for all faculty members who will be appointed to the proposed program, as well as a copy of the program-specific appointment criteria. The program-specific appointment criteria must be developed in accordance with the Policy on Appointments to the Faculty of Graduate Studies. CVs must be submitted in a standardized format relevant to the proposed program, such as that used by one of the Tri-Councils (CIHR, NSERC, SSHRC) or the current OCGS format. The program proponents should agree upon the format prior to sending out a call to faculty members.

Although they are part of the Program Brief, CVs should be submitted as an independent document. Within this document, the CVs should be compiled in alphabetical order, with a table of contents. Where appropriate, a program may have separate sections for faculty members who hold full-time (including CLAs) positions at York, retirees, and adjunct appointments. The program-specific appointment criteria should be included in the document as an appendix.

An electronic or soft copy of the CV document in the format described above should be submitted to the Office of the Vice Provost Academic at the same time as the proposal and external reviewer nominations. At the same time, a copy of the CV document should be submitted to the Office of Dean, Faculty of Graduate Studies, along with any other documentation necessary with respect to the formal appointment to the Faculty of Graduate Studies of those individuals who will participate in the offering of the proposed program.

See Appendix E: Appointment Criteria
and Appendix F: CVs

	Required by:			MA/MSc			PhD					MA/MSc/PhD		
	MA	MS	PhD	Core	MRP	Core	Comps	Proposal	Defence	Dissertation	7000	Depth/elective, chosen with approval & guidance of GPD/principal supervisor:		
Learning Outcome	MA	MS	PhD	5010	5020	6000	6020					DMG examples:	EECS examples (~30% run each year):	Other examples:
1. Depth and Breadth of Knowledge														
core literacy in mathematical, systems/process, and computational bases for digital media, with the ability to implement in creative projects				X								DMG5960, 5510*, 5520*, 5940*, 5950*	EECS6328, 6329, 6330, 6412, 5323*, 5324*, 5327*	
articulating major historical and contemporary currents in digital media research and practices, with an emphasis on computational art-making				X		X						DMG5960, 5940*		CC8862
producing original digital media arts projects for critical engagement with members of the academic and artworld milieu					X	X						DMG5990, 5200, 5510*, 5520*, 5940*		CC8862, THEA5221*
core literacy in mathematical, systems/process, and computational bases for digital media, with the ability to modify for different application contexts				X									EECS6328, 6329, 6330, 6412	
articulating major historical and contemporary currents in digital media research and practices, with an emphasis on technology development				X		X							EECS6326, 6328, 6329, 6335, 6340, 5323*, 5324*, 5326*	
producing original digital media projects integrating technology development for critical engagement with members of the academic and scientific milieu					X	X						DMG5990	EECS6324, 6331, 6335, 6337, 5351*	
cooperative work habits					X							DMG5200	EECS5351*	THEA5221*
self-reliance and independent and original thinking						X						DMG5990		
critical awareness of current problems and new insights in digital media												DMG5990, 5200, 5520*, 5940*	EECS6340, 6337, 6335, 6330	PSYC6225
expertise in mathematical, systems/process, and computational bases for digital media, and in their implementation												DMG5990, 5960, 5510*, 5520*, 5940*, 5950*	EECS6328, 6329, 6330, 6412	PSYC6225
advanced production of original digital media projects in parallel with critical writing, as a significant contribution to the field, disseminated to the academic milieu							X				X	DMG5200, 5510*, 5520*, 5940*	EECS6324, 6331, 6335, 6337	
fluency in major historical and contemporary currents in digital media research and practices, to identify gaps in the literature and opportunities for new research to address shortcomings in the field								X	X			DMG5990		
systematically reviewing, analyzing, assimilating and interpreting a body of relevant scientific and artistic literature, and innovations, in a number of fields outside one's area of research but pertinent to the research being undertaken								X				DMG5990		
evaluative analysis of the student's practices with regard to key concepts, techniques and emerging technologies in the field						X				X	X			

2. Knowledge of Methodologies															
developing formal and technological strategies for production of digital media arts projects, through experimentation with concepts, materials and techniques, in parallel with critical reading						X	X							DMG5200, DMG5960, 5510*, 5520*, 5940*, 5950*	
developing a sustained historically-informed written argument that disseminates knowledge developed through a research-creation project							X								
critical evaluation of current and advanced research-creation practice and scholarship in digital media arts					X									DMG5990, 5960, 5940*	CC8862, THEA5221*
awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as artificial life, industrial design, or robotics.														DMG5960, 5950*, 5510*, 5940*	EECS6390D Any other LSE, HS, etc. (under guidance of supervisor)
developing formal and technological strategies for production of digital media projects integrating technology development, with an understanding of the cultural role of new and emerging digital media technology															EECS6324, 6326, 6329, 6330, 6335, 6337, 6340, 5351*, 5443*
developing a sustained written argument, including referencing relevant prior research in the field, that disseminates knowledge developed through a research project															
critical evaluation of current and advanced research practice and scholarship in digital media technology development					X									EECS6324, 6326, 6328, 6330, 6335, 6337, 6329, 6340, 5323*, 5324*, 5351*, 5443*, 5326*, 5327*	PSYC6225
awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as architecture, neuroscience, linguistics, or philosophy.						X									Any other AMPD, LAPS, etc. (under guidance of supervisor)
recognition and application of a plurality of problem solving techniques					X	X									
formulating innovative research questions and proposing historically-informed analytical, and technological strategies to address them								X		X				DMG5990, 5200, 5960, 5510*, 5520*, 5940*, 5950*	EECS6324, 6326, 6329, 6330, 6335, 6337, 6340
critical evaluation of current and advanced research and research-creation practice and scholarship in digital media arts and technology development									X					DMG5990, 5960, 5940*	EECS6324, 6326, 6328, 6330, 6335, 6337, 6329, 6340
awareness of the interdisciplinary context of digital media through art-science intersections and in relation to other fields of knowledge such as material science, theatre, microbiology, or literature.								X						DMG5960, 5200, 5940*, 5950*, 5510*	EECS6326, 6328, 6330, 6390D Any other (under guidance of supervisor)
producing a sustained written argument demonstrating translation of research techniques into knowledge in digital media												X		DMG5990	
critically assessing a complex problem with opposing and conflicting positions								X						DMG5990	

recognizing and applying a plurality of problem solving techniques, within and across art-making, scientific, and engineering disciplines						X	X						
3. Level of Application of Knowledge													
implementing established workflows of design, prototyping, testing and refining in order to produce original digital arts projects				X							DMG5990, 5200, 5510*, 5940*, 5950*	CC8862	
understanding the parameters of various types of digital media practices, including how they are unique and specialized, and in what ways they cross over.			X								DMG5200, 5510*, 5520*, 5940*, 5950*	THEA5221*	
implementing established digital media workflows of design, prototyping, testing and refining in order to produce original projects integrating technology development.				X							DMG5990	EECS6324, 6329, 6337, 6412, 5323*, 5324*, 5327*, 5331*, 5351*, 5327*, 5443*	
developing and utilizing computational techniques for digital media projects			X									EECS6324, 6330, 6331, 6335, 6337, 6340, 6412, 5326*, 5331*, 5443*	
applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a novel setting					X								
implementing established and proposing new digital media workflows for design, prototyping, testing and refining in order to produce original research and research-creation						X					DMG5990, 5200, 5510*, 5940*, 5950*	EECS6324, 6329, 6337, 6412	
employing creative techniques in computational applications in the production of digital media projects that include comprehensive software/hardware development and/or a professional level of exhibition or performance											DMG5200, 5510*, 5520*, 5940*, 5950*	EECS6324, 6330, 6331, 6335, 6337, 6340, 6412	THEA5221*
initiating and implementing independent, empirically-driven research experimentation										X			
effective application of an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting										X	DMG5990		
communicating in visual, oral, and written modes for professional and critical discourse, making use of scholarly articles and primary sources					X			X	X		DMG5990		
4. Awareness of Limits of Knowledge													
developing a realistic appreciation of one's own skills and shortcomings					X						DMG5200	EECS6324	THEA5221*
determining if the MA/MSc is a step in professionalization as a digital media practitioner or also preparation for Ph.D. study in the area					X								
cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.			X										
assessing and questioning the authority of existing bodies of knowledge and practices								X					

identifying how assumptions of one's research may be understood differently within different disciplines											X										
explaining how research findings both blur and distinguish lines between various research fields and disciplines											X		X	X							
recognizing the importance of consulting with experts within and outside of the field											X		X								
5. Level of Communication Skills																					
communicating ideas, issues and the core concerns of a artistic practice (spanning gallery to games)																		X			
choosing the appropriate mode for the professional presentation of the results of creative projects											X						DMG5990, 5200, 5510*	CC8862, THEA5221*			
critically evaluating reports, design documents and academic papers and presenting findings to convey a position											X		X				DMG5990	EECS6326, 6328, 6329, 5351*	PSYC6225		
choosing the appropriate mode for the professional dissemination of the results of projects that integrate technology development											X						DMG5990				
debating and defending one's research position, including ideas, issues, and conclusions, with specialists in the field and in open public fora																	X				
choosing the appropriate mode and channels for the professional presentation and dissemination of work																	X	X	DMG5990, 5200, 5510*	EECS6326, 6328, 6329, 5351*	THEA5221*
presenting material in a coherent and organized form, using an appropriate combination of media, to engage a variety of audiences											X	X	X				X		DMG5200, 5510*	EECS6326, 6328, 6329, 5351*	THEA5221*
6. Autonomy and Professional Capacity																					
developing collaborative methods for organizing and promoting the dissemination of creative work in forms such as exhibitions											X								DMG5200		THEA5221*
keeping abreast of ever-changing technologies, new materials, processes and ideas to further one's digital media practice												X							DMG5960, 5940*, 5520*, 5510*, 5950*		CC8862
developing collaborative methods for development teams and projects											X									EECS6329, 5351*	
keeping abreast of ever-changing technologies, new materials, processes and ideas to further one's professional development												X								EECS6326, 6328, 6329, 6330, 6331, 6335, 6337, 6340, 6412, 5323*, 5324*, 5326*, 5327*, 5331*, 5443*	PSYC6225
the intellectual independence required for continuing professional development												X									

leading development teams and projects, organizing and promoting the dissemination of creative work in forms such as exhibitions, and/or participating successfully in new and established funding opportunities for digital media, computer science, and computational arts						X									DMG5200			THEA5221*
continued activity at the forefront of ever-changing technologies, new materials, processes and ideas to further digital media development and practice															DMG5960, 5940*, 5520*, 5510*, 5950*	EECS6326, 6328, 6329, 6330, 6331, 6335, 6337, 6340, 6412		CC8862
analyzing the critical debates within one's field and more broadly within related fields, including appreciating broader, cultural, social and ethical implications, to predict/identify possible implications of one's research outcomes and applying knowledge to particular contexts						X	X								DMG5960, 5950*	EECS6330, 6340		
qualities and transferable skills for employment requiring initiative, decision-making in complex situations, personal responsibility and accountability				X		X												
understanding the infrastructures of the digital media professional milieu in both the arts and industry				X		X												
ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research						X												X

Appendix A: New course proposals

Note: Not copied for Senate; available upon request from the University Secretariat .

DIGITAL MEDIA

The Graduate Program in Digital Media offers courses and opportunities for advanced training and research leading to the degrees of Master of Arts (MA), Master of Science (MSc), and Doctor of Philosophy (PhD). The Program is jointly offered by the Department of Computational Arts (CA), and the Department of Electrical Engineering and Computer Science (EECS). The program provides highly qualified students with the opportunity to do specialised hybrid research work in a program that uniquely combines computational science and artistic practices. Work in digital media focuses on a broad range of current and emerging forms of digitally supported media, with applications that range from computer games to interactive art.

The degree designations for the MA and MSc programs provide students the opportunity to tailor their program to suit the methodology required for their Major Research Project. Students pursuing an MA focus on research-creation for art applications, which combines creative and academic research practices to produce critically informed work in a variety of media. Students pursuing an MSc focus on scientific/engineering research methods for technology, hardware and/or software development within digital media.

Across all three Digital Media graduate degrees, in both courses and project development, students work within a shared environment that enables them to develop expertise complementary to their research specialization in computational science or artistic practice.

Portfolio Requirements

A portfolio is required for entry into all programs. A portfolio shows evidence of prior creative outputs primarily in the form of artworks but could also include outputs from computer engineering-based projects. Projects represented in the portfolio should emphasize a cross-disciplinary approach. Examples of art-based portfolios could include drawings/images, audio recordings, sound compositions, video documentation of interactive systems, other gallery/curatorial documentation, games and interactive demonstrations but must include some works that utilize programming. Examples of computer engineering-based projects could include source code for applications (preferably interactive), games, microcontroller code (from physical computing), video documentation of projects, publications, and prototypes but must include some works that engage with the arts.

Letters of recommendation can be from previous professors, employers, or other persons whom the applicant has had interactions with and can attest to their professional and/or academic qualifications.

MASTER OF ARTS PROGRAM

Admission Requirements

Graduates with an honours degree or equivalent from a recognized university in Digital Media or related Bachelor's program, such as an art program that focuses on technology, with at least a B average in the final two years of study, may be considered for admission as candidates for the MA degree. Applicants are expected to provide a portfolio, a Statement of Interest letter, a curriculum vitae, and two recommendations. Applicants must show that they have experience in both programming and the arts, and in particular a cross-disciplinary approach. Experience creating art or creative works (including games) using programming languages is required. Those whose formal background in programming is incomplete will be required to take appropriate supplemental undergraduate course(s) in addition to required courses. For students who have not graduated from a university where the language of instruction is English, there is no formal language requirement but the supervisory committee will require a student to demonstrate an acceptable competence in a language which is considered necessary for purposes of doing their research.

Degree Requirements

- DMG 5010 3.0 *Foundations of Digital Media*
- DMG 5020 3.0 *Advanced Vertical Studio/Lab I*
- 3.0 credits from a specified list of computer science graduate level courses
- 3.0 credits from a specified list of computational arts graduate level courses
- 6.0 credits at the graduate level, with GPD/supervisor approval

No more than 6.0 credits can be integrated with undergraduate courses.

Candidates for the MA degree must complete 18 credits and conduct a major research-creation project under the general direction of a supervisor with a review essay that details and contextualizes the project. The Digital Media MA is research degree and projects are defined as a body of work similar to a thesis in quality, scope and/or degree of originality. Projects entail a public presentation and critique of the work, which could include an exhibition.

Time Requirements

Normal expected degree completion time for full-time MA students is 5 terms (2 years). All requirements for a Master's degree must be fulfilled within 12 terms (4 years) of registration as a full-time or part-time Master's student in accordance with Faculty of Graduate Studies' registration policies.

MASTER OF SCIENCE PROGRAM

Admission Requirements

Graduates with an honours degree or equivalent from a recognized university in Digital Media or related Bachelor's program, such as computer science, with at least a B average in the final two years of study, may be considered for admission as candidates for the MSc degree. Applicants are expected to provide a portfolio, a Statement of Interest letter, a curriculum vitae, and two recommendations. Applicants must show that they have experience in the arts, and in particular a cross-disciplinary approach. Those whose formal background in the arts is incomplete will be required to take appropriate supplemental undergraduate course(s) in addition to required courses. There is no formal language requirement but the supervisory committee will require a student to demonstrate an acceptable competence in a language which is considered necessary for purposes of doing their research.

Degree Requirements

- DMG 5010 3.0 *Foundations of Digital Media*
- DMG 5020 3.0 *Advanced Vertical Studio/Lab I*
- 6.0 credits from a specified list of computer science graduate level courses
- 6.0 credits at the graduate level, with GDP/supervisor approval

No more than 6.0 credits can be integrated with undergraduate courses.

Candidates for the MSc degree must complete 18 credits and conduct a major research project under the general direction of a supervisor with a review essay that details and contextualizes the project. The Digital Media MSc is research degree and projects are defined as a body of work similar to a thesis in quality, scope and/or degree of originality. Projects entail a public presentation and critique of the work, which could include an exhibition.

Time Requirements

Normal expected degree completion time for full-time MSc students is 5 terms (2 years). All requirements for a Master's degree must be fulfilled within 12 terms (4 years) of registration as a full-time or part-time Master's student in accordance with Faculty of Graduate Studies' registration policies.

DOCTOR OF PHILOSOPHY PROGRAM

Admission Requirements

Applicants must have a masters degree or equivalent from a recognized university in a digital media or related program, such as computer science, or an art program that focuses on technology, with at least a B+ average. Applicants are expected to provide a portfolio, a Statement of Interest letter, a qualifying research paper or similar significant contribution to the field, and two letters of recommendation. Applicants must show that they have experience in both computer science and the arts, and in particular a cross-disciplinary approach. For students who have not graduated from a university where the language of instruction is English, there is no formal language requirement but the supervisory committee will require a student to demonstrate an acceptable competence in a language which is considered necessary for purposes of doing their research.

Degree Requirements

- DMG 5020 3.0 *Advanced Vertical Studio/Lab II*
- 6.0 credits at the graduate level, with GPD/supervisor approval
- additional courses if assessed as deficient

No more than 3.0 credits can be integrated with undergraduate courses.

An assessment is given at the beginning of the program to determine the student's ability to fulfill the degree requirements. If a student is deemed not ready then they may be asked to take courses to help in resolving any deficiencies.

Candidates must successfully complete a comprehensive examination that tests proficiency in their major research field and demonstrates competence (including methodology) to continue to the dissertation, under guidance and assessment of supervisors; and hold an oral defense of the report; present a dissertation proposal outlining the research questions and anticipated results of their dissertation; conduct a significant body of original research or research-creation under the supervision of a supervisory committee; and submit a dissertation embodying its results. The doctoral dissertation must constitute a significant contribution to knowledge in the field of Digital Media. It should contain evidence of critical understanding of the relevant literature. The material embodied in the dissertation should merit publication.

Time Requirements

Normal degree completion time for full-time PhD students is 12 terms (4 years). All requirements for a doctoral degree must be fulfilled within 18 terms (6 years) of registration as a full-time or part-time doctoral student in accordance with Faculty of Graduate Studies' registration policies.

Appendix C: Degree and Examination requirements

MA, MSc MRP Requirements

The research requirements in the Master's are: a major research or research-creation project under the general direction of a supervisor with a review essay that details and contextualizes the project. As in the MSc degree in Computer Science in EECS, project topics for the Digital Media MSc may include implementation and evaluation of recent published ideas, development of novel software/hardware applications or improvements of algorithms. The Digital Media MSc and MA are, however, research degrees and projects are defined as a body of work similar to a thesis in quality, scope and/or degree of originality. Both the MSc and the MA can take up research-creation, as a core methodology.

Coursework

In support of the hybrid nature of Digital Media practice, the program requirements integrate courses from both AMPD and EECS. The MA and MSc require 18.0 credits of coursework. There are two *core courses* which provide students with a breadth component that covers fundamental digital media knowledge, skills and methodologies. There is an additional *depth requirement* which specializes the student in a focus area in either artistic practice or scientific application. This is complemented by an elective course from anywhere in the University.

The minimum course requirements for the MA are:

- DMG 5010 3.0 *Foundations of Digital Media*
- DMG 5020 3.0 *Advanced Vertical Studio/Lab I*
- 3.0 credits from a specified list of computer science graduate level courses
- 3.0 credits from a specified list of computational arts graduate level courses
- 3.0 credits at the graduate level, with GPD/principal supervisor approval
- additional courses if assessed as deficient

The minimum course requirements for the MSc are:

- DMG 5010 3.0 *Foundations of Digital Media*
- DMG 5020 3.0 *Advanced Vertical Studio/Lab I*
- 6.0 credits from a specified list of computer science graduate level courses
- 3.0 credits at the graduate level, with GPD/principal supervisor approval
- additional courses if assessed as deficient

An assessment is given at the beginning of the program to determine the student's ability to take the required courses. If they are not ready then they may be asked to take a number of courses to help in resolving these deficiencies.

Graduate students may not take or receive credit for an integrated course at the graduate level if they took it at York or elsewhere at the undergraduate level.

Following initial registration in the graduate program, and prior to completion of the first term of study, graduate students may request transfer credit (advanced standing) for graduate-level courses completed at York University or another institution that have not been used to fulfill the requirements of another degree program or graduate diploma. Credit for such work will be determined by the Office of the Dean, Faculty of Graduate Studies, on the recommendation of the program concerned. Transfer credit accepted towards fulfillment of the degree program to which the student has been admitted may count for up to 50% of the coursework requirements.

In addition to those courses specified as constituting the minimum required program of studies, students with permission of the program director, may elect, on registration, to enrol in additional courses.

Independent research

Conduct a major research or research-creation project under the general direction of a supervisor. A paper detailing and contextualizing the project must be submitted to the supervisory committee.

A major research paper/project/review essay is a milestone component of a program that requires independent research. The academic requirements, format and length of master's research papers/projects/review essays should be consistent with master's degree-level and program-specific expectations.

The topic must be approved by the student's supervisor and supervisory committee, including ethics review and approval if appropriate. The supervisory committee reviews a student's research proposal and recommend its approval not less than 6 months prior to the oral examination date.

Writing should be in English but approval may be given to a written request from a student for it to be written in French or in the language of any Aboriginal/First Nations people in North America, subject to confirmation from the director of the graduate program concerned that relevant supervision and sufficient support for the completion of such written work can be provided.

Supervision

MRPs are supervised by a principal supervisor and second reader. Supervisors must be approved no later than the end of the second term of master's study.

Progress Reports

Students are required to submit a progress report to the graduate program director on an annual basis, normally in the Spring.

Reports to the graduate program director of unsatisfactory progress may require a student to withdraw from a program of studies, or withdraw from the graduate program.

Evaluation

MRPs include a public presentation and critique of the work. This could include an exhibition. The form of the presentation is at the discretion of the supervisory committee. MRPs are evaluated by the supervisor and reader on a pass/fail basis.

Ph.D. Requirements

All entering Ph.D. Candidates plan a research program with their supervisor at the start of their degree studies, and must successfully complete a significant body of original research of high calibre in Digital Media, under the general direction of a Supervisor and the Dissertation Supervisory Committee, and describe it in an appropriate dissertation. The research must be of such calibre that it satisfies program standards. Dissertation research should be of such quality that it would be publishable in prominent Digital Media journals.

Coursework

The Ph.D. requires 9.0 credits of coursework, unless an assessed deficiency requires additional courses. It is assumed that Ph.D. Candidates will have the fundamental knowledge gained at the master's level, and so the only required core course is the Advanced Vertical Studio/Lab that is integrated with master's students. This is a particularly innovative course that is based on collaborative approach to contemporary research problems in Digital Media with real-world applications.

The minimum course requirements for the Ph.D. are:

- DMG 6020 3.0 *Advanced Vertical Studio/Lab II*
- 6.0 credits at the graduate level, with GPD/principal supervisor approval
- additional courses if assessed as deficient

An assessment is given at the beginning of the program to determine the student's ability to take the required courses. If they are not ready then they may be asked to take a number of courses to help in resolving these deficiencies.

Graduate students may not take or receive credit for an integrated course at the graduate level if they took it at York or elsewhere at the undergraduate level.

Following initial registration in the graduate program, and prior to completion of the first term of study, graduate students may request transfer credit (advanced standing) for graduate-level courses completed at York University or another institution that have not been used to fulfill the requirements of another degree program or graduate diploma. Credit for such work will be determined by the Office of the Dean, Faculty of Graduate Studies, on the recommendation of the program concerned. Transfer credit accepted towards fulfillment of the degree program to which the student has been admitted may count for up to 50% of the coursework requirements.

In addition to those courses specified as constituting the minimum required program of studies, students with permission of the program director, may elect, on registration, to enrol in additional courses.

Supervision

A dissertation supervisory committee must have at least three faculty members appointed to FGS, at least two of whom must be in Digital Media. The principal supervisor must be a Full Member of the Digital Media Graduate Program.

The supervisor shall be accessible to the Candidate, normally meeting once a month and never less than once each term.

Progress reports

Candidates must submit a progress report to the graduate program director on an annual basis, normally in the Spring.

Once established, the dissertation supervisory committee shall meet annually with the Candidate to evaluate the Report on Progress submitted by the Candidate and submit a completed copy of the Report on Progress to the graduate program director after the meeting.

Reports to the graduate program director of unsatisfactory progress may require a Candidate to withdraw from a program of studies, or withdraw from the graduate program.

Comprehensive Exams

In the Ph.D., successfully completing the written exam shows evidence of excellence in the candidate's field of interest, and passing the oral examination demonstrates ability to articulate all aspects of the field.

A. Area of research.

Roughly half way through the second year of the program, the Ph.D. Candidate is expected to have mastered a general understanding of the area in which they plan to complete their Dissertation.

B. Reading list.

The Candidate will work closely with the supervisory committee to build reading lists for the area they have selected. The bibliography should be annotated and organized by sub-fields or topics rather than a simply alphabetical ordering. It may also be helpful to keep a list of keywords for each area (e.g., library subject keywords) to help in organizing the reading lists. While citations styles may vary depending on the field chosen it is important that the candidate use a clear and consistent format that follows an established referencing style that is determined by the examining committee. The reading list needs to be approved by the entire committee before the Candidate can proceed with the written exam. Candidates are encouraged to use a bibliography program such as Zotero or Endnote.

C. Research questions.

Following the compilation of reading lists, the Candidate will work closely with the supervisory committee to compose the research questions that will motivate the dissertation. Formulating strong research questions helps the Candidate, on the one hand, to develop a better understanding of the foundational knowledge and dominant paradigms and perspectives within a research area—the status of the question—and on the other hand, to identify new potential avenues of research which open up new perspectives and interventions into a research area. Candidates should ask themselves: what are the key questions that interest them in relation to the questions that dominate the field? The research questions need to be approved by the entire committee before the Candidate can proceed with the written exam.

D. Written examination.

Under the supervision of the Candidate's Dissertation Supervisory Committee, the Candidate prepares a written exam in the Candidate's chosen field of research. It is the responsibility of the Candidate's Dissertation Supervisory Committee to ensure that this exam covers the chosen field in sufficient depth and breadth. The written exam is an examination method that enables students to draw out interpretive and methodological frameworks for the areas of knowledge in which they will be tested. The written exam further allows students to begin formally to develop frameworks that will help to initiate their doctoral research. The written exam shall normally comprise one written exam totaling 5000-8000 words, not counting footnotes and bibliography. Students are encouraged to give an early clean draft of their written exams to members of their comprehensive committee, but the committee may reserve the right to restrict the number of drafts that they will read before the final submission.

Finally, it is the responsibility of the student and the committee supervisor to drive the exam process forward within program deadlines. When students submit drafts to their committee members, a suggested deadline for feedback (the FGS guidelines is 2-3 weeks), which can be negotiated depending on faculty schedules, should be established. Students are also responsible for being persistent in arranging meetings with their committee as a whole and/or individual faculty. If students do not receive adequate feedback within acceptable timeframes (after reminding faculty members at least twice), they should consult with the Graduate Program Director, who can consult directly with the delinquent faculty members.

E. Oral examination.

In order to demonstrate the Candidate's understanding of their chosen field, the Candidate presents their area of research to the members of the Graduate Program and to other Candidates, and is examined orally by the Candidate's Dissertation Supervisory Committee as well as by other members of the graduate program. Upon completion of the Oral Examination the Supervisory Committee will determine either:

- That the Candidate has passed the qualifying examination and should be permitted to continue on towards their Dissertation Proposal.

- That the Candidate has not demonstrated sufficient understanding of the area to proceed directly towards their Dissertation Proposal and that the Candidate should either:
 - Be required to take additional courses before proceeding towards their Dissertation Proposal, or
 - Be required to complete additional readings before proceeding towards their Dissertation Proposal and potentially that the Candidate should re-sit the Qualifying Examination, or
 - Recommendation for withdrawal from the program.

Independent research

Once the comprehensive exams are complete the Candidate must present a completed dissertation proposal based on the research questions developed during the exam, and outlining the anticipated approach to their dissertation. The topic must be approved by the student's supervisor and supervisory committee, including ethics review and approval if appropriate. The supervisory committee reviews a student's research proposal and recommend its approval not more than 6 months after the oral examination date.

The candidate will conduct a significant body of original research or research-creation under the supervision of a supervisory committee, and submit a dissertation embodying its results.

The doctoral dissertation must constitute a significant contribution to knowledge. It should contain evidence of critical understanding of the relevant literature. The material embodied in the dissertation should merit publication.

Candidates must comply with the requirements for the preparation, submission and distribution of dissertation as described in the Faculty of Graduate Studies' Guide for the Preparation and Examination of Theses and Dissertations.

Writing should be in English but approval may be given to a written request from a student for it to be written in French or in the language of any Aboriginal/First Nations people in North America, subject to confirmation from the director of the graduate program concerned that relevant supervision and sufficient support for the completion of such written work can be provided.

Evaluation

Candidates defend the dissertation at a public oral examination. Dissertation defenses can be accepted with or without specified or major revisions. In the case of major revisions, once completed the examination committee must vote for pass/fail.

A dissertation examining committee shall consist of at least five voting members, including the Dean of FGS or representative, who serves as chair; two graduate faculty members chosen from the program and/or supervisory committee, at least one of whom must be from the supervisory committee; one graduate faculty member at arm's length from the dissertation, and normally from outside the program;

one external examiner, from outside York University, at arm's length from the dissertation, recommended by the program director and includes at least:

- 3 Faculty Members at least one of whom has major research interests outside of the area of the Candidate's dissertation (typically the Dissertation Supervisory Committee)
- 1 Faculty Member from outside the Program but within the University (representative of the Dean of Graduate Studies).
- 1 Representative from outside the University (the External Examiner).

The membership of the committee and designation of the chair must be recommended no later than four weeks before the date set for the oral examination.

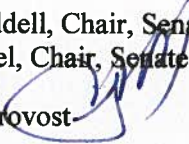
In addition to the University Regulations, the External Examiner will submit a written appraisal of the dissertation before the Oral Examination.

Appendix D: Support Letters

- Vice-President Academic and Provost Lenton
- Dean Brixey
- Associate Dean Pagiatakis
- Joy Kirchner, University Librarian
- Carol Altilia, University Registrar
- Interactive Ontario
- Ellefson Technology Consulting
- The Canadian Digital Media Network

Memorandum

To: Rebecca Pillai Riddell, Chair, Senate APPRC
Franck van Breugel, Chair, Senate ASCP

From: Rhonda Lenton, Provost 

Date: February 10, 2016

Subject: Proposal for Digital Media Graduate Programs



I have undertaken an initial review of the proposal to establish graduate programming in Digital Media (MA, MSc, and PhD degrees), to be offered collaboratively by the School of the Arts, Media, Performance and Design and the Lassonde School of Engineering. It is my intention to provide a more detailed statement with regard to this proposal, including its resource implications, following receipt of the external reviewers' report, AMPD's response, and the final version of the proposal incorporating any revisions to take account of the reviewers' comments. At this stage, however, I am pleased to signal that I am satisfied that this proposal is ready to go forward for consideration by external reviewers.

The proposal clearly sets out the case for the program in terms of demand, its contributions to our institutional objectives, its distinctiveness, its curriculum and structure, and the learning outcomes it is intended to promote. I note that the proposal has been developed in response to a need for graduates prepared to undertake research in this area and to work in the field, through a program integrating both artistic and engineering, science and technology elements. It is consistent with institutional objectives in relation to expansion of graduate programming and further development of this area of research and study. It builds on a strong undergraduate program in Digital Media and York's growing profile in this area.

Dean Brixey's strong letter of support details the rationale for this program and the opportunities it will provide for York and for our students.

I am happy to support this proposal and look forward to seeing the reviewers' assessments.

Cc: Dean S. Brixey
Dean J. Kozinski
Vice-Provost Academic A. Pitt

**SCHOOL OF THE
ARTS, MEDIA,
PERFORMANCE
AND DESIGN**

Office of the Dean

4700 KEELE ST
TORONTO ON
CANADA M3J 1P3
T 416 736 5136
F 416 736 5447
ampd.yorku.ca

April, 10, 2017

To: Don Sinclair, Program Coordinator, Digital Media

Re: Support for the Establishment of Graduate Program in Digital Media | AMPD | LSE

It is with sincere enthusiasm that I offer my support and endorsement for the proposed creation of a new joint Graduate Program (MA, MSc and PhD) in Digital Media housed in the Department of Computational Arts (pending approval) and the Department of Electrical Engineering and Computer Science.

With the concurrent creation of the Department of Computational Arts in AMPD, it is appropriate to consider this proposal at this time. The creation of the new Graduate Program will play an important and strategic role in supporting our faculty and institution to maintain their distinct leadership in this field, as well as pioneer new domains of creative practice across a rapidly converging, arts, computing, and engineering research landscape. The new Program will enable York to dramatically raise its profile in a highly competitive and expanding field, and differentiate its research character in contrast to similar programs developed by competitor institutions such as Concordia and Simon Fraser.

I am very pleased to see support of the graduate program proposal from: Christa Dickenson, Executive Director, Interactive Ontario; Avvey Peters, Managing Director, Canadian Digital Media Network; and Chris Ellefson President, Ellefson Technology Consulting, as well as our own Rob van der Bliet and Catherine Davidson from the library. Their comments were universally supportive and highlighted the unique structure and nature of the curriculum, and that the new DM graduate programming represents a critical need in Canada. Christina Dickenson from Interactive Ontario (IO represents approximately 300 local and global companies producing innovative experiences in a variety of subsectors including video games, eLearning, transmedia storytelling, mobile apps, augmented and virtual reality, web series and more.) stated the program will be at “the forefront of progress recognizing the value in interdisciplinary training and research toward STEAM”, as well as “preparing HQP with the knowledge and skills they require to enter this exciting and diverse industry”.

External supporters highlighted the flexibility our programs offer to students while providing a unique methodology that combines learning outcomes from the arts, engineering and sciences with unique graduate degree level expectations for emerging industries. Avvey Peters, Managing Director, Canadian Digital Media Network wrote, “The York Graduate Program in Digital Media promises to produce the next-generation of HQP trained in a sophisticated understanding of digital media, with

integrated capacities in science, technology, engineering and mathematics, creativity for digital media content and cultural literacies. Each of which is key to the success of students' endeavours in next generation digital media jobs." York Libraries are supportive and engaged as partners with unique contributions they'd like to engage with in regards to data mining, and creation of a more robust digital culture at York.

The program embraces its partner Lassonde's ambitious goal of achieving 50:50 gender-balance as a crucial commitment we can make to transforming engineering education in Canada. With an enrolment of 45% women in the current undergraduate Digital Media Program, the growing STEM to STEAM intersection of arts, computing and engineering will likely be one of the first engineering areas to realize gender balance at York. The creation of the graduate program in Digital Media is another foundational investment in continuing to attract talent, accelerate research and achieve this extraordinary goal.

The program development was informed by extensive planning involving consultations with internal colleagues, external consultants, as well as by comparisons with leading institutions with similar programs in Canada and the US. The initiative is well aligned with the strategic directions of the School of the Arts, Media, Performance and Design, the Lassonde School of Engineering and the University. Feedback arising from collegial discussions within across AMPD and Lassonde have been incorporated into the proposal. The proposal is also aligned with the principal goals of the most recent University Academic Plan, Provostial White Paper and SRP, which call for the expansion of the scope of the University's teaching and research activities in the areas of digital cultures and digital media.

The financial resources for the new graduate program in Digital Media are in place, and long term planning processes are subject to the same stringent planning and accountability framework as other programs, and would be expected with any project of the magnitude and size as envisioned between AMPD and Lassonde School of Engineering. Plans for faculty complement and enrollment growth have been developed to strike the balance between professional and academic standards, with the average student-to-faculty ratios aligning with comparable programs of similar size. A plan will be developed to address the appropriate space needs of the program, including provisions for graduate student office space. Resources for relevant administrative, technical and student support staff will be supplied between the new Department of Computational Arts in AMPD and the Department of Electrical Engineering and Computer Science in Lassonde. Matters related to teaching contributions by faculty members in each participating Department have been discussed with the current Chairs.

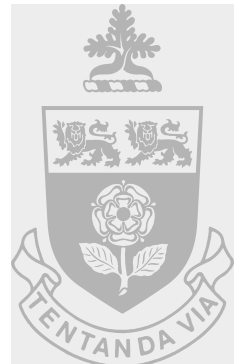
In conclusion, I offer strong support for the introduction of master's and doctoral programs in Digital Media offered jointly between Department of Computational Arts and the Department of Electrical Engineering and Computer Science.

Most Sincerely,

A handwritten signature in black ink, appearing to read 'Shawn Brixey', with a large, stylized flourish at the end.

Shawn Brixey

Dean | School of the Arts, Media, Performance and Design
201C | Goldfarb Centre for Fine Arts
4700 | Keele Street
York University | Toronto
Ontario | M3J 1P3
Tel. 416.736.2100 ext.33881
Fax. 416.736.5447
brixey@yorku.ca
<http://ampd.yorku.ca>



May 2, 2017

To: Don Sinclair, Program Coordinator, Digital Media

Subject: Support for the creation of a new graduate program in Digital Media

It is with great pleasure that I offer, on behalf of the Lassonde School of Engineering, my strong support for the establishment of a new and unique joint Graduate Program in Digital Media between our Electrical Engineering and Computer Science (EECS) Department and the newly proposed Department of Computational Arts in the School of the Arts, Media, Performance and Design (AMPD). This new graduate program will offer the full suite of degrees, namely MA, MSc and PhD.

The Lassonde School of Engineering embraces the *Renaissance Engineering* philosophy that integrates proven research strengths of the broader York University community to answer complex global socioeconomic questions, challenges and concerns. We promote a research culture that fosters and supports the cross pollination of ideas and disciplines, empowers critical thinkers, creative researchers and problem-solvers, and engages industry leaders and entrepreneurs, who understand and embrace humanism, social responsibility and cultural diversity. The creation of the new joint graduate program in Digital Media between the two Faculties is clearly in symphony with our "Renaissance Engineering" philosophy that sees no organizational structures or administrative boundaries when it comes to research. The Digital Media program is a solid and accurate step towards trans-disciplinary research; it strengthens, augments and empowers our researchers and promotes our research culture and recognition.

One of Lassonde's research priorities is *Intelligent and Interactive Systems* that addresses fundamental issues within the computational basis of intelligence and mediation between human and computer systems. Research in artificial intelligence, computer vision and data mining and analytics addresses systems that employ sensing, reasoning and action to mediate their interaction with the user and/or environment. It also includes interactive systems, assistive technology, computer graphics, digital media, human-computer interaction, virtual and augmented reality as well as social media. The new Digital Media program will attract highly qualified students to carry out research that uniquely combines science, technology, engineering, mathematics and artistic processes and practices. Such integration of activities is truly innovative and unique and comes to fill a void in Ontario. The Digital Media proposal articulates such a need and demand. We fully support this initiative.

The proposed program content and curriculum structure is complementary to both departments with very well thought out 'core' and 'depth' courses (existing and new courses alike) that provide ample flexibility to students from both Schools while promoting depth of knowledge with resources that are already in place. The enrolment targets presented in the program brief are realistic and aligned with the goals for both Schools. The proposed program is considered by Lassonde as an important and transformative investment in interdisciplinary research that is going to intensify York's research and increase impact by attracting very talented and enthusiastic graduate students who will be the heart and soul of our research programs.

At Lassonde, we maintain transparency, fairness and sustainability regarding the use of research space. Our space plan provisions an open inventory of Lassonde space resources, including room dimensions, services, equipment, images, etc. Space request, allocation and re-allocation mechanisms have been developed for regular periods and periods of increased research funding. Our high priority is the design of a new building that will provide primarily research space to accommodate our strategic research priorities and the associated significant increase of our graduate students. Our “intelligent and interactive systems” strategic research priority envisions significant strengthening and expansion of the digital media program that will be provided with new research space to grow and excel.

The Lassonde School of Engineering strongly believes that developing meaningful partnerships at the institutional level is a culture that creates strong potential for enhanced graduate education and scholarship and for truly impactful research enterprise through a sustainable inter- and trans-disciplinary research. The current proposal is promising to exactly achieve this. The Lassonde School of Engineering is strongly supportive of the proposed graduate program in Digital Media.

Sincerely yours



Spiros Pagiatakis PhD, PEng
Associate Dean Research and Graduate Studies


YORK UNIVERSITY
LIBRARIES

Office of the
University Librarian

516 Scott Library
4700 Keele Street
Toronto ON
Canada M3J 1P3
Tel 416 736 5601
Fax 416 736 5451
www.library.yorku.ca

MEMORANDUM

To: Professor Donald Sinclair
Co-ordinator, Digital Media Program
School of the Arts, Media, Performance and Design.

From: Joy Kirchner, University Librarian 

Date: January 4, 2016.

Subject: Library Statement of Support for the Proposed M.A., M. Sc. And Ph.D programs in Digital Media in the School of the Arts, Media, Performance and Design and the Lassonde School of Engineering

York University Libraries are well positioned to provide strong support for the proposed graduate programs in Digital Media housed jointly in the School of the Arts, Media, Performance and Design, and the Lassonde School of Engineering. As Rob van der Blik has noted in his comprehensive statement, we are pleased to offer a wide array of resources, instructional services and research support across many disciplines that provide strong foundational library support. In anticipation of a positive outcome for these proposed programs, we look forward to working closely with faculty and students in the future to continue to build on this foundation.

Students in the School of the Arts, Media, Performance and Design and the Lassonde School of Engineering have been extremely well served by the outreach activities and expertise of all of the librarians and committed staff in York University Libraries. In addition to continuing to build extensive collections for teaching, learning, and research in the field, targeted library instruction has bolstered the research skills of current students and will do so for future students as well. Research assistance continues to be offered both in the libraries and online, and students may use the librarian consultation service which is available by appointment. The Libraries also have a complement of digital specialists on digitization, data mining, data management, digital publishing platforms and metadata expertise. There is opportunity to explore Library programmatic partnerships in a variety of areas where we have complementary expertise in the digital arena and research methods.

As noted in the new program brief, these proposed programs situate York in an important strategic development of digital culture research – an area of strategic interest for York University Libraries as well. We look forward to learning of a positive outcome and for the potential to collaborate with AMPD and the Lassonde School of Engineering in this critical emerging discipline.

cc: Rob van der Blik, Liaison Librarian, Digital Media
Catherine Davidson, Associate University Librarian, Collections and Research





April 28th, 2015

Att: Nell Tenhaaf, Associate Dean, Research,
Graduate Studies and Planning
School of the Arts, Media, Performance and Design
York University

Dear Nell,

I am pleased to be writing you today to offer my support of the York Graduate Program in Digital Media, a program that is on the forefront of progress by recognizing the value in interdisciplinary training and research.

Today's Interactive Digital Media (IDM) industry is a competitive field and employers are constantly on the lookout for highly trained candidates who have a multi-disciplinary background in not only design but also STEAM (Science / Technology / Engineering / Arts / Math.)

The York Graduate Program in Digital Media offers students the opportunity to develop critical skills in project development and management, interdisciplinary research methods, iterative design, and technology applications, key features in obtaining jobs in the digital media sector.

By offering training for students that includes a sophisticated understanding of digital media, with integrated capacities in science, technology, engineering and mathematics, creativity for digital media content (arts, entertainment, engineering design, etc.) and cultural literacies, they are being armed with the knowledge and skills they require to enter this exciting and diverse industry.

I look forward to seeing graduates of this program working in the IDM industry and creating the technologies of tomorrow.

Best,
Christa Dickenson

Executive Director
Interactive Ontario



Chris Ellefson, President
Ellefson Technology Consulting Inc.
2238 Dundas St. West Suite 211
Toronto, ON M6R 3B5

April 29, 2015

To Whom it May Concern:

I am writing in support of York University's Digital Media program and its proposal for a graduate program. The digital sector is increasingly challenged to find qualified personnel with both a comprehensive technological foundation and a creative mindset. An interdisciplinary candidate is ideal for many job positions in the digital sector because of their dual competency in formal logic and abstract thinking. This valuable combination is very hard to find and most often does not result from formal education.

An university program which could provide students with these real-world skills would be a great asset to the digital sector. Technology is continuously changing and a successful employee will need to demonstrate an ability to learn and adapt to a variety of situations and technology. Training for single task or skill is not longer a model works well anymore. A program which could prepare students for the varied challenges and requirements they will face in the digital sector is greatly needed.

The multifaceted nature of the digital sector is perfect for an interdisciplinary approach; the digital sector contains a broader scope than simply game development and web-based media. Graduates who can incorporate both aesthetics and pragmatics will be crucial in developing the next-generation of technology as the human-computer interface becomes ever more integrated. The exhibit I saw recently by York University's Digital Media undergraduate program has confirmed to me that such a university program would be a tremendous benefit to its graduates and the digital sector as a whole.

Sincerely,

Chris Ellefson

Dr. Nell Tenhaaf
Professor, Digital Media Program
Associate Dean Research, AMPD
York University

May 22, 2015

Dear Dr. Tehaaf:

It is my pleasure to write a letter in support of the Graduate Program in Digital Media at York University.

In my role as Managing Director of the Canadian Digital Media Network, I continually hear from companies right across our network that one of their key challenges is talent recruitment. Our sector is increasingly challenged to seek out and aggressively compete for highly qualified personnel (HQP) who are trained in highly specialized technical, scientific and design training in emerging media.

The York Graduate Program in Digital Media promises to produce the next-generation of HQP trained in a sophisticated understanding of digital media, with integrated capacities in science, technology, engineering and mathematics, creativity for digital media content and cultural literacies, each of which is key to the success of students' endeavours in next generation digital media jobs.

Working in multidisciplinary project-based research, the critical skills that students in this program will learn in project development and management, interdisciplinary research methods, iterative design and technology applications are critical to many jobs in both traditional technology companies as well as in other companies looking to hire for technical roles.

The program proposed by York encompasses game development and web-based media, but I'm encouraged to note that its definition of digital media is broader: encompassing many aspects of technology development, computer science, media art, and cultural studies focused on emerging technologies.

A new generation of developers and practitioners can act in collaboration with science and engineering to pioneer the development of next-generation technology for a wide range of emerging areas.

I fully support the creation of a Graduate Program in Digital Media at York University. Not only will these graduates be in a better place to secure employment, but they will meet the increasing needs of the companies looking to hire them, helping Canada's digital industries succeed in a global marketplace.

Sincerely,



Avvey Peters, Managing Director
Canadian Digital Media Network

Appendix E: Appointment Criteria

Graduate Program in Digital Media (MA, MSc, and PhD)

Program-Specific Criteria for Appointment and Re-Appointment

Applications

Potential candidates are invited to apply for appointment to the graduate program in Digital Media. Potential candidates are typically tenure stream/contractually limited faculty members from the Department of Computational Arts or the Department of Electrical Engineering and Computer Science at York but visiting faculty, and faculty in other departments are also invited to apply. In the case of periodic review of re-appointments, existing members of the program will be notified at least three months before the program's recommendations must be submitted to FGS. Potential candidates and existing members are asked to submit to the director an up-to-date curriculum vitae in the OCGS format including a description of graduate teaching and supervision.

Criteria

The overriding document is the latest FGS Policy on Appointments to the Faculty of Graduate Studies [1]. According to this document the criteria for membership in the Faculty of Graduate Studies include:

1. A Ph.D. (or equivalent) degree or otherwise demonstrated achievement as a researcher, scholar, professional or artist in accordance with the expectations of the discipline;
2. Evidence of continuing contribution to research or scholarship or professional or artistic activity in a form which is available for peer review and critical analysis; and
3. When previously engaged in graduate teaching or supervision, evidence of satisfactory performance as an instructor and/or supervisor. □

The Digital Media Graduate Program Executive Committee serves as the committee to advise on program-specific appointment criteria, procedures and appointments. This committee may delegate responsibility to the Graduate Program Director regarding the approval or recommendation for approval of appointments, as appropriate.

Interpretations of Criteria Scholarly Activity

Reasonable expectations for members in the Graduate Program in Digital Media will vary according to their status, role and administrative responsibilities. It is reasonable to expect fewer publications and lower levels of research funding from faculty members who are (i) as yet untenured recent PhD's, or (ii) heavily involved in administration, but can offer valuable contributions to the Graduate Program. However, the majority do not fall into the above (or similar) "exceptional" categories. For these "standard" members, it is expected that their curricula vitae will demonstrate sustained and continuing contribution to scholarly research, creative and artistic productivity, and/or professional activity in the field of digital media over the last 6-8 years. Sustained and continuing contribution to these fields is understood to include, above all, written scholarly publications and/or creative and artistic presentations which are peer-reviewed, curated, or critically reviewed. It also includes conference or symposia papers; and academic, artistic, and or/creative awards and honours.

Full Members, who may undertake principal supervision of doctoral dissertations, must have a PhD (or equivalent). Expectation of research/scholarly/creative activity is an average of one entry in the curriculum vitae per year over the 6-8 year span, including 3-4 outcomes such as peer or critically reviewed publications, major exhibition of creative work, successful applications for external grants or funding or activities with expectation of future outcomes. Outstanding contributions, e.g. a significant book, major exhibition of creative work, or major research grant, would be weighted more heavily. Insufficient evidence of continued research, scholarship, professional or creative activity at an advanced level will normally result in a recommendation for an Associate Member appointment that excludes principal supervision of doctoral dissertations.

Associate Members may undertake principal supervision of masters projects, and serve on doctoral dissertation supervisory committees. While a PhD is desirable for Associate Members, it is not essential. However, Associate Members are expected to hold, at a minimum, a master's degree or equivalent, or have demonstrated achievement as an artist, professional, scholar, or researcher in accordance with the expectations of the discipline. Further restrictions may also be recommended for Associate Members whose contributions to the graduate program should be limited to specific activities that are consistent with the level of their continued research, scholarship, professional or artistic activity.

These represent reasonable expectations; however, it is recognized that not all forms of evidence of sustained scholarly activity are explicitly described by the guidelines. Any candidate not explicitly meeting the above guidelines will have their scholarly activity judged by the Graduate Program Executive Committee to see if they are commensurate with the above guidelines.

Graduate Teaching and Supervision

Satisfactory graduate teaching requires evidence of effective communication of relevant theoretical and conceptual material and the design of research level courses. Means of demonstrating satisfactory performance as a graduate instructor may include peer evaluation and student evaluation of teaching and curriculum design, taking into account such matters as the scholarly or creative content of teaching materials, the currency of such materials, the application of relevant research methodologies, the effectiveness of the individual's communication as a graduate teacher, and the use of appropriate pedagogic techniques. Means of demonstrating satisfactory performance as a graduate supervisor may include student evaluation and peer evaluation by, in particular, members of supervisory and examining committees of students supervised by the individual, taking into account such matters as the availability and effectiveness of the supervisor and their relative contribution to the quality of the student's work and its completion within a reasonable time. Research output from graduate students in the form of publications and presentations are viewed very positively.

Appointments and recommendations

The Graduate Program Director will examine each applicant's CV and also assess any previous graduate teaching and supervision as described above. The Graduate Program Director shall ask the Graduate Program Executive Committee to review the CVs and supporting documentation of all applicants.

For the categories of Associate Membership, Members Emeriti and Adjunct Membership, the Graduate Program Executive Committee will decide on appointments and report its decisions with rationales to the Graduate Program Director. In turn, the Graduate Program Director will report such appointments to the Faculty of Graduate Studies. For the categories of Full Membership and Associate Membership, the Graduate Program Executive Committee will provide recommendations with rationales to the Graduate Program Director. In turn, the Graduate Program Director will submit appointment packages to the Faculty of Graduate Studies Academic Planning and Policy Committee.

Decisions and recommendations on members of the Graduate Program Executive Committee (including the Graduate Program Director) will be made by the remaining members of the Graduate Program Executive Committee.

In very unusual situations of compelling and immediate Program needs, the Graduate Program Executive Committee may recommend (re)appointments of certain individuals who might not qualify under the formal conditions specified above. In such instances, the nature of the specific need must be clearly identified by the Graduate Program Executive Committee.

The Graduate Program Director will notify individuals of the Program's decision, by way of a copy of the Recommendation for Appointment/Reappointment form, which is to be submitted to FGS. Decisions against (re)appointment will be dealt with according to FGS policy.

Reference

[1] Policy on Appointments to the Faculty of Graduate Studies,
<http://gradstudies.yorku.ca/faculty-staff/academic-affairs/faculty-membership/appointments-policy/>, accessed February 2016.

February 2016

York University Quality Assurance Procedures (YUQAP) New Program Appraisal

External Appraisal Report on the Proposed New M.A., M.Sc. and Ph.D. in Digital Media

Please provide feedback, as appropriate, on the evaluation criteria provided below.

External Reviewer(s)

Dr. Marek Hatala, Professor, School of Interactive Arts and Technology, Simon Fraser University, BC, Canada
Dr. Michael Neff, Associate Professor of Computer Science & Cinema and Digital Media, Chair of Cinema and Digital Media, University of California, Davis, USA

1. Outline of the Visit

The reviewers visited York University on March 2nd and 3^d, 2017. The following people were interviewed:

- *Alice Pitt, Vice Provost Academic*
- *Barbara Crow, Dean of Graduate Studies*
- *Shawn Brixey, Dean of AMPD*
- *Spiros Pagiatakis, Associate Dean of Research and Graduate Studies, Lassonde School of Engineering*
- Program Faculty: Melanie Baljko, Mark-David Hosale, Matthew Kyan, Joel Ong, Don Sinclair, Nell Tenhaaf, Doug Van Nort, Graham Wakefield, Rob Allison, Petros Faloutsos, Michael Brown
- Graduate Students in Future Cinema II course
- Undergraduate students in the Digital Media program

As a part of the visit, the reviewers toured the following research and teaching facilities:

- Alice Lab for computational worldmaking (Graham Wakefield) <http://worldmaking.github.io>
- n-D::StudioLab (Mark-David Hosale) <http://www.ndstudiolab.com>
- DisPerSion Lab (Doug Van Nort) <http://dispersionlab.weebly.com>
- Bergeron Centre for Engineering Excellence (<http://lassonde.yorku.ca/about-bergeron-centre>)
- The Graphics and Media at York (GaMaY) Lab (Melanie Baljko, Petros Faloutsos and Matt Kyan) Lassonde Building
- Two flexible teaching spaces, one computer lab and one configurable studio/lecture space.
- *Any other activities relevant to the appraisal*

Prior to the visit, the reviewers were provided with the draft of the proposal and additional supplementary material.

2. General Objectives of the Program

- *Is/are the program name and degree designation(s) appropriate?*
- *For graduate programs that wish to have a Quality Council endorsed field(s), are the fields indicated in the proposal appropriate?*

The program name – Digital Media – reflects well on the program objectives and future graduate profiles. The degree designations are appropriate and consistent with established norms. No Quality Council endorsement is being sought for the program.

- *Are the general objectives of the program clear and are they consistent with University and Faculty missions and academic plans?*

The general objectives are well defined. There is a high degree of consistency between the objectives of the program and priorities set forth at the provincial and university levels.

3. Need and Demand

- *Is there sufficient explanation of need/demand for the program?*

The need for the program is clear and based on the requirements of several groups of stakeholders. First, there is a need for the unique type of Highly Qualified Personnel (HQP) that this program will produce. In general, the digital sector has difficulty finding the people they necessarily need for growth. This program will produce a particularly unique type of personnel that have both technical and artistic training, which is a background that provides a strong base for developing future forms of media that are likely to be economically important. The proposal provides evidence for this need through letters from Interactive Ontario, The Canadian Digital Media Network and Ellefson Technology Consulting. The proposal argues effectively that the program fills a unique and important niche in Ontario.

The faculty in the program have a critical need to work with graduate students in order to conduct their research. This need is not being satisfied within the current programs at York, especially for the faculty in Computational Arts. For those faculty members in EECS, the program would allow them to work with different types of students than those normally attracted to CS or Engineering schools; students with stronger art training and interests. The program will benefit from four CRCs that are either in place or in the process of being hired. Given this very substantial investment, it is important for these faculty to have an appropriate cadre of graduate students to work with.

The student demand for the program is argued based on a survey of current students and alumni, a comparison with similar programs such as the SFU School of Interactive Arts and Technology (SIAT), the availability of financial support through CRCs, as well as the general growth of digital media and the high appeal of fields such as gaming. All of this is encouraging data, although there may be an overreliance on recruiting students from the current undergraduate program. The anticipated student demand could be more fully articulated, both by providing more numeric data on students likely to enroll and by identifying related programs whose students may well be interested in such a graduate offering. Profiling the range of different students that might be interesting in the degrees will help ensure that flexible pathways are developed that allow them to enter the program.

As other similar programs in Canada depend to a large extent on recruiting international students (e.g. SIAT with over 60% international), the proponents should consider to what extent the provincial limitations placed on admitting international students will affect the program's ability to reach projected numbers.

4. Program Content and Curriculum

- *Does the curriculum reflect the current state of the discipline or area of study? If applicable, comment on the appropriateness of any unique curriculum or program innovations or creative components.*

The curriculum is appropriate for the degrees and it is current with the field. Most of the classes fit into one of three categories: core classes, Digital Media classes or EECS classes, with some additional offerings from programs like Dance. The two core classes consist of a survey and research methods class along with a studio that is taken once during the Master programs and again during the Ph.D. The survey class serves an important function in the program and its structure could be more carefully articulated. The course covers a very wide set of topics and the intention appears to be to offer it as a research methods class, but this could be made more clear.

The Digital Media graduate classes ("depth courses") are exciting and highly germane to the program. These will be very effective in supporting the research program and may also be interesting electives for students in other programs, such as EECS. It would help to articulate how frequently they will be offered to understand the resource implications and provide clarity to incoming students on what courses they can likely expect an opportunity to take.

There is a long and solid list of EECS graduate classes. It would help to articulate the background required by students in order to take these classes as students without a CS undergraduate degree (and even some with) might lack some of the expected preparation.

Integrating undergraduate and graduate offerings of courses is a reasonable tactic for maximizing what can be offered with limited resources.

- *For undergraduate programs, comment on the appropriateness of the anticipated class sizes. For graduate programs, is there adequate evidence that each graduate student in the program will take a minimum of two-thirds of the course requirements from among graduate level courses?*

All of the course requirements for each of the degrees are at the graduate level.

5. Program Structure, Learning Outcomes and Assessment

- *Are the program requirements and learning outcomes clear, appropriate and in alignment with the relevant degree level expectations?*

The proposed program requirements for MA, MSc and PhD programs align with the relevant degree requirements. The learning outcomes are clearly itemized and supported by the curriculum structure. Both Master programs and PhD have suitable research requirements that will make both programs credible with respect to the programs' research nature and ambitions.

The majority of students interviewed would consider entering a Master program to be better prepared for the workplace. The faculty imagine a range of trajectories, from artist to software developer. The proposal shows four example profiles for Master students. In addition, the proposal would benefit from explicitly identifying career path/roles the future graduates can fulfill across targeted industries; specifically highlighting the programs' ability to develop competencies to succeed in such roles. The proposal would be strengthened by clarity in this direction both for internal focusing of program implementation and for marketing the program to applicants and employers.

- *Comment on the appropriateness of the program curriculum and structure to support the program learning outcomes. For undergraduate programs, comment on the nature and suitability of students' final-year academic achievement in the program. For research-focused graduate programs, comment on the nature and suitability of the major research requirement(s).*

The curriculum structure is sound. It contains an appropriate number of classes for such programs and combines breadth and depth.

In general, the courses will provide strong support for the major research requirements. The new DMG classes are very closely aligned with students' likely research work and offer enough breath for students to also obtain complementary expertise. There are some issues that the program faculty may wish to consider:

- The faculty may wish to consider if too much is being asked of the core DMG 5010, particularly for the MA where it is providing both core technical literacy and historical/cultural literacy. These objectives could be divided between multiple courses.
 - The faculty may also wish to consider the inclusion of a writing intensive, scholarly theory class to complement the more technical and production oriented offerings.
 - The EECS classes appear to all be pre-existing courses. Will they be adapted in any way to this new audience? It would help to articulate how DM students will use these to forward their research work.
 - If students come in without all of the expected background, what is the process by which they can make up particular deficits? Can the program identify a core set of classes that students should take if they are lacking comparable training?
-
- *Are the methods and criteria for assessing student achievement appropriate and effective relative to the program learning outcomes?*

The methods of assessment are appropriate and considered effective for measuring the achievement of learning outcomes. These include the assessment via courses, major research project for MA and MSc, annotated bibliography, comprehensive exam, thesis research proposal, and thesis defense for PhD.

MA and MSc Programs

The proposal differentiates between MA and MSc programs based on the course requirements and nature of the major research project (MRP), specifically using the research methodology used to conduct research in MRP. The reviewers are satisfied with the appropriateness of this distinction. We offer the following suggestions for implementation of the program and for improving timelines for individual students.

There are several key elements that contribute to timely completion of the program. The first group of concerns is about the timeline surrounding establishment of the supervisory relationship and advising students. The proposal posits that students will select four out of six courses in areas of their research. Hence the course selection to a large extent would require identifying the topic of MRP much earlier than envisioned in the proposal (i.e. 6 months prior to the defense). Next, it is proposed that the graduate program director works with each student in the first year to identify suitable courses. The reviewers believe that this aspect is unrealistic given the expected size of the program. Also, as identified in Section 3, there is a strong need and expectation that the MRP will contribute to the ongoing research program of individual faculty members. Typically, this means that students admitted to the senior supervision do not have a complete freedom in choosing their topic, rather a topic should contribute to the objectives of supervisor's funded research. All three concerns could be addressed by considering appointing a permanent senior supervisor either at the admission time, or very early in the process. If this is not feasible, a temporary supervisor within an area of interest indicated in the student application should be appointed and guide the student.

The second element is establishing clear expectations for progress towards the degree and mechanism for getting students on track or, if student disengages from the program, for recommending withdrawal. The mechanism of the "switch committee" to periodically review progress is useful and can keep students on track, however consequences of non-progression are not clear. Additionally, we recommend a clear set of time-based guidelines to be developed, which will give the program ability to not only monitor the progress, but also to clearly spell out consequences. We recommend complementing the guidelines with a formal annual review performed in a face-to-face meeting by whole graduate caucus (i.e. faculty in the graduate group), with formally requiring students to correct deficiencies in their progress by stated deadlines. Such an annual progress review should apply to all students in the program, allowing all faculty to keep aware about all students' progress and their research. Such a review process would also contribute to the consistency of the supervision across the program. It would also distribute responsibility for checking progress to the entire faculty and can help to avoid the challenge of the student's lead supervisor being in the often opposing roles of chief advocate for the student's work and chief enforcer of progress milestones.

PhD Program

The research and curricular requirements are consistent with the PhD programs elsewhere. The timely completion depends to a large extent on adhering to recommended timing for major milestones, in addition to having mechanisms in place that prevent deviations and correct for any delays. In this regard, we have identified several potential issues that should be considered in the proposal.

The supervisory relationship is critical for any successful PhD. In the fields such as Digital Media PhD students are central to the supervisor's research and their research typically contributes to the work in the supervisor's research program. Given such a close relationship, we recommend that the supervisory relationship is established at the time of admission with a clear commitment from the future supervisor. We do not recommend admission to the program with hope that the student will identify a supervisor after they join the program. The proposed limit of five semesters for establishing senior supervisor is not advisable. An early supervisory commitment will facilitate the advising on course selection, as well as early discussion about areas of research.

We offer several recommendations to the comprehensive examination process described in Appendix C. First, we believe that the student's primary supervisor should be the one that is driving the administrative aspects of the comprehensive examination. The rationale is that the student is in a weak position of dependence on the committee, hence she is not the one that would be able to drive processes such as scheduling, which will

undoubtedly result in delays in many cases, jeopardizing timely completion. Rather we recommend that the senior supervisor approaches colleagues with request to serve on the comps committee.

To further streamline the comprehensive exam process, we believe that it should be acceptable if the supervisory committee only guided the preparation of the reading list, without the involvement of the external comprehensive exam committee members. It is our experience that processes requiring coordination of various faculty members beyond the supervisory committee lead to delays in timely completion due to the difficulties in managing faculty schedules.

The final recommendation we want to make to the comprehensive exam is to consider separating the process of formulating the research questions from the exam process. The precise research questions can often be better formulated after the student completed their reading list and may require additional exploration beyond the knowledge of the field, e.g. considering the technical/infrastructure requirements for the proposed work, methods to be applied to the questions, including proposed data collection methods and analysis, etc. This is better facilitated within the dissertation proposal. A short deadline, e.g. one semester after the comprehensive exam, might be introduced into the timeline guidelines to facilitate timely formulation of the exact research questions.

As recommended above, the annual progress review by the whole graduate caucus should apply to PhD students as well, where the decision about the timely progress would be taken by the group.

- *For graduate programs, comment on the appropriateness of the program length, including on how students' time-to-completion will be supported and managed to ensure that the program requirements can be reasonably completed within the proposed time period.*

The overall duration is appropriate, although PhDs may take longer than the anticipated four years. As mentioned above, it would help to formalize rigorous milestones, especially early in the program, to ensure that students are on track or can take corrective measures. There should be a clear process for documentation of progress or issues with progress.

Defining the thesis research area early will help in the selection of appropriate classes to support it.

- Comment on the appropriateness of the proposed mode(s) of delivery to meet the program learning outcomes.

The delivery methods are appropriate.

6. Admission Requirements

- *Are the admission requirements appropriately aligned with the program learning outcomes?*

To the extent that they are described, the admission requirements are appropriate for the program learning outcomes. However, it is important to provide significantly more detail on the background students should have in order to apply. It would help to articulate a list of particular skills and/or provide representative example courses that provide these skills, so students know if they are adequately prepared. This is particularly important for the MA and MSc degrees as both are open to students with degrees in digital media, computer science, an art program with a technology focus, or related areas. This covers a wide range of potential preparation. York offers a particular version of a Digital Media degree, but the field is still young and there is a diverse range of material covered in different versions of such degrees, so there may be significant diversity in the applicant pool.

Given that the set of students potentially interested in the new graduate degrees is quite broad, even just considering the three listed types of degrees, it seems needlessly restrictive to limit admission to students whose experience matches that of those who have studied digital media at York or in very similar programs. We suggest the program seriously considers the range of students they are open to admitting. A wider set of students can benefit from these programs and will also bring new perspectives and insights to the learning environment. However, such students may need to take additional courses or otherwise improve their preparation in order to succeed in the graduate program. It is important for the program to fully articulate the requirements and potential

pathways to achieve them in order for a more diverse pool of students to be able to bridge to the program requirements and succeed in the degree. In particular, a clear strategy and possibly a course(s) is needed to bridge students who may be lacking in computing background to the program and enable them to take courses offered by EECS.

- *Is there sufficient explanation of any alternative requirements, if any, for admission into an undergraduate, graduate or second-entry program, such as minimum grade point average, additional languages or portfolios, along with how the program recognizes prior work or learning experience?*

All three degree programs require a portfolio. The proposal should describe in greater detail what should be contained in these portfolios, along with listing potential examples that would meet the expectations of the admission committee. This will help students to calibrate their level of preparation and also to present appropriate material so their applications can be fairly considered.

7. Resources

For all programs

- *Adequacy of the administrative unit's planned utilization of existing human, physical and financial resources, and any institutional commitment to supplement those resources, to support the program.*
- *Appropriateness of the collective faculty expertise to contribute substantively to the program.*
- *Participation of a sufficient number and quality of faculty who are competent to teach and/or supervise in the program, including qualifications, research, innovation and scholarly record.*

The proponents of the program, both from AMPD and EECS, collectively hold the expertise that is appropriate for the delivery of the program. The number of competent faculty involved in the preparation, teaching and supervision is sufficient to execute the proposal at the level of quality expected from the strong research-oriented graduate program. The faculty members have strong established research programs, have demonstrated strong scholarly records, and possess qualifications that are congruent with those needed to achieve program objectives.

The current complement of the faculty expected to deliver this graduate program is sufficient when fully deployed. However, the high involvement of CRCs in the Computational Arts and their reduced teaching load will likely challenge the delivery of the existing undergraduate program in Digital Media. This was discussed with the Dean Brixey, who indicated that 2-3 CLA faculty may help with the UG program delivery. When considering still continuous growth of the UG program, the Department Chair Sinclair expressed a need for 4-5 additional faculty lines to cover both the undergraduate and graduate program at steady state. A clear commitment from all levels to provide human resources is needed based on actual mandated course teaching responsibilities. We recommend developing an explicit plan with specific timeline for people hiring that corresponds to the growing needs of both programs.

- *Evidence that there are adequate resources (e.g. library, laboratory) to sustain the quality of scholarship produced by undergraduate students as well as graduate students' scholarship and research activities.*

There is high quality research and teaching infrastructure either immediately available, or coming online soon, that will provide an excellent environment to deliver high quality programs and support high quality of scholarship for graduate students. The library resources are in place.

One concern we have is around seating spaces for graduate students. CA faculty labs are highly technology and space intensive, with research often utilizing the whole allocated space. This does not provide for a suitable seating areas for students not-directly involved in the ongoing research project within the labs. There should be a clear plan for where students will be seated.

Additional criteria for graduate programs only

- *Evidence that faculty have the recent research or professional/clinical expertise needed to sustain the program, promote innovation and foster an appropriate intellectual climate.*

The faculty involved in the graduate program have recent research and artistic practice expertise. There are significant research initiatives in place that will provide a vital environment for the graduate program. As mentioned before, there is a strong need for the graduate students to sustain these high-quality research initiatives.

- *Where appropriate to the program, evidence that financial assistance for students will be sufficient to ensure adequate quality and numbers of students.*

The newly established policy for graduate support forms a framework this program will operate under. There seem to be financial resources within CRCs programs to provide sufficient support to many graduate students. Students supervised by non-CRC faculty will depend on research funding of individual faculty members. This can potentially lead to disparity of support within the program. This is not uncommon, but needs to be considered and managed to maintain a healthy graduate student community. It is our understanding that in the new funding model if the support cannot be provided by the faculty members then the faculty as a whole (AMPD) will be contributing lacking resources. Given the strong support for the program by Dean Brixey this does not seem to be a concern. The large-scale cross-university initiatives were indicated as potential sources of additional financial support, but portions of those was not clearly committed to this program at this stage. An additional source of funding via MITACS, which might be highly relevant and given industry need also relatively easy to acquire. This was not considered by the proposal and may provide additional funding stream.

Overall, we are not concerned that, at least in short and medium term, lack of financial assistance would arise and impede adequate quality and numbers of graduate students.

- Evidence of how supervisory loads will be distributed, and the qualifications and appointment status of faculty who will provide instruction and supervision.

There appears to be sufficient supervisory capacity to deliver the program.

8. Quality of Student Experience

- *Is the evidence of a program structure and faculty research that will ensure the intellectual quality of the student experience?*

The program structure clearly supports the intellectual quality of the student experience. A part that was not articulated in the proposal and should be considered is how a healthy and stimulating graduate student community will be developed.

Two mandatory courses across the first two semesters will support an early formation of the connection within the intake cohort. Additional courses will provide further opportunities, not only within the program but also to other graduate students taking the courses, primarily in EECS and AMPD. However, given that the graduate students will be associated with different labs, more should be done to maintain the connection and enrich students' experience. One suggestion brainstormed during our visit was an introduction of a graduate colloquium, which may be made mandatory for one or two semesters, and present talks from visiting or resident faculty that would form a basis for follow up discourse.

We also believe that given the disperse nature of students the AMPD should consider allocating a social space for students within the program to connect with each other informally. Given one reviewer's experience in the similar program (SIAT@SFU), even within a highly collocated lab environment, the requirement for social space came as the top request when students were interviewed on their learning experience. Since then such a space was created with lounge and long-table seating and equipped for light refreshments use. The space functions as a hub for exchanging ideas between students and for informal and semi-formal gatherings.

Note: Reviews are urged to avoid using references to individuals. Rather, they are asked to assess the ability of the faculty as a whole to deliver the program and to comment on the appropriateness of each of the areas/fields of the program that the university has chosen to emphasize, in view of the expertise and scholarly productivity of the faculty.

9. Other Issues

10. Summary and Recommendations (Note: The responsibility for arriving at a recommendation on the final classification of the program belongs to the Appraisal Committee. Individual reviewers are asked to refrain from making recommendations in this respect.)

The proposal articulates a well-developed vision for a new graduate program in Digital Media, supporting MA, MSc and PhD programs. This effort leverages off York's substantial strengths in both the arts and computer science. The program will produce a unique form of highly qualified personnel with deep technical and artistic knowledge. Such graduates will be well positioned to contribute to digital media industries in Ontario. The program is also critical for the faculty within Computational Arts to be able to realize the potential of their research programs and provides important added breadth for faculty in EECS. Physical and personnel resources are largely in place to realize the vision. In sum, the proposal suggests a high quality and welcome addition to York's, and Ontario's, graduate program offerings.

The review committee did identify a number of recommendations for further strengthening the program. These are developed in detail above and briefly summarized here:

- Please clarify the description of *GS/DMG 5010 3.0 Foundations of Digital Media* to explain which of the breadth of topics will be included in a single offering of the class and how this will be formulated.
- For Masters students, consider appointing a supervisor at the time of admission or very shortly after the start of the program. If this is not possible, a temporary supervisor would be an alternative. For PhD students, consider establishing the supervisory relationship at the time of admission.
- To ensure that students are progressing effectively towards their degree, develop timeline guidelines and consider including a formal annual review in the program.
- For the comprehensive exam, we recommend that the student's primary supervisor drive the administrative aspects of the exam process, along with other suggestions above that may improve the process.
- The precise background required of students applying to the program should be more clearly elaborated.
- Consider opening the program to a broader set of applicants with appropriate courses suggested to bridge students to these degrees where their background training may be incomplete.
- Guidelines should be developed for the material students should include in their application portfolios.
- A plan for course staffing should be completed in order to assess the adequacy of staffing levels and add resources where needed.
- A plan to provide appropriate office space for graduate students should be developed.
- The proposal should address steps to develop a healthy graduate student community.

Change to Program/Graduate Diploma Academic Requirements Proposal Template

1. Program/Graduate Diploma:

PhD in Business Administration;

Field: Operations Management and Information Systems (OMIS)

2. Effective Session of Proposed Change(s):

September 2017

3. Proposed Change(s) and Rationale: Please provide a description of the proposed change(s) and rationale, including alignment with academic plans.

Summary of the new program requirements:

The Operations Management and Information Systems (OMIS) area of the Schulich School of Business offers PhD students the opportunity to work closely with highly productive faculty at the forefront of research in such diverse fields as supply chain management, health care management, social networks, health and safety, innovation and sustainability, entrepreneurial decision making, and data analytics. Given the quantitative nature of the field, applicants are expected to have a strong analytical background and must have completed courses either in a quantitative discipline (e.g., mathematics, probability and statistics, engineering, computer science, economics, natural sciences) or in business and/or management. They should be interested in furthering their knowledge of statistical and normative methodologies that use data to develop and confirm new theories of how best to organize systems and manage organizations. The goal of the OMIS field within the Business Administration PhD program is to provide our graduates with the necessary tools to become productive and successful research-oriented faculty members at the world's leading business schools.

Due to the multidisciplinary nature of the field, PhD students are provided with grounding in three quantitative areas: statistical methods, microeconomics and game theory, and optimization techniques. These core disciplines establish a rigorous foundation for research in the empirical sciences as applied to the field of operations management and information systems. During their second year of study, students have the opportunity to further specialize according to their research interests by taking courses approved by the OMIS PhD Coordinator.

Requirements

There are five main components to the successful completion of a PhD in OMIS:

- 15 graduate-level courses (12 core, 3 electives – 8 each in year 1 and year 2).

- A second year research project (which is one of the 12 core courses) culminating in a seminar presentation (OMIS 7985).
- A comprehensive field exam consisting of two components:
 - A closed-book quantitative exam.
 - An open-book research design essay.
- Each PhD student is required to teach an undergraduate course in OMIS.
- Research and the completion of a dissertation that is likely to result in publications in high level journals.

A typical program of study will take between four and five years. The course requirements are completed during the first two years, the seminar presentation and comprehensive examination take place in the summer of the second year, and the remainder of the program is focused on research development and scholarly output (i.e., dissertation and submissions to journals).

Prior to the end of their second semester, students must submit to the OMIS area PhD coordinator a one-page research proposal that reflects their general area of interest. On the basis of this proposal, students will be assigned to an OMIS area faculty member who will supervise and guide the direction of a research project with the goal of producing academic manuscripts. Students are expected to work on research related activities starting in the summer of their first year and throughout their second year. During the summer of their second year (prior to taking comprehensive exam), students must demonstrate research ability by leading a 60-minute research seminar detailing their original contributions. Successful completion of this course is a prerequisite to the comprehensive examination.

The comprehensive field examination also takes place in the summer of the second year. There are two components: a closed-book quantitative exam (approximately four hours in length) and an open-book take home exam (one week). The closed-book exam will test students on skills learned in their core courses. The open-book take home exam will be in essay format and will test students on their ability to design a program of research. Students must demonstrate clear and coherent writing ability, methodological mastery and a deep comprehension of the literature relevant to the topic. Their academic writing style should mimic what is expected by top journals in the field (e.g., Management Science, Journal of Operations Management). Students will receive a grade of pass or fail on this comprehensive exams. Those who fail will have the opportunity to retake the exams once, within six months of the date of the first comprehensive exam. Those who fail to pass a second time will not be allowed to continue in the PhD program.

Admission

Competitive applicants will typically have an undergraduate degree in a quantitative discipline such as engineering, mathematics, statistics, computer science, physics or economics, plus a master's degree in one of these fields or management. Exceptional

students with only an undergraduate-level education in a quantitative discipline will also be considered. Admission is competitive and based on three components: transcripts, letters of reference (at least two are required), and standardized test scores (either the GRE or the GMAT, foreign students must also demonstrate language ability). The current admission requirements in terms of GPA and test scores remain unchanged.

Why are the program requirements changing?

Our educational goals must adapt to the changing field of OMIS. Students must learn the appropriate tools to ensure their research meets the increasing competitive standards of methodological rigor and innovation that are expected by top journals in the field. This will in turn help increase the program's reputation (i.e., get more/better quality publications), attract better applicants, and allow graduates to compete in a highly competitive academic job market. The current program has attempted to keep up with the changing environment but needed to engage in a more fundamental rethink of its requirements. More specifically, the increased number and the quantitative nature of the proposed required courses will position students for a career in a research-intensive university business school. The more specific standards for the comprehensive examination and milestones for progression through the program will ensure that students stay focused on developing their research skills, culminating in a successful dissertation defense.

How does the program align with current academic plans?

The new program requirements are now in-line with the direction of the area. In recent years, the OMIS area has focused on publishing manuscripts using more data-focused quantitative methodologies, have hired new faculty members with technical skills in the empirical sciences, and have expanded their program offering to include the Masters of Business Analytics. The proposed program will also be a potential option for qualified graduates of the proposed Masters of Supply Chain Management who decide to continue on to an academic career.

How was the curriculum developed?

The criteria used to select the curriculum was chosen based on the following five questions:

1. What methodology or methodologies are researchers using to investigate pertinent topics that are published in top OMIS journals?
2. What skills do faculty members in the OMIS area have to advise PhD students?
3. What graduate courses does York/Schulich currently offer to help train PhD students?
4. Which skills are necessary for PhD graduates to successfully compete with graduates from other schools when applying for faculty positions?
5. How should a PhD curriculum in OMIS balance educational depth versus breadth? That is, what tools should our graduates be experts in?

How do these changes achieve the field's new objectives?

The new requirements make three substantive changes. First, the program in our area will focus on attracting more analytically minded applicants. Second, the course requirements allow students to refine their analytical skills and develop deep topic-related knowledge. The proposed curriculum will give them a superior foundation for a career using data-driven research methodologies in managerial decision-making. Third, our program helps students develop practical research skills at an early stage. This facilitates early research productivity, which is especially important as competition for tenure track faculty positions at high-caliber research institutions has intensified and solid evidence of research output (e.g., journal publications) is required at the time of the job search.

New OMIS Specialization Requirements:

	Fall	Winter
Year 1	SB/DCAD 7060 Introduction to Applied Statistics	SB/OMIS 7300 ¹ Empirical Methods in Operations
	SB/DCAD 7250 Research Design	SC/MATH 6904 ² Modern Optimization
	SB/OMIS 7100 ³ Strategic Operations Management I	GS/ECON 5220 Econometric Theory
	PSY2001HF Design of Experiments I ⁵	PSY2002HS Design of Experiments II ⁵
Summer	SB/OMIS 7985 Research Project in Operations Management and Information Systems	
Year 2	GS/ECON 5320 Game Theory	Elective
	GS/ECON 5100 Microeconomics Theory	SB/OMIS 7200 ³ Strategic Operations Management II
	Elective ⁴	Elective
Summer	<ol style="list-style-type: none"> 1. Closed-book quantitative comprehensive exam (4-hours). 2. Open-book (take-home) research design exercise (1-week). 	

- 1 This course is cross-listed with MBAN 6400, and is offered every year.
- 2 In case this course is not offered by the Math Department, the students will take an equivalent PhD level course offered by the OMIS Faculty.
- 3 Students without a Business background will be required to take a masters-level management course as part of their electives.
- 5 Or an equivalent PhD level course in advanced statistics and data analysis. Possible alternatives include GS/MATH 6630 Applied Statistics I and GS/MATH 6631 Applied Statistics II
- 4 SB/OMIS 7100 and 7200 will be taught every other year with the cohort of first and second year PhD Students.

APPENDIX
OMIS PhD Curriculum Map 2017.04.24
Expected Learning Outcomes

Graduates of the Schulich PhD program are able to:

	Methods						Theory (& Methods)						Integration			
OMIS PhD Curriculum	SB/ DCAD 7060	SB/ DCAD 7250	PSY 2001 HF	PSY 2002 HS	SC/ MATH 6904	GS/ ECON 5320	GS/ ECON 5220	GS/ ECON 5100	SB/ OMIS 7100	SB/ OMIS 7200	SB/ OMIS 7300	Electives	SB/ OMIS 7895	Comps	Dissertation	Teaching
PhD Learning Outcomes																
Goal 1: Methodological skill development																
1.1 Use the relevant methodological approaches to address research questions relevant in the field	I	I	D	D	D	R	R	R	R	R	D		R	A		
Goal 2: Familiarity with major theories and empirical findings in the field																
2.1 Have a command of prior research and theories relevant to the field								R	I	D	D	D	D	A		
2.2. Be able to identify new research questions the answers to which will advance knowledge									I	D	D	D	D	A		
Goal 3: Make an original research contribution																
3.1 Conceptualize and conduct original scholarly work in the field	I	I	D	D	D	D	D	I	D	D	D	D	D		A	
Goal 4: Teach in the field																
4.1 Be able to successfully teach courses in the field					I			I	D	D	D	D				A

I = Introduced; D = Further Developed; R = Reinforced; A = Accomplished & Assessed;

Schulich PhD Program
EXPECTED LEARNING OUTCOMES
FOR Ph.D. GRADUATES

LEARNING OUTCOMES	<i>The PhD is awarded to students who have demonstrated:</i>
1. Depth and Breadth of Knowledge	<p>a. A deep knowledge of historical and contemporary topics that are of central relevance within the student's chosen field of study. For individual areas, these are as follows</p> <p>Accounting</p> <ol style="list-style-type: none"> 1. Theory and research related to diverse genres of accounting research. 2. Empirical research methods that can be used to investigate different research accounting questions. 3. Theory and research relevant to behavioral accounting. <p>Finance</p> <ol style="list-style-type: none"> 1. Theory and research relevant to individuals' consumption and portfolio decisions and their implication for security valuation. 2. Theory and research related to corporate finance. <p>Marketing</p> <ol style="list-style-type: none"> 1. Theory and research related to consumer culture 2. Theory and research related to marketing strategy 3. Theory and research related to consumer psychology <p>Organizational Studies</p> <ol style="list-style-type: none"> 1. Theory and research relevant to individual and group behaviour in organizations. 2. Theory and research relevant to how organizations and institutions.

	<p>Operations Management and Information Systems</p> <ol style="list-style-type: none"> 1. Theory and research related to operations management. 2. Theory and research related to technological innovation 3. Theory and research related to behavioural issues in information systems 4. Contemporary methods in operations management research <p>Strategy</p> <ol style="list-style-type: none"> 1. Theory and research relevant to the economic foundations of strategy 2. Theory and research relevant to the behavioural foundations of strategy. <p>b. A deep knowledge of one other area besides their chosen field of study (i.e. their minor field, which may be within or outside the business school)</p> <p>c. Extensive expertise on one or more topics that constitute the student's chosen area(s) of contribution within their field of study, i.e. the topic(s) on which they write their dissertation.</p> <p>d. An understanding and appreciation of ethical issues related to conducting and publishing research.</p> <p>e. Familiarity with teaching techniques that are appropriate within their chosen field of study.</p> <p>f. An understanding and appreciation of ethical issues related to teaching.</p>
2. Knowledge of Methodologies	<ol style="list-style-type: none"> a. An ability to collect or collate data that is appropriate for use within the student's chosen methodological tradition. b. An ability to use methods of analysis that are appropriate for developing scholarly contributions from the types of data that are part of the student's chosen methodological tradition. c. An ability to appropriately interpret data that have been analysed in keeping with the student's chosen methodological tradition d. A familiarity with research methods that are relevant to the student's field, but outside their chosen methodological tradition.
3. Level of Application of Knowledge	<ol style="list-style-type: none"> a. The ability to develop novel theoretical insights through research projects using methods and concepts appropriate to the student's area of specialization.
4. Awareness of Limits of Knowledge	<ol style="list-style-type: none"> a. An understanding of scholarship outside the student's chosen area of expertise and outside their chosen methodology. b. An appreciation of the uncertainty, ambiguity, and limits to knowledge and how this might influence its application.
5. Level of Communication Skills	<ol style="list-style-type: none"> a. The ability to convey research insights in language that is appropriate for audiences of peer reviewers. b. The ability to convey research insights in language that is appropriate for audiences other than peers, e.g. students, specialists in other fields. c. An ability to read the work of other scholars and to provide critical but developmental feedback. d. An ability to communicate field-relevant concepts effectively in a class room or seminar setting.
6. Autonomy and Professional Capacity	<ol style="list-style-type: none"> a. The ability to function professionally as an academic, such as balancing the demands of teaching and research and of seeing research projects through to completion. b. The ability to transfer research skills effectively to new topics and contexts. c. The habits and capacities of an independent learner, including the ability to master new areas of research. d. An understanding of the obligation to act in a socially and ethically responsible manner as a scholar.

**Proposed Revisions to the Program Admission Requirements
Within the Faculty of Science**

Degree Program	Existing Requirements	Proposed Requirements
Chemistry BSc	<ul style="list-style-type: none"> • SCH4U among the three grade 12 sciences (SPH4U, SCH4U, SBI4U) • Three other specified courses (ENG4U, MHF4U, MCV4U) • Two other 4U or 4M courses; SPH4U recommended 	<ul style="list-style-type: none"> • SCH4U and one other grade 12U or M science • ENG4U • MHF4U • Two other 4U or 4M course; SPH4U and MCV4U recommended
Environmental Science (Life Sciences Stream) BSc	<ul style="list-style-type: none"> • SCH4U among the three grade 12 sciences: SPH4U, SCH4U, SBI4U • Two specified grade 12 math courses (MHF4U, MCV4U) • ENG4U • Two other 4U or 4M courses; SPH4U recommended 	<ul style="list-style-type: none"> • SCH4U and SBI4U • MHF4U • ENG4U • Two other 4U or 4M courses; SPH4U recommended
Mathematics; Applied Mathematics; Mathematics for Education BSc	<ul style="list-style-type: none"> • ENG4U • MHF4U • SPH4U or SCH4U • Three other 4U or 4M courses, MCV4U recommended 	<ul style="list-style-type: none"> • ENG4U • MHF4U • One grade 12 science from among: SPH4U, SCH4U, SBI4U • Three other 4U or 4M courses; MCV4U recommended
Computational Mathematics BSc	<ul style="list-style-type: none"> • ENG4U • MHF4U • 4U Math; MCV4U recommended • SPH4U or SCH4U • Two other 4U or 4M courses 	<ul style="list-style-type: none"> • ENG4U • MHF4U • One grade 12 science from among: SPH4U, SCH4U, SBI4U • Three other 4U or 4M courses; MCV4U recommended

Science & Technology Studies BSc	<ul style="list-style-type: none"> • SCH4U or SPH4U among three grade 12 sciences (SPH4U, SCH4U, SBI4U) • One grade 12 math course, either MHF4U or MCV4U • ENG4U • Three other 4U or 4M courses 	<ul style="list-style-type: none"> • One grade 12 science from among: SPH4U, SCH4U, SBI4U • MHF4U • ENG4U • Three other 4U or 4M courses
Science & Technology Studies BA	<ul style="list-style-type: none"> • ENG4U • Five other 4U or 4M courses 	<ul style="list-style-type: none"> • ENG4U • One of these three grade 12 sciences: SPH4U, SCH4U, SBI4U • Four other 4U or 4M courses
Statistics BSc	<ul style="list-style-type: none"> • ENG4U • MHF4U • SPH4U or SCH4U • Three other 4U or 4M courses; MCV4U recommended 	<ul style="list-style-type: none"> • ENG4U • MHF4U • One grade 12 science from among: SPH4U, SCH4U, SBI4U • Three other 4U or 4M courses; MCV4U recommended
Undecided Major BSc	<ul style="list-style-type: none"> • ENG4U • 4U Math (MHF4U recommended) • SPH4U or SCH4U • Three other 4U or 4M courses 	<ul style="list-style-type: none"> • ENG4U • MHF4U • One grade 12 science from among: SPH4U, SCH4U, SBI4U • Three other 4U or 4M courses

Reference:

SPH4U: Grade 12 university-level Physics

SCH4U: Grade 12 university-level Chemistry

SBI4U: Grade 12 university-level Biology

ENG4U: Grade 12 university-level English

MHF4U: Grade 12 university-level Functions

MCV4U: Grade 12 university-level Calculus

Senate Committee on Awards

Report to Senate

At its meeting of 15 June 2017

FOR INFORMATION

1. Recipients of Prestigious Awards for Graduating Students

a. Governor-General's Gold Medals

The Committee is pleased to announce that Nicole Marie Racine, Graduate Program in Psychology (Clinical-Developmental), and Muhammad Salman Chaudhry, Graduate Program in Earth & Space Science, are the recipients of the 2017 Governor-General's Gold Medals. The Gold Medal is awarded to a student who has demonstrated the highest distinction in scholarship during graduate studies at York.

Nicole Marie Racine is an exceptionally productive scholar who already has an impressive record of peer-reviewed publication in high impact journals. Her thesis work on infant pain, "Pain-Related Anticipatory Distress in Preschoolers: Longitudinal and Concurrent Predictors," supervised by Rebecca Pillai Riddell, resulted in two extended manuscripts in top journals in the field prior to her defense. Dr. Racine is currently a Postdoctoral Fellow at University of Calgary, Alberta Children's Hospital Research Institute.

Muhammad Salman Chaudhry's thesis, "On the characterization of engineered elastomers at high-strain rates," supervised by Aleksander Czekanski, is noted for both the exceptional quality of the work and the immense significance of its impact on the research community. The thesis has already been recognized with a Faculty of Graduate Studies Thesis Prize. Mr. Chaudhry's impressive record of nine international conference publications and presentations and three submitted refereed papers bodes well for future contributions to the field. He is currently a research assistant and Lab Manager in the IDEA Lab at Lassonde.

b. Governor-General's Silver Medals

The Governor-General's Silver Medals are awarded annually to the undergraduate students who have demonstrated the highest academic standing upon graduation. The Committee is pleased to announce that the 2017 winners are:

Yaakov Green, Faculty of Science, BSc, Honours, Biology, First Class with Distinction

Ilan Kogan, Schulich School of Business, BBA., Special Honours, Administrative Studies (General), With Distinction

Ruhama Quadir, Schulich School of Business, iBBA, Special Honours, Administration, With Distinction

Senate Committee on Awards

Report to Senate

c. The Murray G. Ross Award

The 2017 recipient of the Murray G. Ross Award is Alamgir Khandwala, Faculty of Liberal Arts and Professional Studies, who is graduating with a BAS Special Honours, Administrative Studies (Accounting). The Murray G. Ross Award, named after York's founding president, recognizes academic distinction and notable contributions to campus life and is the highest honour given to a graduating undergraduate student at York.

There is no doubt about Mr. Khandwala's academic distinction; one professor calls him a "perfect student", always prepared, engaged, demonstrating advanced critical thinking and delivering excellence in all his work.

The depth and breadth of Mr. Khandwala's co-curricular activities stands out; he has made many contributions to collegial governance as a Senator, a long-serving and active member of the Senate Appeals Committee and the Sub-Committee on Honorary Degrees and Ceremonials, as well as the Student Council of Liberal Arts and Professional Studies and the Public Policy and Administration Students' Association. In addition, his mentorship of other students, both as a formal peer mentor and as a respected fellow student, has had a positive impact on many. He demonstrates passion, integrity and commitment to improving student life for all York students.

Robert Kenedy, Chair

Academic Policy, Planning and Research Committee

Report to Senate

At its meeting of June 15, 2017

FOR ACTION

1. Establishment of a New Faculty: Approval in Principle

Academic Policy, Planning and Research recommends

“that Senate approve, in principle, the establishment of a new Faculty comprising the Faculty of Environmental Studies, the Liberal Arts and Professional Studies Department of Geography, and potentially other departmental units or programs.”

Rationale

The proposal was initiated and developed by colleagues in Environmental Studies and Geography, and responds positively to recommendations made during recent Cyclical Program Reviews for both. A collegial working group composed of members of the units has been responsible for taking carriage of the initiative with the support of both of the Deans.

The Committee was joined at its meeting of June 1 by Gail Fraser of the Faculty of Environmental Studies and Joseph Mensah, Chair of Geography. They described the genesis and thrust of the proposal, and the enthusiasm for the restructuring project felt by their colleagues. Environmental Studies and Geography have much in common. Colleagues are motivated by the opportunities to build on strengths and to create a vision for a new entity. The Committee explored numerous facets of the proposal, including structural arrangements, harmonization of curriculum, relationships with other units and programs (one of the collegial groups will have this as a commendable focus), the ways in which restructuring will contribute to recruitment and enrolment, and timelines. The Committee has also allowed for the possibility of other existing programs joining the proposal as it evolves.

Approval in Principle and Legislative Pathway

Senate’s approval in principle is a common stage in the review and approval process leading to the establishment of a new Faculty (for the three most recently approved Faculties Health, LA&PS, Lassonde). While not required, it has been adopted in order to:

- provide proponents with a sense of support and impart further momentum for planning processes
- afford Senators an opportunity to provide input at an early moment
- firm up timelines and tasks leading to formal establishment
- identify necessary and desirable steps in the process (including consultations, approvals, documentation, statements of support and the like)

Academic Policy, Planning and Research Committee

Report to Senate (cont'd)

Approval in principle does not circumvent or curtail any actions required by mandated procedures by any collegial bodies, including the applicable Faculty Councils and their committees. It does not bind Senate. The critical path to the creation of a Faculty include Department and Faculty Council approval, approval by APPRC and Senate, and approval by the Academic Resources Committee of the Board of Governors and the Board itself. Senate Executive is responsible for recommending the establishment of a Faculty Council and Academic Standards, Curriculum and Pedagogy will propose changes related to curriculum, admissions and academic standards that require Senate approval.

APPRC commends colleagues in FES and Geography for their collegial and fruitful efforts, and sensitivity to Senate's academic planning frameworks.

Legislative Pathway to Approval in Principle

Council of the Faculty of Environmental Studies on May 25, 2017

Department of Geography May 9-16, 2017

APPRC June 1, 2015

Review and comments by ASCP June 7, 2017

Documentation is attached as Appendix A.

FOR INFORMATION

2. Provost's Spring Report: Focus on the Institutional Integrated Resource Plan

Provost Philipps reported to APPRC on June 8 in anticipation of a discussion with Senate on June 15. The report provided details about successes, initiatives and progress on the IIRP process as well as the implementation/action strategy for 2017-20.

Although the enrolment and budget situation has improved there are still challenges for academic planners and colleagues throughout the university. There are also contingencies. For example, details about the new provincial funding formula are not yet known. We do know, however, that some of the grants will be targeted and some will be based on differentiation. Planning takes on extra urgency in the face of uncertainties and challenges.

The "UAP Spotlight" series this year has drawn attention to the priority areas of Senate's academic plan. Provost Philipps describes some of the key initiatives flowing out of the plan and how IIRP is designed to advance objectives. For APPRC, key agenda items for next year will involve the development of monitoring and reporting mechanisms that foster accountability along with engagement of the collegium.

Documentation will be posted prior to the Senate meeting.

Academic Policy, Planning and Research Committee

Report to Senate (cont'd)

3. The Budget Context for Academic Planning

Trudy Pound-Curtis, Interim Vice-President Finance and Administration, reported to APPRC on June 8 in anticipation of her June 15th report to Senate on the budget context for academic planning. Senators will be particularly interested her reporting on the SHARP budget model including the detailed budget breakdowns for 2017-18.

Senators are broadly familiar with the SHARP budget model, which is now in effect. We suggested a modest reordering of the material to emphasize how the costs of shared services are determined, an aspect of SHARP about which members of the community have expressed great interest.

Documentation will be posted prior to the Senate meeting.

4. Strategic Research Plan Renewal

Senate approved the Strategic Research Plan 2013-2018: Building on Strength in March 2013. The process leading to renewal of the plan in 2018 began with a consultation with APPRC on June 1 by Vice-President Haché, where he outlined his proposal for engaging the community in the months ahead. APPRC and Senate will be involved as consultations unfold and drafts are prepared leading to Senate approval of the 2018-2023 iteration. The current SRP identifies these strengths:

- Advancing Fundamental Discovery
- Analyzing Cultures & Mobilizing Creativity
- Building Health Lives & Communities
- Exploring the Frontiers of Science & Technology
- Forging a Just & Sustainable World
- Integrating Entrepreneurial Innovation & the Public Good

The opportunities cited in the SRP are:

- Digital Cultures
- Engineering Research That Matters
- Health Individuals, Healthy Communities & Global Health
- Public Engagement for a Just and Sustainable World
- Scholarship of Socially Engaged Research

Key questions will pivot around York's strengths and new opportunities – continuing and emerging. Community consultations will be launched in the fall, with a draft expected in January 2018 and a document ready for Senate consideration in the spring. The report by AAPRC on research indicators will be a component of the consultations.

Academic Policy, Planning and Research Committee

Report to Senate (cont'd)

5. Markham Centre Campus Academic Planning Update

There are no new Markham Centre Campus developments to report at this time.

6. Spotlight on the University Academic Plan 2015-2020: *Priority 6, Enhanced Community Engagement*

In anticipation of the next UAP spotlight discussion at Senate, which will focus on community engagement, Associate Vice-President Marilyn Lambert-Drache presented at APPRC's June 8 meeting on the aspects of the Internationalization strategy that pertain to community engagement and being a global citizen.

7. Tracking Progress to Achievements

The Committee has compiled the results of a canvas of Faculty Councils, started in January, on the tracking of progress to achievements. The full text of submissions can be reviewed online with the Senate agenda. The Committee will add its own review and commentary in September.

Documentation is posted [online](#) as Appendix B.

8. Senate Committee and Senator Surveys

The Committee reviewed the results of this year's Senator and Senate committee member surveys. It was agreed that the Committee will use the data – especially those related to items of greatest interest to the collegium -- to help frame its agenda for the coming year.

9. Thanks to Departing Members

The work of APPRC has been enriched by the contributions of members whose terms end on June 30: Preet Aulakh, Logan Donaldson and Karen Krasny. This trio served on sub-committees for multiple terms, and Professors Donaldson and Krasny served as chairs of the Sub-Committee on Organized Research Units and Joint Sub-Committee on Quality Assurance respectively. APPRC also benefitted greatly from the Glendon pairing of Mark Jurdjevic and María Guzmán. They, too, take our thanks and best wishes with them.

Les Jacobs, Chair

APPRC is extremely grateful to Professor Jacobs for investing his time and talents in service to Senate as the Chair of the Committee. During his term he maintained an active research agenda, continued his important ORU leadership and contributed to important public policy initiatives. We wish him all the best in the future and look forward to his promised return to the Committee. - Secretary

York Senate, June 15, 2017

Motion in Principle:

That Senate approve, in principle, the establishment of a new Faculty comprising the Faculty of Environmental Studies, the LA&PS Department of Geography, and potentially other departmental units or programs.

**Rationale for the Creation of a New Faculty at York University
Combining the Department of Geography and the Faculty of
Environmental Studies**



Vision

Drawing on existing strengths within the institution, the creation of a new Faculty, combining the Faculty of Environmental Studies with the Department of Geography, would provide exciting opportunities for innovative programs that would make YU a destination for students and researchers in scholarly and professional disciplines and fields across the spectrum of academic practice. This new faculty would be a dominant player in Canada and beyond for spatial-urban-environmental research, teaching and professional practice, but also permit new synergies in cultural environmental studies, environmental sciences and Northern studies for example, which would provide both international and internal recognition. The new faculty will provide greater intellectual richness for faculty and students, support quality undergraduate and graduate education, and by creating a hub of geographic and environmental activity at York, build visibility and recognition to the outside world.

Context

There are obvious overlaps and synergies between the Department of Geography and the Faculty of Environmental Studies that could allow for the elimination of curricular redundancies and the creation of new innovative programs at York. This was recently recognized by the Cyclical Program Reviews in both units¹. This is a long-standing conversation historically for these two units, but we are ready now to seriously engage in the discussions and planning to make the combination a reality. We are exploring questions of institutional housing and relations among the various faculties, programs, certificates, and research units at York University that may be disciplinarily-related but are currently separate.

Creating a new Faculty provides clarity of identity because many environmental studies and geography units are merging in the province, nationally and internationally (see Appendix A). It also provides serious competition to a recently announced high-profile U of T initiative launching a new School of Cities. This changing landscape provides an opportunity for York to bring together its faculty in related areas to make a stronger, more sustainable, and more attractive academic destination.

Congruence with the University Academic Plan and the Strategic Research Plan (SRP)

Combining the two units is consistent with the University Academic Plan's goals of facilitating student success, increasing the quality of academic programs, achieving research excellence, and fostering engagement and outreach. As research in FES and Geography is focused on the SRP areas of Public Engagement for a Just and Sustainable World and the Scholarship of Socially Engaged Research, the combined synergies of the new Faculty will follow on the stated goals of the SRP to enhance these areas in the next five years.

¹ Cyclical Program Review in Geography and the Geography Dean's Agenda of Concerns, as well as the recommendations of the external reviewers for FES.

Goals

- 1 Improve disciplinary clarity at York University while building on the strength of the Institution's interdisciplinary tradition
- 2 Reduce internal competition for students in similar or cognate fields
- 3 Remove external competition for students by working together
- 4 Increase undergraduate enrolment by reducing competition and raising visibility
- 5 Reduce overlap and competitiveness in curriculum; focus rather on quality, depth and breadth
- 6 Give undergraduates in both units more choice in degrees as the new unit would offer a BES, BA, BSc, and iBA
- 7 Give graduate students in both units an enhanced set of courses and approaches
- 8 Improve marketing strategies for recruitment, funding, alumni involvement
- 9 Streamline social media activities and community engagement
- 10 Bring disciplinarily-related individuals together to foster collaboration in research and teaching
- 11 Improve access to computing and other lab resources without duplication
- 12 Create a hub of geographic and environmental activity at York, building visibility and recognition to the outside world
- 13 Increase financial sustainability for both units by increasing undergraduate enrolment, enhancing graduate training, creating an opportunity for external donations, and achieving curricular harmonization.

Process to Date

Members of Geography, Urban Studies, and the Faculty of Environmental Studies have been meeting since May 2016 to discuss the concept of a merger. An outcome of these discussions was the formation of an ad hoc merger working group [Gail Fraser (FES), Roger Keil (FES), Tarmo Remmel (GEOG), and Elizabeth Lunstrum (GEOG)] that has been meeting since October 2016. Through our regular meetings, we have brought motions to our respective governing bodies for adoption that legitimized our continued discussions on this topic, we have formulated a starting vision for a reorganized faculty structure, and have identified rough timelines, requirements, and challenges to achieve this vision. For the time being, we have code-named our new structure: *Faculty Blue*. We underscore the need for consultation to ensure processes that avoid grievances and labour issues; we wish to remain transparent and clearly communicate activities to involved parties. We also note that at times there may be requirements for professional consultants to lead discussions and avoid hang-ups.

Resolutions

To legitimize these discussions and to authorize the ad hoc committee to seek guidance and resources on behalf of the Department of Geography and the Faculty of Environmental Studies, resolutions were brought to the floors of their respective governing bodies for adoption. All resolutions were adopted.

Faculty of Environmental Studies Merger Motions

– Adopted at the Geography Faculty Meeting: 1 December 2016

1 May it be resolved that faculty, staff and students represented in the Committee of Instruction at the Faculty of Environmental Studies approve, in principle, an intensification of discussions on a possible merger of FES with the Department of Geography and potentially other cognate units in the University.

2 May it be resolved that the Committee of Instruction of the Faculty of Environmental Studies requests that the University provide assistance to facilitate a merger of FES with the Department of Geography at York University (and possibly other units in the University). FES specifically requests that the University provides information on processes, support staff and course releases for faculty to work on a merger in the most expedient way feasible.

Department of Geography Merger Motions

– Adopted at the Geography Faculty Meeting: 7 December 2016

1 May it be resolved that faculty represented at the Department Meeting of the Department of Geography within the Faculty of Liberal Arts & Professional Studies approve, in principle, an intensification of discussions on a possible merger of FES with the Department of Geography and potentially other cognate units in the University.

2 May it be resolved that the Department of Geography within the Faculty of Liberal Arts & Professional Studies requests that the University provide assistance to facilitate a merger of FES with the Department of Geography at York University (and possibly other units in the University). The Department of Geography specifically requests that the University provides information on processes, support staff and course releases for faculty to work on a merger in the most expedient way feasible.

Department of Geography Merger Motion in Principle

– Adopted by Secret Ballot: 9-16 May 2017

1 May it be resolved that faculty members of the Department of Geography within the Faculty of Liberal Arts & Professional Studies approve a "Motion in Principle" that the Department of Geography merge with the Faculty of Environmental Studies, and potentially other cognate units in the University, under a new Faculty.

Faculty of Environmental Studies Merger Motion in Principle

– Passed in FES Faculty Council on May 25, 2017

1 May it be resolved that the Faculty of Environmental Studies approve a "Motion in Principle" in which FES merge with the Department of Geography, and potentially other cognate units in the University, under a new Faculty.

Administrative Process

Following the resolutions passed by FES and Geography, a group of relevant senior Administrators met to respond to the desire of the faculty members to explore what was involved in creating Faculty Blue. The Provost Rhonda Lenton, the Vice-Provost Academic Alice Pitt, FES Dean Noël Sturgeon, LAPS Dean Ananya Mukherjee-Reed, Science Dean Ray Jayawardhana, Senior Executive Officer Richard Ooi, FES Executive Officer Paul Elliott, LAPS Executive Officer Lawrence Wagner and Assistant Senate Secretary Robert Everett Assistant met to discuss the administrative actions that would need to be taken to accomplish the fusion of the two units as well as a reasonable timeline. Meetings between the new Provost Lisa Phillips, and the Deans of FES and LA&PS took place to move the process forward during the leadership transition. The initial action needed was a letter of support from the Provost for a motion in principle supporting the merger, which we received. During these meetings, the Provost(s) and the Deans drafted a set of Merger Principles, below. These are draft principles providing a rough framework, but may be amended by on-going discussions with the Provost, the Deans of the Faculty of Environmental Studies and the Department of Geography. These “principles” are purely for future discussions. They have not been tested against current contractual or collective agreement realities for faculty, staff and students.

Draft Principles for the Administrative Framework for the Merger of FES/Geography under Review and for Discussion

March 7, 2017 (amended May 17, 2017)

- 1 In terms of revenue and expenses, the merger would align with basic SHARP principles.
- 2 Any changes in bargaining unit workload or research release program (RRP) processes must be approved by the Dean(s) and Provost after wide consultation.
- 3 Changes in workload, RRP and curriculum harmonization are connected and may take 3 years.
- 4 The merger has to be cost neutral aside from any specific resources that might be negotiated to support the work involved to be undertaken in merging the academic units.
- 5 Curricular changes, program changes and potential Faculty renaming must go through regular governance processes.
- 6 Staff positions will be protected for a minimum of 18 months.
- 7 Tenure and Promotion criteria for existing faculty will be based on criteria at time of hire, unless faculty choose new process operative within new unit.
- 8 The new Faculty will seek to be housed in a joint space on campus at the earliest occasion.
- 9 Central support will be provided for transition costs.

Urban Studies Discussions

Throughout this process, there has been an awareness that similar rationales for a merger between FES and Geography also apply to the Urban Studies Program. Urban Studies faculty members have participated in an observer capacity at some of the faculty discussions. They have also spoken to the Dean of LAPS about the option of moving their program to *Faculty Blue*. There are four Urban Studies tenured faculty members and one CLA. There are mixed feelings among this group, with some faculty supporting a merger, some ambivalent, and some opposed. Urban Studies has an undergraduate program roughly one-fourth the size of FES's BES program, and no graduate program. Their undergraduate core courses indicate training in planning, while FES has the largest graduate planning program in Canada, with OPPI certified faculty members, allowing the program to produce graduates qualified to become certified planners. A merger with Urban Studies would facilitate an undergraduate planning degree, which would be very attractive to recruit undergraduates and allow us to effectively compete provincially and nationally.

Other Potential Partners

Tentatively, similarly to the situation of Urban Studies, other units, most notably the ORU CITY Institute, have been mentioned as potential partners in the FES/Geography fusion, but no concrete decisions have been made or resolutions passed for these entities. In addition, individual faculty members in other York University Faculties have voiced potential interest in joining the new combined Faculty.

Proposed planning sub-groups

- 1 Undergraduate curriculum and programs
- 2 Graduate curriculum and programs
- 3 Connectivity and relations with other faculties and programs
- 4 Physical space planning (physical labs, computing)
- 5 Experiential learning, fieldwork, internationalization (including Costa Rica)
- 6 Marketing and social media (recruitment and retention)
- 7 Alumni relations, awards, endowment funds
- 8 Administrative and staffing
- 9 Others (e.g. governance)

Projected Timeline

All processes involved in creating a new Faculty, new administrative structures, moving faculty and staff positions, creating a new budget framework, curricular harmonization and creation of new programs will take time and will follow different governance paths to be finalized. Some of these processes may be completed in a year, and some will take at least 3-5 years. If discussions among the faculty, staff and students proceed as expected, by June 2018, we expect to be able to bring forward a motion to Senate to merge the Faculty of Environmental Studies, the Department of Geography, and any other cognate units that decide in the meantime to be included.

Unit Descriptions and Budget Implications

Unit Descriptions:

Under the SHARP budget model, units will receive revenue generated from enrolment, research overhead, and revenue-generating activities and pay costs for instruction, staff, space, and central administrative services. Both FES and Geography have experienced declining undergraduate enrolments over the last five years.

Presently FES has 120 undergraduate admits per year and 360 BES majors.

Geography has 221 undergraduate majors in the BA, and 28 Majors in BSc (joint with Science) and iBA.

FES has an extra-large MES program, which has experienced some decline in enrolments, with 110 accepts per year and a total number of 260.

FES has a large PhD program that has remained stable at 10 admits per year with a total number of 60. Geography has approximately 25 MA students (not exact numbers).

Geography has approximately 12 PhD students (not exact numbers).

Geography has roughly 20 tenure-track faculty and 3 CLAs. FES has 40 tenure-track faculty.

Geography has 9 staff members. FES has 23 staff members.

Both the Faculty of Environmental Studies and Geography are research-intensive, and support multiple community engagements and partnerships.

Both units offer large service courses that are part of General Education and taken by York students from across the university.

Both units are presently carrying deficits resulting from declining undergraduate enrolments.

Budget Implications:

Imbedded in the rationale for a merger of FES and Geography are three potential ways that budget outlooks could be improved: growing undergraduate enrolment, harmonizing curriculum and reducing administrative duplication.

Growing undergraduate enrolment (especially salient if Urban Studies is added):

Presently, the undergraduate majors in the three units (FES, GEOG, Urban Studies) compete internally and externally for applicants and majors. It is particularly difficult for applicants to distinguish between the BES concentration in Urban and Regional Studies, the Geography BA, and the Urban Studies BA. It is also difficult to distinguish between the BES concentration in Environmental Management and the Geography/Science BSc. New potential programs (such as an undergraduate planning degree) would also grow undergraduate enrolment.

We also anticipate more effective recruitment. Besides eliminating the confusion between the programs for applicants, we will also look more competitive compared to other ENVS/GEOG/Urban Studies programs, particularly our strongest competitors, Ryerson and Waterloo. **Appendix A** describes the North American trend of combining these programs, as well as listing all related programs in Canada, the vast majority of which combine ENVS, Geography, and Urban Studies.

Curricular Harmonization:

In **Appendix B** is a list of courses offered in the undergraduate programs of FES, GEOG, and URST. Though these courses are taught with nuances appropriate to the different instructors and the disciplines in which they are trained, it is easy to see that there are numerous ways in which curricular harmonization can be achieved and duplication eliminated. This would lead to a reduction in courses offered, allowing for new courses, certificates, and majors to be developed, and reducing instructional costs while not increasing faculty workloads. Curricular harmonization would go through all normal curriculum committees and governance processes, so would be expected to take some years, but the goal would be a streamlined set of courses supporting the majors, which would be more attractive to undergraduate applicants.

A similar process can take place at the graduate level, with FES and GEOG faculty teaching courses without the present duplication, allowing more faculty teaching in the undergraduate programs. This will increase resources to the undergraduate programs, our source of revenue.

Reducing Administrative Duplication:

Bringing these programs together would allow recruitment, communication, research support, and other administrative resources to be focused instead of being split between two Faculties as they are at present. Recruitment is one of the best examples, as the cognate majors could be advertised together instead of separately.

It can be fairly anticipated that within five years, these processes will allow the in-year deficit of both units to be eliminated. However, if Urban Studies joins Faculty Blue, its undergraduate majors will allow this process of budget improvement to be more rapid.

Appendix A

Combined Geography and ENVS Programs in Canada

Amy E. Frazier & Thomas A. Wikle. 2016. Renaming and Rebranding within U.S. and Canadian Geography Departments, 1990-2014. The Professional Geographer. DOI: 10.1080/00330124.2015.1135404

Abstract: Between 2000 and 2014, more than thirty geography departments adopted revised or new names, with some entirely dropping geography. Although renaming and rebranding efforts are not new to higher education, the rapid pace at which geography department names have changed raises questions about the discipline's identity and health. We examine the renaming trend within geography programs together with intended and unexpected factors as perceived by faculty. Specifically, we look at the renaming and rebranding trend within the context of four pillars offered by Pattison (1964) to define geography's principal academic domains-earth- science, man-land, area/regional studies, and spatial traditions.

<http://www.tandfonline.com/doi/abs/10.1080/00330124.2015.1135404>

- **Carlton University** - Department of Geography and Environmental Studies –
Offers: Geography, Geomatics and Environmental Studies -
<https://carleton.ca/geography/>
- **Laurier University** - Department of Geography and Environmental Studies –
Offers: Geography and Environmental Studies -
<https://legacy.wlu.ca/page.php?grp%20id=l49&p=1830>
- **University of Ottawa** - Department of Geography, Environment and Geomatics –
Offers: Geography, geomatics, environmental studies
<http://arts.uottawa.ca/geography/>
- **Ryerson University** - Department of Geography and Environmental Studies –
Offers: Geographic Analysis, Spatial Analysis, Environmental Sustainability -
<http://www.ryerson.ca/geography/about/>
- **Lakehead University** (Thunder Bay Campus) – Department of Geography
Offers: Biology, Earth Science or Geography Majors
 - Note: At Lakehead it seems that you take environmental studies courses, but do not get an environmental studies degree
 - <https://www.lakeheadu.ca/academics/departments/geography>
 - They Also offer an Environmental Management program -
 - <https://www.lakeheadu.ca/academics/undergraduate-programs/thunder-bay/environmental-management/node/3577>
- **Bishops University** - Department of Environmental Studies and Geography –
Offers: Micro-Program in Climate Change, Environmental Studies, Geography -
<http://www.ubishops.ca/academic-programs/faculty-of-arts-and-science/social-sciences/environment-and-geography/>

- **University of Waterloo** - Faculty of the Environment –
Offers: Environment and Business; Environment and Resource Studies; Geography and Aviation; Geography and Environmental Management program; Geomatics; International Development; Joint Programs with Chinese Universities; Knowledge Integration Program; Planning
<https://uwaterloo.ca/environment/departments-programs>
- **Nipissing University** -Department of Geography –
Offers: Geography, Environmental Geography, Environment and Physical Geography -
<http://www.nipissingu.ca/academics/faculties/arts-science/geography/Pages/default.aspx>
- **Thompson River University** – Department of Geography and Environmental Studies
Offers: Geography and Environmental Studies Major; Physical Geography; Geography and Environmental Studies Honours Major -
<http://www.tru.ca/arts/geography/programs.html>
- **Concordia University** - Department of Geography, Planning & Environment -
Offers: Human Environment; Urban Studies and Planning, Environmental Science, Environmental geography –
<https://www.concordia.ca/artsci/geography-planning-environment.html>

Appendix B

Courses Offered in ENVS, GEOG, URST

UNDERGRADUATE COURSES OFFERED IN THE FACULTY OF ENVIRONMENTAL STUDIES

ENVS	1000	Cr=6.00	Earth in Our Hands
ENVS	1011	Cr=3.00	Introduction to Sustainable Food Systems
ENVS	1200	Cr=6.00	Taking Action
ENVS	1500	Cr=6.00	Introd. to Environmental Science
ENVS	1800	Cr=6.00	Environmental Writing
ENVS	1900	Cr=6.00	Uncovering the Body
ENVS	2000	Cr=6.00	Environmental Politics, Justice and Arts
ENVS	2009	Cr=3.00	Quantitative Methods in Env. Studies
ENVS	2100	Cr=6.00	Foundations in Environment and Culture
ENVS	2120	Cr=3.00	Introduction to Natural History
ENVS	2122	Cr=3.00	Community Arts for Social Change
ENVS	2150	Cr=3.00	Environ.Technology&Sustainable Society I
ENVS	2151	Cr=3.00	EnvironTechnology&Sustainable Society II
ENVS	2200	Cr=6.00	Foundations of Urban and Regional Enviro
ENVS	2300	Cr=6.00	Foundations of Environmental Politics
ENVS	2400	Cr=6.00	Foundations of Environmental Management
ENVS	2410	Cr=3.00	The Science of Pollution
ENVS	2410	Cr=3.00	The Science of Pollution
ENVS	2420	Cr=3.00	Ecology and Conservation Science
ENVS	2420	Cr=3.00	Ecology and Conservation Science
ENVS	3000	Cr=3.00	Environmental Ethics and Epistemology
ENVS	3010	Cr=3.00	Qualitative Methods in Environmental Stu
ENVS	3100	Cr=3.00	Environmental Arts and Media
ENVS	3120	Cr=3.00	Environmental History
ENVS	3122	Cr=3.00	Community and Environmental Arts Worksho
ENVS	3125	Cr=3.00	Popular Educ for Env and Social Justice
ENVS	3130	Cr=3.00	Energy and the Environment in Canada
ENVS	3140	Cr=3.00	Environmental & Sustainability Education
ENVS	3150	Cr=3.00	Human Animal Studies
ENVS	3151	Cr=3.00	Environmental Politics and Advocacy
ENVS	3160	Cr=3.00	Race/Racism and Environmental Justice
ENVS	3170	Cr=3.00	Indigenous Environmental Thought
ENVS	3222	Cr=3.00	Urban and Regional Infrastructures
ENVS	3225	Cr=3.00	Regional Governance
ENVS	3226	Cr=3.00	Sustainable Urbanism
ENVS	3227	Cr=3.00	Urban Planning and Politics in Global Co
ENVS	3230	Cr=3.00	Restoration Ecology
ENVS	3303	Cr=3.00	Politics Perfor. & the Art of Resistance
ENVS	3310	Cr=3.00	Tropical Conservation & Sustainable Deve
ENVS	3320	Cr=3.00	Sex, Gender, Nature

ENVS	3340	Cr=3.00	Global Environmental Politics
ENVS	3400	Cr=3.00	Climate Change Science and Policy
ENVS	3401	Cr=3.00	The Science of Pollution
ENVS	3402	Cr=3.00	Ecology and Conservation science
ENVS	3410	Cr=3.00	Environmental Policy I
ENVS	3420	Cr=3.00	Environmental Law
ENVS	3430	Cr=3.00	Environmental Assessment
ENVS	3440	Cr=3.00	Resource Management
ENVS	3450	Cr=3.00	Environment & Health
ENVS	3505	Cr=3.00	Business and Sustainability
ENVS	3510	Cr=3.00	Environmental Economics
ENVS	3520	Cr=3.00	Introduction to GIS in Environme Studies
ENVS	3521	Cr=3.00	Geoinformatics: Remote Sensing I
ENVS	3522	Cr=3.00	Spatial Analysis
ENVS	3710	Cr=3.00	Landscape Ecology
ENVS	3740	Cr=3.00	Urban Ecology
ENVS	3760	Cr=3.00	Plant Ecology
ENVS	3800	A Cr=3.00	The Politics of Housing
ENVS	3800	K Cr=3.00	Business and Sustainability
ENVS	3800	M Cr=3.00	Climate Change: Policy and Adaptation
ENVS	3800	O Cr=3.00	Food and Social Change
ENVS	3800	P Cr=3.00	Water: History, Culture, Politics
ENVS	3800	U Cr=3.00	Transnational Writing & Politics of Colo
ENVS	3800	V Cr=3.00	Climate Justice
ENVS	3800	W Cr=3.00	National Parks and Indigenous People
ENVS	3800	Y Cr=3.00	Contesting Place: Art in the Urban Env.
ENVS	3810	A Cr=6.00	Sustainability & Wellbeing in Costa Rica
ENVS	3891	Cr=3.00	Urban Environments in North America
ENVS	3900	Cr=3.00	Directed Reading
ENVS	3900	Cr=6.00	Directed Reading
ENVS	3900	A Cr=3.00	Directed Reading
ENVS	4000	Cr=6.00	Senior Honours Work Seminar
ENVS	4001	Cr=3.00	Placement Course
ENVS	4001	Cr=6.00	Placement Course
ENVS	4002	Cr=3.00	Professional Development
ENVS	4011	Cr=3.00	Food, Land and Culture
ENVS	4041	Cr=6.00	Alternative Economic Firms
ENVS	4100	Cr=3.00	Environmental Literatures
ENVS	4110	Cr=3.00	Conservation Biology
ENVS	4111	Cr=3.00	Biodiversity
ENVS	4120	Cr=3.00	Natural History
ENVS	4122	Cr=3.00	Arts in Action
ENVS	4140	Cr=3.00	Environmental Thought
ENVS	4161	Cr=3.00	Social Movements
ENVS	4210	Cr=3.00	Global Populations
ENVS	4215	Cr=3.00	Globalization and Indigenous Peoples
ENVS	4220	Cr=3.00	Urbanization in Developing Countries

ENVS	4223	Cr=3.00	Global Cities
ENVS	4225	Cr=3.00	Urban Sustainability I
ENVS	4230	Cr=6.00	Design for Sustainability Workshop
ENVS	4310	Cr=3.00	Extraction and its Discontents
ENVS	4400	Cr=3.00	Fundamentals of Renewable Energy
ENVS	4401	Cr=3.00	Fundamentals of Energy Efficiency
ENVS	4402	Cr=3.00	Climate Change Mitigation
ENVS	4410	Cr=3.00	Environmental Policy II
ENVS	4420	Cr=3.00	Environment, Media, Culture & Communicat
ENVS	4421	Cr=3.00	Environmental Law & Justice
ENVS	4430	Cr=3.00	Impact Assessment Process & Practice
ENVS	4440	Cr=3.00	Environmental Disasters
ENVS	4442	Cr=3.00	Environmental Auditing
ENVS	4445	Cr=3.00	Ontario Environmental Politics & Policy
ENVS	4446	Cr=3.00	Protected Area Management
ENVS	4447	Cr=3.00	Northern Ecosystems
ENVS	4510	Cr=3.00	Ecological Economics
ENVS	4520	Cr=3.00	Geog. Info. Systems Apps in E.S.
ENVS	4521	Cr=3.00	Geoinformatics: Remote Sensing II
ENVS	4522	Cr=3.00	Web GIS
ENVS	4523	Cr=3.00	Systems Thinking in EnvironmentalStudies
ENVS	4750	Cr=3.00	Political Ecology of Landscape
ENVS	4800	A Cr=3.00	Advanced Topics- Environment and Health
ENVS	4800	B Cr=3.00	Creativity and Cities in Urban Politics
ENVS	4800	C Cr=3.00	Wildlife Management
ENVS	4800	D Cr=3.00	Gender and Climate Change
ENVS	4800	Q Cr=3.00	Urban Development Process
ENVS	4810	A Cr=3.00	Sustainability & Wellbeing in Costa Rica
ENVS	4810	A Cr=6.00	Sustainability & Wellbeing in Costa Rica
ENVS	4810	B Cr=3.00	Environmental Arts and Food Sovereignty
ENVS	4900	Cr=3.00	Directed Study
ENVS	4900	Cr=6.00	Directed Study
ENVS	4900	Z Cr=3.00	Directed Study
ENVS	4900	Z Cr=6.00	Directed Study

ENVS Graduate Course Offerings

ENVS Number	Course Title	Description
5011.03	Food, Land and Culture (integrated w/ undergraduate ENVS 4011)	This course examines food, land and people from a critical interdisciplinary environmental perspective. Students have the opportunity to pursue their own interests related to food politics, planning, sustainable and alternative agriculture, human-animal relationships, and ethics, from a local and/or global perspective.
5016.03	Protected Area Management (integrated w/ undergraduate ENVS 4446)	Protected area management is a form of environmental management focusing on land and/or freshwater/sea dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
5021.03	Urban Development Processes (integrated w/ undergraduate ENVS 4800)	Critical investigation of approaches to, and topics in, processes of urban growth, decline, development, and redevelopment. Twentieth century theories of urbanization are examined and their relevancy for understanding selected recent urban problems are studied.
5023.03	Global Cities	This course offers an introduction to the literature on global cities and a systematic review of a distinct field of research in urban studies which concerns itself with the globalization of a network of global or world cities.
5061.03	Environmental Law and Justice (integrated w/ undergraduate ENVS 4421)	This course examines and evaluates how contemporary advocates employ law to protect the environment, secure equal access to environmental health, and contribute to social justice.
5068.03	Global Justice and the Environment (integrated w/ undergraduate ENVS 4312)	Introduction to international and global justice, drawing on basic philosophical ethics and focusing on issues in humanitarian and environmental internationalism and international development: theoretical schools of thought; application of ethical analysis to particular controversies; the use of ethics in advocacy. (COCU 5306.03)
5070.03	Extraction and Its Discontents	This course examines current political, economic and social debates concerning extractive industry, placing these in the context of longer histories of global imperialism and colonialism. Following a review of conceptual approaches to natural resource `extraction`, the course will examine contemporary global regulation and resistance to it, focusing upon the state, the corporation, the resource, the affected community, and the (global) social movement as units of analysis.
5073.03	New Social Movements (integrated w/ undergraduate ENVS 4161)	Examination of new social movements that have arisen in response to the crisis of industrial culture, economic restructuring, shifting political formations, and ecological disasters. The focus is on current theories of social movements in action. Opportunities for students to gain first-hand experience with social movement organizations through participatory research projects are provided. (CMCT 5307.03)
5080.03	Internet-Distributed GIS for Public Engagement (integrated w/ undergraduate ENVS 4522)	This course examines the role of geo-spatial information technologies as applied public engagement activities. Students will review literature in areas of social theory, public participation and technology-mediated engagement techniques while developing applied knowledge through project design and implementation exercises.
5101.03	Approaches to ES >>	MANDATORY MES COURSE: The course introduces incoming MES students to a broad range of debates and interdisciplinary perspectives in Environmental

5100.03	Interdisciplinary Research in ES	Studies as a basis for the preparation of the Initial Plan of Study.
5103.03	Nature and Society	Examination of conceptions of nature found in the Western tradition. A particular emphasis is placed on the role of cultural narratives, and notions of technology and time in shaping our conceptions of nature.
5106.03	Feminist Perspectives in ES >> Critical Perspectives in Race, Gender and the Environment	The course presents an overview of the basic concepts and approaches of feminist analysis, with particular attention to feminist theory and its relevance to environmental issues. It explores gender, i.e. hierarchical distinctions between male and female and conforming and non-conforming genders and sexualities, in its intersections with racism, capitalism and colonialism. We will take up questions on social, gender and environmental justice with respect to a range of environments, and from various theoretical and activist angles.
5112.03	Ecology in ES	Introduction to concepts and principles in ecology as they relate to both natural and managed environments and to resources, planning, management, and conservation. Topics are analyzed within the context of ecological change and its implications for both the non-human world and human habitats.
5113.03	Business Strategies for Sustainability	All organizations impact the environment. However, it is only recently that the environment has become an issue for business and its managers. For many companies, environmental management is now an integrated part of organizational management. This course is designed to introduce students to the critical strategic and managerial issues in developing, implementing and adapting corporate practice to improve environmental and commercial performance. (BSUS 6500.03)
5119.03	Resource Management	Examination of the principles of resource management and conservation, with emphasis on integrating ecological/physical, economic, and social/philosophical/ethical considerations in contemporary problems in resource management.
5121.03	Introduction to Planning	The course explores the field of planning in its diverse forms of theory and practice. Focus is on overarching aspects of planning theory and practice and selected themes of significance to planning in the Greater Toronto Area.
5123.03	Environment and Behavior	Introduction to the study of human responses to the environment, focusing on responses to attempts to shape the environment through planning and design. Emphasis is on built and social aspects, with some attention given to natural aspects. Examples are drawn from environmental psychology, environmental sociology, behavioural geography, and environmental health.
5124.03	Development Studies	Survey of the evolution of development theory over the past three decades. Economic, social, political, and environmental ideas are discussed in relation to the process of development in both northern Canada and the Third World.
5150.03	Perspectives on Green Business	This course is an overview of the wide-ranging issues, opportunities and challenges relating to green business—big and small. It examines what sustainable enterprise is, and strategies—both entrepreneurial and regulatory—for business and community economic development.
5161.03	Local Government Organization and Operation	Examination of the political, governmental and administrative contexts for public policy, planning, and implementation. Emphasis is on local government in Canada, relationships of municipalities to other governmental levels, and the role of various actors (citizens, voluntary groups, planners, developers, government agencies) in municipal governance.
5163.03	Policy Analysis for ES	Decision-making for environmental issues relies on both a broad spectrum of contextual knowledge and specific analytic skills. This course develops a knowledge base of the central structures of public policy and develops skills to comprehend and conduct environmental policy analysis.
5164.03	Environmental Economics	This course examines the development and implementation of public policies related to the environment and sustainability in a Canadian context. The course will focus on the interaction of institutions, societal forces and ideas in the Canadian environmental policy experience
5178.03	Environmental Policy	This course examines the development and implementation of public policies related to the environment and sustainability in a Canadian context. The course will focus on the interaction of institutions, societal forces and ideas in the Canadian environmental policy experience
5475.03	Space, Place, Capitalism (GEOG 5375)	This course examines the political economy of capitalism from a geographical angle. It looks at the spatial and environmental aspects of capitalism employing Marx's 'mature' works as well as more contemporary literature on political economy in geography and cultural studies. (GEOG 5375.03)
5599B.03	Environmental Literatures and Politics	This special seminar, centred on the conference "Green Words / Green Worlds: Environmental Literatures and Politics in Canada," allows students to explore the ways in which environmental literatures have a unique role to play in the unfolding and development of ecological understanding and environmental

		politics in Canada (and vice versa). By reading and discussing a variety of creative and critical works pertinent to the conference themes and/or works by conference keynote speakers, by actively engaging in conference activities, and by developing a reflective relationship to conference discussions by “applying” them to a specific work of literature, students will engage intensively with questions concerning the relevance of the humanities to environmental studies, and especially with the idea of developing an environmental (literary) public culture.
5599H.03	Readings in Philosophy, Religion and Environment	This is an independent study course that it is hoped can be carried out in a group setting. Most of the work will be carried out in the two classes, but students will have individual tutorials depending on need.
6101C.03	Ecosystem Approaches to Health: Field Course	Ecosystem approaches to health (ecohealth) is an emerging field that addresses health and wellbeing, recognising that these are embedded within an ecosystem context. The purpose of this course is to cultivate knowledge, skills and attitudes which will enhance the participants’ ability to contribute to research, theory, education, policy and the practice of ecosystem approaches to health.
6102.03	Transitions in ES	This course assists students in the transition from MES II to MES III, with emphasis on the design of the substantive and integrative experiences to be undertaken in MES III (including expectations of the Major Project, Major Paper, or Thesis) and the ways that students may demonstrate mastery of the subject matter.
6103.03	Perspectives in Environmental Sociology	The purpose of this course is to explore some of the theoretical issues, dilemmas, and problems that face sociologists when incorporating ‘the environment’ into social analysis. Perspectives covered include: classical formulations, the sociology of risk, social constructionism, Actor-Network Theory, and complexity theory.
6108.03	Landscape Ecology in Planning	Landscape ecology involves the interaction between spatial pattern and Ecological processes. The course provides knowledge of the principles of landscape ecology and will link them with physical planning, the design of ecologically sustainable landscapes and the restoration of degraded environments. It is recommended that students have ENVS 5112 3.0 Ecology in Environmental Studies.
6112.03	Biology Conservation	Examination of the ways in which biological conservation is defined, understood, and acted upon; identification of the causes of biological depletions and of the multidisciplinary nature of both issues and problems. Special attention is paid to the relationship between the theory and practice of conservation.
6114.03	Sustainable Development in Canada	Exploration of the array of possible environmental, social and economic characteristics of, and policy, institutional, behavioural and legal requirements for, sustainable patterns of development in Canada.
6115.03	Ecological Economics	Exploration in the emerging field of ecological economics, including discussion of: the optimal scale of the economy in relation to the environment, environmental valuation, measurement, risk, and discounting; intergenerational and interspecies equity; entropy/ thermodynamics; and community-based economics.
6116.03	Resource Management Law (LW 3490)	This seminar is concerned with the comparative evaluation of the various regulatory techniques employed with respect to the management of Canada’s primary resources. Both renewable and non-renewable resource sectors will be considered; in particular, water, petroleum, natural gas, forestry, mineral (and uranium if time permits) resources. The dominant theme of the seminar will be an examination of the differing perspectives of various branches of industry, consumers utilities, government and public interest branches of industry, government and public interest groups (Same as LW 3490.03)
6117.03	Ecology in Third World Development >> Ecologies and Sustainability in the Global South	Examination of the nature of tropical and subtropical environments, particularly as they relate to conservation, resource management and sustainable development. Emphasis is directed toward alternative approaches to issues in conservation and development, particularly ecodevelopment strategies, and toward the integration of ecology into development planning in third world countries. The ecological foundation for sustainable development in the tropics and subtropics is also addressed.
6118.03	Applied Ecology	Application of ecological knowledge and principles to problems of resource management, planning, pollution and conservation.
6119.03	Ecological Restoration	Examination of the restoration of ecological communities that have been degraded by human activity. Subject areas include: lakes, bogs, marsh areas, and terrestrial habitats. The format is a combination of lectures by the course director and seminars by the students.
6120.03	Public Involvement in Planning	This course looks at the history and theory of public involvement in planning, discusses contemporary approaches, and addresses strengths and weaknesses of various methods of public involvement by looking at specific contemporary and

		historical case studies. In order to pass, students are expected to actively engage in all parts of the course.
6121.03	Community, Energy and Planning	This course examines the relationship between sustainable communities and sustainable energy systems. In the context of climate change, environmental, ethical, and social concerns, the course will consider the flexibility and adaptability of landscape, communities and city-building processes, and integrated and multi-scalar responses and approaches to policy-making and implementation.
6122.03	Rural Planning	Survey of the theory and research methods used in the planning of rural areas, from macro-through to micro- levels. The spatial arrangement of land uses, human settlement, urbanization of the countryside, and sustainable development, agriculture, forestry, and recreation are emphasized.
6123.03	Ecological Approaches to Urban Design	Pragmatic and philosophical exploration in three areas: first, how urbanism shapes perceptions of nature and how environmental and social values are linked; second, how a broadly based ecological view of cities is necessary to their environmental and social health; third, how the application of ecological processes to urban design can influence the shaping of urban form.
6124.03	Urban-Regional Planning	Introduction to planning for urban centres and regions. Emphasis is on the history of urban regional planning thought and practice, key planning models and concepts, the planning process, and plan implementation.
6125.03	Recreation and Tourism: Planning and Management	Explorations in leisure, recreation, and tourism theory, research, planning and practice, with emphasis on the social and environmental contexts in which people 'recreate' and on the roles that leisure, recreation, and tourism play in the quality of people's lives.
6126.03	Community Planning and Housing	This course explores the evolving nature of community planning and the linkages among planning, housing policy and programs, and planning for the provision of social services and infrastructure in a multicultural society.
6127.03	Community Organizing and Development	An overview of the practice and theory of community development/ community organizing approaches as strategies for improving the quality of life for marginalized groups in Canadian urban society and as a method for increasing the levels of social justice.
6128.03 (formerly 6101B.03)	Transportation Planning	This course will focus on the strategic relationships between land use planning, the environment, economy and transportation planning policies, principles and practices. Topics include exploring current transportation issues in the Greater Toronto Area, reducing auto dependence and creating a more liveable Urban Region.
6129.03	Social Policy and Planning	Three aspects of social policy and planning are addressed: first, major theoretical and action frameworks; second, social policy and planning practice in various institutional contexts including the place of research, evaluation, and implementation; third, selected case studies of social policy and planning problems, special needs groups, and the implementation process.
6130.03	Planning Theory	Critical examination of theories explaining and guiding planning processes, both professional and managerial.
6131.03	Environmental Planning	Focus is on planned approaches to identifying and resolving environmental problems encountered in human settlements. Consideration is given to the location, form, pattern and functioning of human communities in relation to the natural environment, as well as to the livability and quality of built environments.
6132.03	Environmental Design	The purposes of this course are: to develop a sensitivity to the sensory, physical environments in which people live; to explore the foundations and influence of design theory on the design of human habitats; to examine the role of design in creating healthy and civilizing cities; and to examine the essential interrelationships between the many determinants (environmental, social, behavioural, artistic, economic), that shape the human landscape and which provide a basis for a proactive and informed approach to its design.
6133.03	Plurality and Planning	This course examines the challenges of the pluralistic city and society. Three aspects of plurality are addressed: the construction of diversity and difference, the processes of immigration and settlement, and multiculturalism as a fact, ideology and policy. Throughout the course, issues of plurality are discussed in relation to urban planning and design.
6135.03	Environment, Society and Disease	The overall objective of this course is to gain a comprehensive and integrated understanding of how a wide range of social and biophysical environmental forces together influence the spread and reaction to new and (re) emerging infectious diseases such as HIV/AIDS, SARS, tuberculosis, cholera, malaria, E. coli O157:H7, ebola, West Nile virus, smallpox, avian flu, Clostridium Difficile, etc.
6136.03	Health and Environment	An overview of issues in health and environment. We are defining health broadly in the tradition of the World Health Organization as "the state of complete physical, mental and social well-being and not merely the absence of disease."

		We are defining environment as natural, built, social, psychological, and organizational. We will consider these issues from both scientific and activist perspectives.
6137.03	Women , Development and Globalization (WMST 6504)	Overview of current issues in gender and development analysis as a framework for the integration of women in Third World development. Emphasis will be placed on theoretical and conceptual issues as the necessary background to project-oriented approaches to Women and Development. (WMST 6504.03)
6139.03	Historical Perspectives on Women and Nature	A study of historical ideas about women and nature, with special reference to work by women in relation to nature in Europe and North America, up to and including the 19th century. Topics may include metaphor and cultural associations/representations; the development of science culture; nature writing and popular science writing: gardens and landscape; and visual representations in art. (WMST 6303.03)
6140.03	Environmental Education	Examination of 'Environmental Education' in the widest sense, including definitions of environmental education, and the history of environmental education, its underlying assumptions, and current practices and constraints in its implementation. Alternative visions of a socially critical model of environmental education are explored.
6141.03	Education, Sustainability and the Ecological Crisis (EDUC 5445)	This course examines the deep cultural dimensions of the ecological crisis and considers the implications for public education. Discussing pre-contact indigenous models of education the course examines education's role in developing mind and landscape. At Black Creek Pioneer Village historic sustainability and contemporary environmental, social and educational malaise will be studied. We conclude envisioning education to create sustainable culture. (EDUC 5445.03)
6143.03	Political Communication and Environmental Issues	Examination of the role of mass media in environmental discourse, dealing with issues of public debate, public policy, and social advocacy in a 'mass mediated' society. (COCU 6304.03 & POLS 6165.03)
6144.03	Action Learning	Examination of the 'action learning' approach to research, planning, management, and social change. Included are examination of theoretical, methodological and pedagogical aspects of the concept, and evaluation of its potential impact on planning strategies.
6147.03	Humanitarian Crises	Humanitarian crises, causing or threatening mass deaths, include natural disasters, famines, epidemics, genocide and war. The progression of such crises, responses to them, and their causes and prevention are covered, in concrete and theoretical terms. Student work emphasizes cases.
6148.03	Environmental Negotiation and Mediation	Exploration of the concepts and principles of negotiation and mediation, key process requirements, basic techniques and strategies, and constraints and limitations on the application of alternative dispute resolution methods as applied to environmental problems.
6149.03	Culture and the Environment	Critical exploration into current literature in the emerging field of Cultural Studies. Examination of the discourses through which we attach "culture" to nature, place and space. Particular attention is given to what resources contemporary cultural studies might offer in analysing interactions between culture, nature, and place; between social identity, community, and built and natural environments. (CMCT 6120.03)
6150.03	Popular Education for Social Change 1: Theory and Practice	Examination of individual and social learning from a critical perspective. Based on a theoretical & practical examination of knowledge production and power relations, several streams of critical education are explored: popular education, critical pedagogy, native education, labour education, feminist pedagogy, queer pedagogy, anti-racist education, global/development education, direct action and activist education. Applied work will focus on the role of these approaches within schools, organizations and movements for social change.
6151.03	Popular Education for Social Change 2: Practice and Theory	Students will design, implement and evaluate popular education activities, materials or campaigns with organizations and movements for social justice and environmental sustainability. They will deepen their theoretical understanding of popular education and develop skills in political analysis for action, design and facilitation, the use of creative arts, and participatory evaluation.
6152.03	Reshaping Research with Aboriginal People	This course looks at current and historical research from Aboriginal and Indigenous (non-western) perspectives, including ethics, epistemologies, methodologies, protocols, and practices. It also examines colonial and postcolonial research practices by mainstream researchers, publishers, granting agencies, and ethics review boards.
6153.03	Native/Canadian Relations	Investigation of the relationships between First Nations, their communities and their organizations, and the broader Canadian society and its institutions. Within this broad framework, selected issues of relevance to First Nations and other

		stakeholders are examined.
6154.03	Environmental Themes in Storytelling and First Nations Traditions >> Indigeneity and territory in Cultural Traditions (EDUC 5694)	This course examines theories of traditional territory in narrative primacy and methodology in oral and literate cultures; the primacy of voice and story in First Nations nature traditions; the relationship of 'place' and story in the heritage of North American nature/environmental education.(EDU 5370.03)
6155.03	Program Implementation	The focus is on the transition from program/policy/plan to field action. The central questions are why some policies are carried out in the manner intended, some are not carried out at all, and many go in directions that are shaped more by field realities than the original intentions of their proponents.
6156.03	Theory of International Development>> Critical Theories of International Development	Critical analysis of theories of 'development' in historical perspective and from both 'western' and 'third world' positions. Examination of established theories (liberal, neomarxist) more recent perspectives (participatory development, postmodernism, postcolonialism) and themes (gender, ecology, racialization, imperialism, cultural politics).
6157.03	Non-Profit Organizations: If not for profit for what?	This course investigates the existence and persistence of the nonprofit sector, and the theories and practices that are essential for managing nonprofit organizations, whether at the level of grass roots organizations or of more formal and bureaucratic organizations.
6158.03	Non-Profit Organizations and their Environment (NMLP 6200)	This course serves as a general introduction to the nonprofit organization. It explores the historical roots and the social, political and economic function of the nonprofit sector in Canada, as well as in other countries throughout the world. In addition, it examines both the legal and policy environments in which nonprofit organizations operate, and the unique organizational structures and management practices that are characteristic of this sector. (NMLP 6200.03)
6162.03	International Environmental Law (LW 4880)	This course focuses on how people think and argue about legal regulation of international and transnational environmental problems. The course examines selected issues and developments in international environmental law of interest to Canadians, such as "sustainable development," climate change, ozone depletion, biodiversity, fisheries, air and water pollution, environment and trade, the polluter pays principle, the precautionary principle, and the evolution of "customary" international environmental law from Stockholm to Rio and beyond. (LW 4880.3)
6164.03	Environmental Law (LW 2880)	Examination of the institutions, processes, and legal principles which encompass the field of environmental law in Canada. A comprehensive review of the legal framework underlying the existing planning, regulatory and approvals processes at both the federal and provincial levels is provided, together with discussions of a number of key environmental issues facing society today. Comparative approaches undertaken by other jurisdictions are also discussed. (LW 2880.03)
6165.03	Land Use Planning Law (LW2 2330)	Examination of law relating to planning and development, with emphasis on the Canadian context. Topics include land use, real estate, urban and regional planning.
6166.03	Communications Law (LW 2005)	Communication law and regulation are viewed from two perspectives: first, the rationales for regulating broadcasting and telecommunications are explored; and secondly, areas of law and regulation in the fields of broadcasting and telecommunications are examined, including cultural regulation, standards, access, quality of service, new services and rates. (LW 2630.03)
6167.03	Gender and Public Policy (WMST 6005)	Focus on a feminist analysis of public policy, involving a comparison of mainstream policy analysis with feminist approaches. Topics include an overview of feminist theory and political frameworks, women and the state, gender, class, and race, changing family policy, violence against women, gender and housing policy, and strategies for change. (Same as WMST 6005.03).
6172.03	Food Policy Development in Canada	This course explores the theories, concepts and conundrums of food policy , so the course examines policy and program options to create a sustainable, equitable and health promoting food system for Canada.
6173.03	Politics and Planning	Planning and politics are considered along a number of dimensions: the ideologies of planning; the role of planning as a selective filter of values and interests in civil society and the local state; planning as a mediator of conflicts

		between concepts of urban places as 'economic space' and 'community space'; planning as the mediating agency of urban growth and decline.
6174.03	Environmental Politics	Exploration in politics of the environment and political ecology, with the objective of assisting participants to clarify the basis of their own practice. Examination of theories of the state, democracy, social movements, and ecological modernization at various scales. Specific emphasis will be placed on changing Canadian environmental politics in an era of globalization.
6175.03	Global Environmental Politics	Advanced analysis of the interrelationships between globalization and environment. Consideration of historical/theoretical approaches and principal international actors, institutions and legal instruments. Themes include: global warming, trade, aid, multinational corporations, environmental security, biodiversity, and environmental/political activism.
6178.03	Canadian Environmental Policy II	This is the follow-up course to Environmental Policy . The course is focused on an examination of the interplay of ideas, societal forces and institutions around a single major current Canadian Environmental Policy issue.
6179.03	Climate Change: Science and Policy	The purpose of this course is to help students develop a thorough understanding of the causes of climate change and its key policy solutions. The course also aims at providing opportunities to implement practical actions to address the problem.
6180.03	Applied Research Methods: Policy and Regulatory Studies	Provides students with the opportunity to develop the research skills required for policy and regulatory research, and a critical appreciation of their appropriate use in the design of their own research.
6182.03	Applied Research Methods: Quantitative Research	Development of a paradigm of inquiry, hypothesis development, data sources and the theory of measurement, sampling alternatives, cost estimation, audience appropriate reports, and the commissioning and management of research.
6183.03	Applied Research Methods: Qualitative Methods	Examination of the various phases of carrying out research in the field: planning the research project; choosing appropriate methods for data collection; analyzing data and communicating results of research. Emphasis is on analysis and reporting of questionnaire and qualitative data.
6186.03	Theory and Methods of Impact Assessment	Examination of the theory and methods of environmental impact assessment, focused on Canadian legislative and administrative contexts.
6188.03	Remote Sensing and Image Processing for Geographical Analysis and Environmental Monitoring (GEOG 5015)	This course focuses on ways remote sensing systems are used to acquire data, how these data are analysed and how the information is used in studies of natural and produced environments. Special emphasis is placed on satellite sensors operating in the visible and near-infrared regions of the spectrum (Landsat TM and SPOT), and on airborne and spaceborne radar systems. In addition to learning the characteristics of the sensors, how they record data and how the data are processed, the students will analyse these data using digital processing techniques. (GEO 5015.03)
6189.03	GIS Applications in Planning and Resource Management	Provides students with an opportunity to gain first-hand experience in the application of geographical information systems (GIS) to environmental problems with particular reference to planning and resource management. Students will become familiar with the strengths and limitations of this rapidly developing approach to the analysis of spatial data.
6191.03	Management Practices for Sustainable Business (BENV 6300)	This course provides a detailed review and analysis of the environmental management tools and techniques used by managers. The course considers how these techniques fit together to form environmental management systems and examines their underlying assumptions, approach and role in managerial decision-making. Techniques include environmental impact assessment; environmental reviews and audits; environmental accounting; product life-cycle analysis; and design for the environment. (BSUS 6300.03)
6275.03	International Political Economy and Ecology Summer School (POLS 6282)	Each year the IPE Summer School investigates one salient issue within the field of international political economy. International political economy includes the notion of international and transnational economic relations, and comparative structures of national political economy. Each session is an exploration of current literature in a specific issue area of IPE, particularly as it relates to the relationship between economy and ecology. (POLS 6282.03)
6281.03	Consulting Skills	Exploration of the various aspects of carrying out studies and analysis in a professional consulting capacity. While the emphasis is on processes and techniques, the course also explores the various circumstances and contexts within which consulting projects are undertaken. The specific substantive areas will be determined in discussion with participants at the first meeting.
6291.03	Facilitation in ES	Exploration of the research on small group processes — including group dynamics, leadership and decision-making — and the key role of small groups in

		implementing change. Students are also provided with the opportunity to learn and practice the skills of facilitating effective group problem-solving.
6321.06	Environmental Planning and Design Workshop	Application in problem-solving, plan-making, and design. Direct experience is provided in the main elements of planning and design practice as informed by theory, with emphasis on implementation implications of recommended solutions.
6324.06	Planning Practice Workshop	A project-based workshop designed to provide students with direct experience in the main elements of planning practice, with emphasis on field investigation, analysis of relevant political, social, economic, environmental, cultural and design issues, examination of contextual and procedural constraints or opportunities, communication with a variety of stakeholders, and consideration of implementation alternatives.
6325.06	Critical Urban Planning Workshop	The workshop investigates recent urban change in selected North American and European cities using an approach that is informed by recent critical planning practices and urban theory. Each year a different topic is selected as the basis for the workshop project.
6330.06	Bioregional Planning Workshop	Using the Greater Toronto Area (GTA) as the laboratory, the workshop explores the context and debates surrounding the future of the area in which we live, work, study, and play. The purpose is to allow students an opportunity to observe, critically analyse, and develop plans within an applied setting.
6331.06	Planning in Toronto Workshop	This project-based course examines current planning and development practices in Toronto. Students learn about complex problems that planners typically need to resolve when dealing with significant development projects in major North American cities.
6348.06	Cultural Production Workshop: Performance	This workshop combines critical cultural theory and environmental studies with the practice of cultural production. Through analysis of the field of performance and the creative production of testimony, autobiography in performance, students critically explore and develop their own approach to producing such performances. The primary learning experience of the workshop involves the production of a performance or testimonial narrative applying analytical tools, technical skills and creativity.
6349.06	Cultural Production Workshop: Image (CMCT 6510)	Combines active media analysis with the production of images/text around environmental issues. Students critically explore the production process through media observations, readings, and audio-visuals, visits to production sites, and interviews with imagemakers. There are opportunities to develop hands-on skills in photographic or video production. The central learning experience of the workshop involves a media production applying analytical insights, technical skills, and creativity. (CMCT 6510.06)
6399A.06	Field Workshop in ES: Costa Rica	The study, through direct field observation, of the theory and principles of ecology as these apply to sustainable development in tropical environments, specifically in Costa Rica.
6401.03	Natural Disasters: An Unnatural Phenomenon (DEMS 5020)	This course examines natural disasters from an interdisciplinary point of view, particularly considering why there seem to be more natural disasters, and how and why decisions made by people create vulnerable communities.
6460.03	Communication and the Public Interest (CMCT 6315)	This course puts the concept of the "public" under close scrutiny. Through readings and a series of guided exercises, it explores how differing conceptions of the public are written into communication theory and how these might affect communication in practical ways. A background in communication theory is recommended, but not required. (CMCT 6315)
6481.03	Activist Video Making (FILM 5020)	A course focused on the production of collaboratively-produced video works on selected social and political/environmental subjects. (Same as FILM 5020.03B) (formerly ENV5 6101Z).
6560.03	Readings in Public Policy	This course is designed to support readings and research for students whose plans of study include a component on policy, and for students whose major papers, thesis or dissertations involve public policy research.
6599R.03	Growing Good: Community Engaged Action Learning in Agroecology	Temporary course being developed as permanent offering
6599S.03	Marine Conservation: Citizenship and Sustainability Strategies: Field	Temporary course being developed as permanent offering

	Course in BC	
7149.03	Advanced Topics in Culture and the Environment	This advanced topics course allows faculty and students to explore cutting-edge work in the field of environment and culture. The course will allow students to extend the cultural analyses of nature to which they have been introduced in earlier courses.
7189.03	Advanced GIS	Provides students with a solid theoretical understanding of the concepts of GIS and an opportunity to gain advanced hands-on knowledge of a popular GIS software package. Students will become familiar with the concepts and processes involved in designing and constructing a GIS database and the method by which spatial analysis tools can be used to analyse spatial data.
8102.03 (F + W)	PhD Research Seminar	MANDATORY PhD COURSE: This ongoing seminar is designed to assist PhD students in the formulation of their PhD Program Plan, through a comparative examination of research methods and research designs.

Source: FES website, 2016

UNDERGRADUATE COURSES OFFERING IN GEOGRAPHY

GEOG	1000	Cr=6.00	An Introduction to World Geography
GEOG	1400	Cr=6.00	Physical Geography
GEOG	1410	Cr=6.00	Human Geography
GEOG	2030	Cr=3.00	Global Environmental Change
GEOG	2060	Cr=3.00	Historical Geography
GEOG	2070	Cr=3.00	Empire, State, & Power
GEOG	2075	Cr=3.00	Introduction to Cultural Geography
GEOG	2100	Cr=6.00	Economic Geography
GEOG	2105	Cr=3.00	Economic Geography
GEOG	2220	Cr=6.00	Urban Geography
GEOG	2305	Cr=3.00	Introduction to Social Geography
GEOG	2310	Cr=6.00	Intro to Refugee and Migration Studies
GEOG	2340	Cr=3.00	Geoinformatics: Introduction
GEOG	2400	Cr=6.00	The Hydrosphere
GEOG	2420	Cr=3.00	Intro. Stats Analysis in Geography
GEOG	2500	Cr=3.00	Introduction to Vegetation and Soils
GEOG	2600	Cr=3.00	Geomorphology I
GEOG	2610	Cr=3.00	Geomorphology II
GEOG	3010	Cr=6.00	Geography of Canada
GEOG	3020	Cr=6.00	Geography of Caribbean Islands
GEOG	3030	Cr=3.00	Peopling of Ontario
GEOG	3040	Cr=3.00	Urban Environmental Justice
GEOG	3050	Cr=3.00	Nature, Power and Society
GEOG	3060	Cr=3.00	Post-Colonial Geographies
GEOG	3070	Cr=6.00	Gender, Population and Migration
GEOG	3080	Cr=3.00	Reading Landscapes Through Time
GEOG	3081	Cr=3.00	Historical Geographies of Modern Ireland
GEOG	3130	Cr=3.00	The Global Economy
GEOG	3140	Cr=3.00	Retailing, Shopping, Society and Space
GEOG	3200	Cr=3.00	Terrestrial Ecosystems
GEOG	3220	Cr=3.00	Advanced Urban Geography
GEOG	3220	Cr=6.00	Advanced Urban Geography
GEOG	3250	Cr=3.00	Environmental Perception and Disasters
GEOG	3300	Cr=3.00	Space/Place
GEOG	3340	Cr=3.00	Geoinformatics: GIS I
GEOG	3360	Cr=3.00	Morphogenesis of Soils
GEOG	3370	Cr=3.00	International Development
GEOG	3400	Cr=3.00	Dimensions of Difference
GEOG	3421	Cr=3.00	Intermediate Stats Methods in Geography
GEOG	3440	Cr=3.00	Geoinformatics: Remote Sensing I
GEOG	3490	Cr=3.00	Making Canada
GEOG	3500	Cr=3.00	Biogeography
GEOG	3510	Cr=3.00	Methods of Sediment
GEOG	3520	Cr=3.00	Designing and Conducting Research
GEOG	3540	Cr=3.00	Field Studies in Physical Geography
GEOG	3590	Cr=3.00	Conservation in Canada

GEOG	3590	Cr=3.00	Conservation in the GTA
GEOG	3600	Cr=3.00	Nations and Nationalisms
GEOG	3650	Cr=6.00	WiredCities: Comm., Tech. & Changing Urb
GEOG	3700	Cr=3.00	Disaster! Earth's Extreme Events
GEOG	3710	Cr=3.00	South Asia: Society, Space & Environment
GEOG	3730	Cr=6.00	Comparative Urban Development
GEOG	3750	Cr=3.00	Africa: Impoverishment of a Continent
GEOG	3760	Cr=3.00	The Philippines Geographical Perspective
GEOG	3770	Cr=3.00	Housing Policy and Income Security Polic
GEOG	3800	Cr=3.00	Geographies of Work
GEOG	3900	Cr=3.00	Physical Geography of the City
GEOG	4000	Cr=6.00	Honours Thesis
GEOG	4020	Cr=3.00	The Caribbean Islands since 1492
GEOG	4040	Cr=6.00	Urban Historical Geography
GEOG	4050	Cr=3.00	Nature Neoliberalism Political Ecology
GEOG	4051	Cr=3.00	Comp. Politics of Environ. & Development
GEOG	4060	Cr=3.00	Hist. Geographies of Gender & Sexuality
GEOG	4090	Cr=3.00	Urban Identities
GEOG	4095	Cr=3.00	Aboriginal Space and the City
GEOG	4130	Cr=3.00	Planning Suburbs
GEOG	4150	Cr=3.00	Foodscapes and Agri-scapes
GEOG	4160	Cr=3.00	Risk Assessment in Resource Management
GEOG	4170	Cr=3.00	Immigration, Ethnicity and Race
GEOG	4180	Cr=3.00	Lab. Analysis of Ecological Materials
GEOG	4190	Cr=3.00	Geographies of the Ethnic Economy
GEOG	4200	Cr=3.00	Water Quality and Stream Ecosystems
GEOG	4205	Cr=3.00	Climatology of High Latitudes
GEOG	4210	Cr=3.00	Hydrometeorology
GEOG	4215	Cr=3.00	Ecological Climatology
GEOG	4220	Cr=3.00	Geographies of Industry: Neoliberal Era
GEOG	4240	Cr=3.00	The Planning of Urban Public Facilities
GEOG	4250	Cr=3.00	Imagined Landscapes
GEOG	4260	Cr=3.00	Applied Transportation Geography
GEOG	4280	Cr=3.00	Imagining Toronto: Literary Geographies
GEOG	4290	Cr=3.00	Directed Reading
GEOG	4290	Cr=6.00	Directed Reading
GEOG	4310	Cr=3.00	Dynamics of Snow and Ice
GEOG	4340	Cr=3.00	Geoinformatics: GIS II
GEOG	4370	Cr=3.00	Geography of Third World Development
GEOG	4380	Cr=3.00	Urban Social Policy
GEOG	4395	Cr=3.00	Asia-Pacific Dev. Geog. Perspectives
GEOG	4400	Cr=3.00	Physical Hydrology and Water Resources
GEOG	4410	Cr=3.00	Desert Ecosystems
GEOG	4420	Cr=3.00	Project Experience in Geography
GEOG	4440	Cr=3.00	Geoinformatics: Remote Sensing II
GEOG	4500	Cr=3.00	Northern Forest Environments
GEOG	4520	Cr=3.00	Research Design and Field Studies

GEOG	4521	Cr=6.00	Field Studies in Human Geography
GEOG	4541	Cr=3.00	Adv Field Studies in Physical Geography
GEOG	4600	Cr=3.00	Rivers: Environment and Process
GEOG	4605	Cr=3.00	The Greater Toronto Area
GEOG	4610	Cr=3.00	Geopolitics
GEOG	4700	Cr=3.00	The Critical Geographies of Education
GEOG	4750	Cr=3.00	Geog of Disabilities
GEOG	4800	Cr=3.00	Geographies of Organized Labour
GEOG	4850	Cr=3.00	The state, civil society and development
GEOG	4880	Cr=3.00	Spaces of Conflict, Violence, and Power
GEOG	4900	Cr=3.00	Public Space
GEOG	4999	Cr=3.00	Research Paper

Graduate Geography courses

	Course #	Credits	Title
GEOG	5004	Cr=1.50	SelectedTopics in Geographic Methodology
GEOG	5005	Cr=1.50	SelectedTopics in Geographic Methodology
GEOG	5006	Cr=1.50	SelectedTopics in Geographic Methodology
GEOG	5010	Cr=3.00	Seminar In The Theory Of Geography
GEOG	5011	Cr=1.00	Graduate Colloquium
GEOG	5015	Cr=3.00	Remote Sen.& Image Pro. for Geog Analy.
GEOG	5025	Cr=3.00	Research Design and Formulation
GEOG	5050	Cr=3.00	Geog. Info Systems & Spatial Analysis
GEOG	5051	Cr=3.00	Spatial Analysis in Geography
GEOG	5107	Cr=3.00	Citizenship, Identity and Space
GEOG	5108	Cr=3.00	Citizenship, Identity and Space II
GEOG	5111	Cr=3.00	Cosmopolitics: Globalizations
GEOG	5201	Cr=3.00	Selected Topics in Critical Human GEOG
GEOG	5202	Cr=3.00	Selected Topics in Critical Human GEOG
GEOG	5203	Cr=1.50	Selected Topics in Critical Human GEOG
GEOG	5204	Cr=1.50	Selected Topics in Critical Human GEOG
GEOG	5205	Cr=1.50	Selected Topics in Critical Human GEOG
GEOG	5205	Cr=3.00	Special Topics in Critical Human GEOG
GEOG	5206	Cr=1.50	Selected Topics in Critical Human GEOG
GEOG	5208	Cr=3.00	Doctoral Seminar in Critical Human GEOG
GEOG	5209	Cr=3.00	Masters Seminar in Critical Human GEOG
GEOG	5230	Cr=3.00	Cultural and Social Theory for Geographe
GEOG	5260	Cr=3.00	Geography of Disability
GEOG	5301	Cr=1.50	Sel. Topics in Social & Economic Space
GEOG	5302	Cr=1.50	Sel. Topics in Social & Economic Space
GEOG	5304	Cr=1.50	Sel. Topics in Social & Economic Space
GEOG	5305	Cr=1.50	Topics in Social and Economic Space
GEOG	5310	Cr=3.00	Applied Transportation Geography
GEOG	5314	Cr=3.00	Cultures of Cities
GEOG	5320	Cr=3.00	Geographies of Industry in a Neoliberal
GEOG	5325	Cr=3.00	Environmental Justice
GEOG	5326	Cr=3.00	Critical Political Ecologies
GEOG	5327	Cr=3.00	Matters of Nature: Theories and Politics
GEOG	5330	Cr=3.00	Feminist Geographies of Space and Place
GEOG	5335	Cr=3.00	Geo.Organized Labour.:Worker Struggles
GEOG	5350	Cr=3.00	Immigration, Ethnicity & Race in Modern
GEOG	5353	Cr=3.00	Immigration and Ethnicity
GEOG	5355	Cr=3.00	Seminar in Political Geography
GEOG	5360	Cr=3.00	Geographies of Globalization and Develop
GEOG	5370	Cr=3.00	Space, Power and the City
GEOG	5375	Cr=3.00	Space, Place and Capitalism: Themes in H
GEOG	5385	Cr=3.00	Decision Support Systems: Theory & Appli
GEOG	5395	Cr=3.00	Int'l Polit. Econ. & Ecol. Summer School
GEOG	5410	Cr=3.00	Resource Management

GEOG	5580	Cr=3.00	Global Cities
GEOG	5600	Cr=3.00	Research Seminar in Physical Geography
GEOG	5601	Cr=3.00	Topics in Physical Geography
GEOG	5602	Cr=3.00	Climatology of High Latitudes
GEOG	5605	Cr=1.50	Topics in Physical Geography
GEOG	5606	Cr=1.50	Topics in Physical Geography
GEOG	5607	Cr=3.00	Ecological Climatology
GEOG	5608	Cr=3.00	Hydrometeorology
GEOG	5610	Cr=3.00	Biogeochemistry of Stream Ecosystems
GEOG	5620	Cr=3.00	Quaternary Stratigraphy
GEOG	5630	Cr=3.00	Physical Hydrology of Water
GEOG	5645	Cr=3.00	Dynamics of Snow and Ice
GEOG	5695	Cr=3.00	Fluvial Geomorphology
GEOG	5700	Cr=3.00	Asian Studies: Critical Perspectives
GEOG	6010	Cr=0.00	M.A./M.Sc. Research Paper
GEOG	6050	Cr=3.00	M.A./M.Sc. Directed Reading Course
GEOG	6060	Cr=3.00	Ph.D. Directed Reading Course

COURSES OFFERED IN URBAN STUDIES *(LAPS)

URST	2410	Cr=6.00	Introduction to Urban Studies
URST	2420	Cr=6.00	Intro. to Planning Concepts and Methods
URST	3430	Cr=6.00	The Nature of Urban Populations
URST	3800	Cr=3.00	Investigating Urban Envir. Contamination
URST	4130	Cr=3.00	Planning Suburbs
URST	4490	Cr=3.00	Directed Reading
URST	4490	Cr=6.00	Directed Reading

To fulfil URST program and degree requirement, most courses are from the Department of Social Science, as well as the following units:

Department of Economics
 Department of English Department
 of Geography German Studies
 Department of History Department
 of Political Science Department of
 Psychology Department of
 Sociology
 Faculty of Environmental Studies
 Faculty of Fine Arts

Office of the Vice-President Academic and Provost

Memorandum

To: L. Jacobs, Chair, Senate APPRC
L. Farley, Chair, Senate ASCP

From: Lisa Philipps, Interim Vice-President Academic & Provost

Date: May 17, 2017

Subject: Proposal for Merger of Faculty of Environmental Studies and Geography Department

I have reviewed a preliminary proposal from the Faculty of Environmental Studies and the Department of Geography in the Faculty of Liberal Arts & Professional Studies with regard to the framework (setting out objectives, principles, and timelines) for a merger of the two units. I am writing to record my support for a motion for approval in principle of this merger. Approval of the motion will enable planners to pursue the directions under consideration and allow discussions of the more detailed plans for the merger to move forward. It is understood that, should these discussions result in agreement, a motion to approve a merger would be brought forward to the appropriate governing bodies. It should be noted that opportunities are also being explored for other units such as the Urban Studies Program and the CITY Institute to participate.

The current proposal is the result of extensive discussions among colleagues in FES and the Department; the Provost's Office has been consulted at various stages during these discussions. I wish to acknowledge the significant time and energy that colleagues have invested in this process to date and to signal my enthusiastic support for their continued efforts to develop a more detailed plan that would move the initiative to the next stage.

Several reasons have been advanced for the potential merger. The proposal arises in part out of the IIRP process, which called upon Faculties and units to seek means of enhancing the quality and sustainability of their programs, including through harmonizing, rationalizing and streamlining curricula and programming, as well as recent Cyclical Program Reviews of each unit. Both FES and Geography have experienced enrolment declines in their undergraduate programs (and to a lesser extent at the graduate level) in recent years. The array of program and course options offered

Office of the Vice-President Academic and Provost

across these two units and others may be confusing, contributing to difficulty in clearly presenting the programs to potential students and therefore in competing for applications and enrolments with programs offered by other universities. A merger will enable a more coordinated approach to curriculum planning and, importantly, to the presentation of program options in a clear and integrated way that conveys to potential students the opportunities available to them. A new vision for the programs involved should result in the better deployment of teaching and other resources in support of advancing synergies between the units and York's academic priorities with a view towards development of new program directions. The proposal envisions the creation of a "hub" of geographical and environmental activity at York that will contribute to the visibility of this area of study, support community outreach initiatives, and promote interdisciplinarity and research and teaching collaborations. A name is yet to be identified for the Faculty, but it is understood that this will be part of the planning efforts.

The proposal also sets out a series of principles that have been agreed upon underpinning the discussions, including the expectations that plans will align with SHARP and that the changes will be cost neutral, with central support for transition costs. The principles also set out approval processes for various kinds of academic and administrative proposals associated with a merger.

It is my expectation that further discussions and ultimately a formal proposal for merger submitted for approval by governance bodies will be accompanied by a more detailed plan that addresses the following matters:

- The administrative and governance structures to be put in place for the merged Faculty
- Plans for the harmonization/rationalization/streamlining of curriculum and programs based on clear Undergraduate/Graduate Degree Level Expectations and curriculum mapping that enables students to understand program pathways and opportunities for mobility between them
- Details of plans to enhance the visibility of programs and recruit potential students to them
- Commentary on the kinds of distinctive new programs, certificates and courses that might be developed in response to student interest and our commitment to innovation
- Enrolment projections for the years following a merger and at steady state

I will also expect to receive a sustainability plan indicating how the new Faculty will eliminate its in-year deficit over the five year period following a merger, including any

Office of the Vice-President Academic and Provost

transitional resources required and projected revenues and budget savings following a merger.

To be clear, I understand that many of the steps needed to implement these plans, such as approval of specific curricular changes through Faculty Council and Senate, would need to take place after a merger. Nonetheless as much work as possible should be done to concretize the vision for a new Faculty and how it would be realized in a sustainable form prior to bringing a formal merger proposal forward. I would welcome additional information about the proposed timeline for such a motion so that we can work together toward that goal.

I commend colleagues in FES and Geography for the significant progress thus far, and look forward to participating in these ongoing discussions.

A handwritten signature in black ink, appearing to read "Geoff Rubin". The signature is fluid and cursive, with the first name "Geoff" being larger and more prominent than the last name "Rubin".

Cc: Dean N. Sturgeon
Dean A. Mukherjee-Reed
VPA A. Pitt
Dean R. Jayawardhana

Memo

To: York University Senate

From: Noël Sturgeon, Dean, FES

Date: June 5, 2017

Subject: Support for Motion in Principle, FES/GEOG Merger

I am very enthusiastic about the potential bringing together of FES and GEOG in one unit. The faculty in the two units have a long history of working together on research projects, as well as cross-supervision of graduate students. Bringing these units together under the umbrella of a new Faculty structure will facilitate these relationships and strengthen research, teaching, and the student experience. Existing curricular redundancies can be eliminated and resources freed up to create exciting new programs and initiatives. The interdisciplinary framework of FES is a good match with the discipline of Geography, structured as it is around cultural and physical emphases.

The merger of these two units will be a very visible and exciting event for Ontario, and for Canada. Though there is a lot of work ahead of us to decide administrative structures, curricular harmonization, new programs, staffing, and budget, I have been very impressed and heartened by the strong interest and commitment expressed by the faculty of both units in making a merger a reality. This is an initiative that arose entirely from faculty members, and so I believe it is an effort with integrity and energy. I also appreciate the strong support for the proposal from the Deans of LAPS and Science, as well as the Provost.

I am strongly in favor of the motion in principle, as it allows the time for faculty to come to grips with the details entailed in a merger, and to do so with confidence that they will have the time to fully and democratically have the discussion that allows them to make the necessary decisions with comfort that they are the right decisions for FES and for Geography.



Memorandum

Office of the Dean

S900 ROSS BLDG
4700 KEELE ST.
TORONTO ON
CANADA M3J 1P3
T 416 736 5220
F 416 736 5750
DeanLA_PS@yorku.ca
laps.yorku.ca

To: Noël Sturgeon, Dean, Faculty of Environmental Studies

From: Ananya Mukherjee-Reed, Dean

Date: May 30, 2017

Subject: Motion in principle for the creation of a New Faculty at York University combining the Department of Geography and the Faculty of Environmental Studies

I have reviewed the rationale and the Motion in Principle to be considered by Senate on June 15 2017. I understand that the Department of Geography in the Faculty of Liberal Arts & Professional Studies has also passed a motion in its departmental council in support of the motion in principle. I also understand that the Urban Studies program has participated in discussions regarding this proposal in observer capacity and more discussions are needed at this time to determine if and how Urban Studies will participate in this initiative.

I am prepared to support the motion in principle and engage in discussions about the future Faculty as they emerge.

May 31, 2017

FACULTY OF SCIENCE

Office of the Dean

4700 KEELE ST.
TORONTO ON
CANADA M3J 1P3
T 416 736 5051
F 416 736 5950

rayjay@yorku.ca
science.yorku.ca

Senate APPRC
Senate ASCP

Re: Letter of Support - Proposal for Merger of Faculty of Environmental Studies and Geography Department

I have reviewed the rationale and the Motion in Principle to be considered by Senate on June 15, 2017. Our understanding is that the Faculty of Science will continue to be engaged in offering Bachelor of Science degrees in Geography. With that expectation, I am prepared to support the motion in principle and engage in discussions about the future Faculty as they emerge.

Sincerely,



Ray Jayawardhana
Dean, Faculty of Science





Academic Policy, Planning and Research
Academic Standards, Curriculum and Pedagogy
Joint Report to Senate

At its meeting of June 15, 2017

FOR INFORMATION

1. Report of the Joint Sub-Committee on Quality Assurance

Attached as Appendix A is the final report for 2016-2017 submitted by the Joint Sub-Committee on Quality Assurance.

The Chair of the Sub-Committee provided this summary of the report:

We draw attention to matters of general importance gleaned from our review of CPRs agenda package as they relate to 1) the articulation of learning outcomes and course mapping in support of degree coherence; 2) alignment of UG and Grad planning and opportunities for collaboration across programs or campuses and 3) efforts directed at the equitable distribution of supervisory responsibilities.

The Sub-Committee finds that resources are inconsistently addressed by reviewers, programs and Faculties, often equating resources with budgets.

The Quality Assurance of 2015 Audit yielded 11 Recommendations requiring action in order to achieve our stated quality assurance goals and fully comply with the processes outlined in the YUQUP and 12 suggestions aimed at continued improvement and refinement of current processes. Recommendations are summarized in the documentation and relate to the accuracy of documentation for self-studies in particular. Others relate to ensuring the completeness of the Cyclical Program schedule, the regularity of CPRs, the posting of appropriate documentation. Recommendations address the use of review teams and the process of working with external reviewers, internal reviewers, and the reports they produce.

The Sub-Committee discussed the role of the internal reviewer and the possibility of establishing a poll of reviewers drawing from APPRC and ASCP and establishing a procedure for the identification of external reviewers.

Academic Policy, Planning and Research Committee

Report to Senate (cont'd)

Senate's University Academic Plan 2015-2020 commits to "enhancing and increasing our population of graduate students and postdoctoral fellows (quality and quantity) and mentoring and supporting them in their research activities. Members of APPRC discussed the references to graduate supervision imbalances in the Sub-Committee's report and made the following observations:

- a culture of supervision can overcome disparities; some programs release annual lists of supervisors and their supervisees as an encouragement
- the University's reputation can be harmed by student frustrations and falsity in advertising
- some programs take pains to distribute supervision as equally as possible
- supervision is the norm in some Faculties and programs (in the Sciences where an apprentice model obtains, or in programs that have a clinical dimension)
- Glendon colleagues have not been afforded opportunities to teach as many graduate courses as desired, and it was not clear how the SHARP budget model would impact on arrangements; Principal Ipperciel has been supportive of releases but resource scarcity may inhibit participation
- it was critical to engage faculty members in supervision at all stages of their careers
- changes to Appendix O of the collective agreement may be a disincentive to supervise
- many colleagues are supervising outside of their fields in order to provide adequate coverage
- the assignment of pro tempore supervisors is one effective way to ensure that graduate students have a supervisor in place for the purposes of scholarship applications, etc.
- the push for research enhancement has sometimes had the unintended consequence of pulling SSHRC grant holders away from supervision
- programs need to match faculty members with students, but this can be complicated by enrolment imperatives

Academic Policy, Planning and Research Committee

Report to Senate (cont'd)

- the absence of fuller information about faculty members on the University Website may deter applications or thwart matching; PhDs and postdoctoral fellows may be attracted in greater numbers if there is a more reliable, sustainable supervisory model

Documentation is labeled Appendix A and is available online.

2. Annual Report on Non-Degree Studies

The Vice-Provost Academic has transmitted the most recent annual report on Non-Degree Studies in accordance with principles approved by Senate in March 2005.¹

Documentation is attached as Appendix B.

L. Farley, Chair, ASCP

L. Jacobs, Chair, APPRC

¹ The principles are as follows:

- a) Non-Degree studies activities should complement the academic missions of a Faculty or of the University, and should not compete with degree programmes.
- b) Faculties should be responsible for their own non-degree studies activities.
- c) Non-degree studies activities should be self-sufficient, preferably returning a profit to the Faculty or the University to assist in the funding of degree programme activities.
- d) Faculties and other offering units should act cooperatively in non-degree studies activities so that counterproductive competition is avoided.
- e) The regulatory framework governing non-degree studies should be as flexible and efficient as possible, maintaining the principles indicated above and ensuring appropriate administrative, budgetary and academic oversight. Certificates and Diplomas shall be bound by the existing Senate legislation.

2014-2016 Annual Report of the Vice President Academic and Provost to Advisory Committee on Non-Degree Studies

Prepared by Alice Pitt, Vice Provost Academic, May 18, 2017

The University maintains a strong interest in the development and implementation of non-degree activities, as these activities have the potential to enhance York's reputation as a comprehensive and innovative University, promote lifelong learning and support access to post-secondary education, diversify revenue streams for the University and provide an opportunity for Faculties to explore new and emerging areas of professional studies. Furthermore, non-degree studies advance several academic priorities as outlined in the Provostial White Paper and University Academic Plan 2015 – 2020. "Continuing education is a further component of community engagement facilitating access to higher education at all points throughout the life cycle and diverse pathways for non-traditional students as well as for international students who need second language support." In recognition of the important role that non-degree studies plays in across the University, the UAP also identified the need to "expand and enhance the coordination of continuing and professional education programming."

An Advisory Committee made up of Deans or their delegates, often the Director of the Faculty's continuing education unit, meets at least once annually to discuss their programs, trends, and opportunities for collaborations. A report of non-degree activities at the University is provided annually to ASCP and APPRC and to Senate based on unit submissions that document program offerings and enrolments and describe the nature of programs and their landscape. This current report summarizes activities for two academic years. Attached please find Senate approved Principles and Procedures Governing Non-Degree Studies (endorsed by CCAS and APPC in 2003).

Office of Professional Learning, Faculty of Education

The Office of Professional Learning (OPL) offers a variety of professional development options for educators locally and internationally offered on-line, in-class or blended. Approximately 95% of the offerings are accredited by the Ontario College of Teachers (OCT) and are often customized to meet the professional learning needs of District School Boards. OCT 's recent accreditation of modular Additional Qualification courses allow for self-paced, self-directed options. Non-accredited courses are 25-36 hours and provide focused and targeted professional learning opportunities on specific topics. A provincial focus on improving mathematics student outcomes will provide opportunities. Challenges remain with a saturated employment market for teachers and fewer new teachers who desire professional learning. The K-12 population is not yet increasing but is expected to rise in the GTA through 2020. It is hoped this will mean that more teachers, both LTO and permanent, will pursue the additional qualification courses, in particular those available in an online format.

In both 2014-2015 and 2015-2016, over 100 accredited programs were offered; enrolling more than 5000 students, and 24 enrichment and international courses enrolled approximately 1500 local and international students.

Glendon

Through its Extended Learning Glendon offers a variety of French and English Second language programs, as well as professional development Translation courses. In addition to general language

proficiency courses, FSL programs for federal employees, specialized French programs for Federal Judges, comedy writing and subtitling techniques and practices are available. French as a Second Language and English as a Second Language Immersion programs are also provided as well as an ESL Explore program (students receive a federal bursary) which offers an immersion-like atmosphere so that students are exposed to the second language that they are learning (English or French). A small number of students also took private language lessons. Extended Learning at Glendon notes that the decision of federal and provincial governments to no longer fund employee language training directly, except for unique situations such as managerial level roles, has led to an increased demand for ESL and FLS language training by individuals seeking career development to improve their French language skills on their own time. Enrolment in immersion programs and in the Federal Judges FSL program has remained steady.

In the Fall, Winter and Summer terms of 2015 and 2016, 538 and 481 individual students took advantage of Extended Learning course options, the bulk of enrolments being in the FSL and ESL Explore programs.

Health Leadership & Learning Network (HLLN), Faculty of Health

Since 2009, non-degree activities attract alumni and the health care community and are designed to redefine and advance approaches to keeping more people healthier longer through professional development and skills upgrading, primarily on an open enrolment basis. HLLN activities also provide the Faculty with a growing network for Knowledge Translation and Exchange and an alternate source of revenue through a mix of certificate and short programs. Currently, none of the programs provides accreditation, but this a future possibility. Health related continuing education is competitive and requires close monitoring of trends. The technology for the health industry is growing at an exponential rate, and HLLN is well-positioned through involvement with the current FedDev—HealthCare Ecosphere grant.

In each of 2014-15 and 2015-16, fourteen discrete programs, ranging in length from 14 to 150 hours, primarily face-to-face with some blended offerings, enrolled more than 370 students.

Osgoode Professional Development and Justice Design Project

Osgoode Professional Development creates and delivers programs for legal professionals (lawyers, paralegals and judges); other professionals and executives who have legal risks or responsibilities in their jobs; and internationally-trained lawyers and law students. Programs include provision of legal updates, licensing exam preparation, comprehensive coverage of an area of law, intensive skill-building in a variety to areas (eg. contract drafting, advocacy, dispute resolution and negotiation) and are delivered in a variety of modalities, including live web stream. Programs are delivered face-to-face; by live web-stream; and through archived captures, available in scheduled offerings or through an on-demand catalogue. OPD works with a wide range of partners and practitioners and program topics are validated through market research with curriculum/learning objectives developed in concert with Advisory Boards or Program Chairs. Offerings are aligned with the Law Society of Upper Ontario's mandatory Continuing Professional Development. A small but growing part of Osgoode's offerings is contract, often customized training for organizations including governments and corporations.

In 2014-2015 and 2015-2016, OPD provided over 150 programs/courses with enrolments of approximately 7000 in each year (total approx. 14,000).

The Justice Design Project is an initiative of The Winkler Institute for Dispute Resolution that provides a week-long workshop for undergraduate post-secondary students to learn about innovation, its tools and methods and their application in the justice sector. In 2015, legal experts from Osgoode, Legal Aid Toronto and The Law Society of Upper Canada participated.

In Summer 2015, 13 students participated and in Summer 2016 there were 14 students enrolled.

Schulich Executive Education Centre, Schulich School of Business

Clients of Schulich's Executive Education Centre (SEEC) programs are middle to senior managements and organizations in the private, public and NGO sectors in Canada and internationally. The purpose of programs is to provide relevant and high quality life - long learning programs to improve skills, competencies and capabilities of management and executives. Programs are designed based a combination of informed market need and the application of knowledge and teaching skill of qualified and experienced program designers and instructors.

Approximately 60% of offerings are open enrollment and the other 40% are customized to an organization's need. Partners and collaborators in design and delivery are our faculty of more than 300 instructors. Partners and collaborators in marketing include the Centre's two marketing communications agencies. The role of professional accreditations is sought where the programs merit it, but this is not extensive. All Master's Certificates offered by SEEC require at least 90 hours of instruction and either the successful writing of an examination or the completion of a major (graded) assignment. These programs are typically offered in conjunction with external professional bodies.

Trends impacting SEEC include the greater competition from national and international private sector consultants (such as Deloitte and Hay Group), greater focus on Talent Management requirements in certain key sectors (eg: banking and finance), greater demand for blended in- classroom and on-line programs, greater demand for a global perspective in all management education, and higher price competition in domestic Open programs and in certain international areas eg: India private sector, China government sector.

In 2014-2015 the Centre offered 72 open enrolment programs that served 1,942 students. There were 61 Corporate Programs served 4,553 students. 13 of these were newly developed during that period under decanal approval.

During the 2015-2016 period, SEEC offered 64 corporate, non-profit and governmental partners with a total enrolment of 4,496 students. In addition 73 courses/certificates were provided to 2,072 students.

School of Continuing Studies

The School of Continuing Studies was launched publicly in 2014 with two significant areas of focus: Continuing Professional Education and the York English Language Institute.

The primary focus of the Continuing Professional Education (CPE) department has been on the development of certificate programs. In addition to the part-time programs that serve working professionals (career advancers and career crossers), the School also offers several full-time programs to serve recent graduates (career starters) recruited both domestically and internationally. During development, the School engages employers and faculty in the design, and creates Program Advisory Councils made up of a broad range of industry representatives. Professional Education

courses may be aligned with professional certification and are available as in class, or blended, or online.

Program examples include the Certificate and Advanced Certificate in Dispute Resolution, Certificate in Family Mediation, Certificate in Infant Mental Health, Certificate in Event Planning and Management for Professionals and the Jiangsu Educational Services for International Exchange. A wide variety of individual courses are offered including Math for Admissions Waiver, Academic Bridging – Social Science or Humanities, and Emergency and Disaster Management.

The School actively engages with employers (from industry, government, and non-government sectors) and faculty on an ongoing basis in the design, development, updating, and promotion of programs through Program Advisory Councils.

New opportunities for the School of Continuing Education will be furthered by the opportunity to take certificate and language programs to offshore markets and the ongoing development of pathways to York University degrees. Programs that are introduced focus on the largest skills gaps and market demand.

In 2014-2015 the School's Continuing Professional Education Programs were pursued by 229 students; 250 individual students took individual courses.

In 2015-2016, CPE offered a certificate in Human Resources Management in a full-time and part-time format. Half of the students in the full-time version were international and several continued at York in a subsequent continuing education or professional Masters programs. During this period, 236 students registered in at least one of the publically available continuing professional education courses.

The York University English Language Institute (YUELI) offers English as a Second Language Programs that are pathways to academic degrees. Among these are the YUELI Academic Program, Destination York Program, Pre-Destination York Program, YUBridge Program, Pre-Graduate Preparation Program, Pre-MBA program. There are also Summer and Winter Language Programs. These programs are face to face and the Pre-Destination York program is offered overseas to York University applicants. YUELI works closely with Faculties and academic programs to ensure adequate preparation of applicants for their desired programs. In addition, YUELI offers an IELTS preparation course.

In 2014-2015 1,656 students participated in YUELI programs. In 2015-2016, 1783 students registered in 2,414 courses; many students took multiple courses.

Organized Research Units

The Vice-President Research and Innovation has oversight of York University's Organized Research Units (ORU). Among them, two of these offer courses, the Centre for Refugee Studies and the Institute for Social Research.

Centre for Refugee Studies

The Centre for Refugee Studies (CRS), one of the largest and most active refugee studies centres in the world, is committed to assisting with building and updating the increasing and changing knowledge needs of refugee scholars and practitioners. In 2014-2015 the CRS offered for the 20th

time, the annual *Summer Course on Refugees and Forced Migration*. The Summer Course is designed for academics and field-based practitioners already working on/studying forced migration/refugee issues. Participants typically include government officials, non-government organization personnel, university faculty, and graduate students.

In 2014-2015 the Summer Course had a total of 51 participants: 35 paid participants, 12 graduate students, and 5 graduate interns. Numbers for 2015-2016 were not available when this report was compiled.

Institute for Social Research and Innovation

The Institute for Social Research and Innovation (ISR) has, for fifty years, conducted applied and academic social research. In addition to research, data management and analytics, their statistical consulting service, ISR offers short courses in support of researchers (faculty members, students at the doctoral, masters and undergraduate levels, postdocs and other researchers) undertaking empirical research at York University. Examples of these courses are the following courses: Survey Research, Introduction to Survey Data Analysis, Conducting Focus Groups for Social Research, Interpreting Qualitative Data: An Overview Using Computers in Qualitative Analysis: An NVivo Workshop, Exploratory Factor Analysis. Introduction to SAS for Windows, An Introduction to R, Confirmatory Factor Analysis and Structural Equation Models and Using Statistics Canada Data at York University. Each year approximately 250 individuals register in short courses.

The Senate of York University – Minutes

Meeting: Thursday, May 25, 2017 at 3:00 pm Senate Chamber, N940 Ross, Keele

L. Beagrie (Chair)	M. Jacobs	J. Podur
F. Van Breugel (Vice-Chair)	J. Jeffrey	C. Popovic
M. Armstrong (Secretary)	R. Kenedy	T. Pound-Curtis
C. Altilia	M. Khan	M. Rajabi Paak
T. Amandi	A. Khandwala	A. Rakhra
K. Amoui	D. Khayatt	B. Ryder
P. Avery	A. Kimakova	L. Sanders
A. Avolonto	J. Kirchner	V. Saridakis
S. Barrett	T. Knight	D. Scheffel-Dunand
A. Belcastro	J. Lazenby	A. Schrauwers
M. Biehl	R. Lee	L. Sergio
A. Blake	D. Leyton-Brown	J. Sharma
S. Bohn	B. Lightman	D. Sinclair
S. Brixey	W. Maas	D. Skinner
B. Crow	C. Malankov	A. Solis
A. Davis	L. Martin	L. Sossin
W. Denton	M. McCall	B. Spotton Visano
M. Derayeh	P. McDonald	D. Steinfeld
J. Dowsett	A. Medovarski	N. Sturgeon
C. Ehrlich	J. Mensah	P. Szeptycki
G. Ewen	J. Michaud	H. Tamim
L. Farley	M. Morrow	C. Till
I. Ferrara	A. Mukherjee-Reed	P. Tsisis
A. Glasbeek	P. Nguyen	E. van Rensburg
E. Gutterman	J. O'Hagan	S. Weiss
M. Hadaf	S. Paradis	R. Wellen
D. Hastie	A. Perry	R. Wildes
R. Hornsey	L. Philipps	L. Wright
R. Innacito-Provenzano	B. Pilkington	J. Yeomans
R. Irving	A. Pitt	

1. Chair's Remarks

The Chair of Senate, Professor Lesley Beagrie, commented on the Spring meeting of Senate committee chairs and secretaries, expressed appreciation to members of the Executive Committee for their support and advice on procedural matters, and encouraged Senators to participate in Convocation ceremonies. She welcomed Interim Vice-President Academic and Provost Lisa Philipps to her first meeting in her new role, and greeted interim deans in attendance.

2. Business Arising from the Minutes

There was no business arising from the minutes.

The Senate of York University – Minutes

3. Inquiries and Communications

There were no inquiries and communications.

4. President's Items

York's President, Dr Mamdouh Shoukri, paid tribute to outgoing Deans Brixey, Crow and Sturgeon. He spoke of the opportunities that attend renewal of the University's leadership, the impressive legacy of those who are leaving their positions, and the attributes of those who will succeed them on an interim basis. Taken together, changes in the Ontario postsecondary system landscape also represent a significant moment of transition, and President Shoukri provided updates on the following matters:

- the provincial funding framework outlined in the recent budget and its accent on access and work-integrated learning experiences
- other elements of the budget that address universities, and the welcome news that Queens' Park will match the federal government's Mitacs program
- Strategic Mandate Agreement 2 negotiations, and the University's draft submission (discussed at the April meeting of Senate and based on the Senate-approved *University Academic Plan 2015-2020*)
- the emerging grant funding and tuition fee models
- the thrust of the report prepared by the Advisory Panel on Federal Support for Basic Science "Investing in Canada's Future: Strengthening the Foundations of Canadian Research"

Following up on inquiries at the previous meeting of Senate, Dr Shoukri described steps taken by the University following an incident at York Lanes in March that is now before the courts, the presence of loss prevention staff at some campus vendors along with the protocols that apply to them as well as to the University's own safety and security personnel (which emphasize restraint and respect), and the continuing commitment to prevent discrimination and profiling. He stressed that overcoming racism requires a collaborative, collegial approach. Others spoke of personal experiences of racism, ways to promote inclusion and respect while protecting members of the community from harm, the role of the York University Development Corporation, and security arrangements for the new Quad residence.

With regard to the Strategic Mandate Agreement, it was asked how commitments to social justice and a more diverse complement could be referenced in the text. President Shoukri noted that not all of the planning objectives of the University are needed in a document for which templates provide the framework for submissions.

The President urged Senators to act with civility and collegiality that will foster respect and the free exchange of ideas. Behaviour that leads to silencing is at odds with the University's values and Senate's principles. Others noted that those who take a critical stance must be at liberty to share their views openly and without fear.

The Senate of York University – Minutes

The President's monthly Kudos report was included in the agenda package.

Committee Reports

5. Executive Committee

a. Information Items

The Executive Committee reminded Senators that the June meeting of Senate would be held earlier than usual, on June 15, and provided additional information about the following:

- guidance to Senators on procedural matters associated with hortative motions of the kind dealt with at the meeting and "points of order" recorded at the April 27 meeting
- the results of annual surveys of Senators and Senate committee members

6. Academic Standards, Curriculum and Pedagogy

a. Information Items

ASCP advised that it approved minor modifications originating with two Faculties as follows:

Glendon

- changes to the requirements for the Certificate in Spanish-English Translation
- changes to the requirements for the BA program in Political Science

Graduate Studies

- changes to the requirements for the MA and PhD programs in History

7. Awards

Senators joined the Chair of the Awards Committee in saluting the 2017 recipients of prestigious awards for faculty members:

- University Professor: Professor Dawn Bazely, Department of Biology, Faculty of Science
- Distinguished Research Professors: Jonathan Edmondson, Department of History and Program in Classical Studies, Faculty of Liberal Arts and Professional Studies, and Joel Katz, Department of Psychology, Faculty of Health

The Senate of York University – Minutes

8. Academic Policy, Planning and Research

a. Markham Centre Campus Planning

Documentation in the form of a report from the Interim Provost was *noted*. Attention focused on the following issues during discussion

- the apparent emphasis on job-centred curriculum and the diminished role of (for example) the Humanities (about which it was said that a working group is looking at prospects and the Humanities surface in other conversations, and that there be courses on the campus that are not linked to a particular major, minor or certificate)
- students should be able to fulfill requirements on the campus, but will also have access to courses on the other campuses.
- governance is of great interest and importance to the community, and an options paper will be issued early on to stimulate discussion; feedback will be important and welcome, including possibilities for participation over distance
- YUL and Librarians / Archivists will have a role on the site along with a Learning / Research Commons.

b. Other Information Items

APPRC transmitted a substantial report entitled “Perspectives on Planning in 2017: Report on Discussions with the Deans, Principal and University Librarian.” Time did not permit discussion of the document. The Committee also conveyed the annual reports of three sub-committees supported by the Office of the Vice-President Research and Innovation that report to Senate via the Committee (Animal Care Sub-Committee, Biosafety Committee, and Human Participants Review Committee).

9. Other Business for Which Due Notice Has Been Given

It was moved and seconded “**that Senate expresses disappointment that the York University Advisory Committee on Responsible Investment (YUACRI) has been suspended.**” Senators took note of a rationale in support of the motion and a background document on YUACRI provided by the Executive Committee.

It was moved, seconded and *carried by the necessary 2/3 majority* “**that the meeting be extended by fifteen minutes.**”

After clarification of the mover’s intention, it was moved, seconded and *carried* “**that non-Senator members of YUACRI in attendance be permitted to address Senate.**” The Chair asked that those wishing to speak to the motion identify themselves in order to develop a speakers’ list at the outset of debate.

The Senate of York University – Minutes

Discussion was wide-ranging, with those speaking in favour of the motion maintaining that suspension of YUACRI effectively blocked an avenue for representing important perspectives on matters that were properly before the Committee and of great interest to the community. This curtailed a process that had been transparent and democratic throughout, with an evidence-based approach. Some recalled past efforts to develop a collegial consensus around other timely and consequential issues, and argued that fruitful outcomes would not have been possible without a vehicle for expressing and assessing points of view. Events leading up to suspension were in dispute, and it was not self-evident that the departure of individuals from the final meeting and resignations thereafter negated actions taken by others. Some stated that no member was in a conflict of interest, and all were capable of exercising independent judgment. It was argued that it should be possible for Senate to express disappointment without in any way assigning blame. Passage of the motion would signal that Senators recognize the importance of the issues and hope that discussion will be reanimated.

An opposing point of view held that YUACRI's deliberations, documented in its minutes, were plagued by irregularities and a lack of collegiality. Some members appeared to have been dismissive of contrary opinions as they advocated for personal positions at the expense of facts and the University's interests. It was inappropriate for YUFA to have taken sides on unresolved matters. A statement on the YUACRI Website posted by the Vice-President Finance and Administration of the day indicated that he would receive reports directly, but none had been forthcoming.

On a vote, the motion *carried*.

10. Other Business / Adjournment

There being no further business it was moved, seconded and *carried* “**that Senate adjourn.**”

Consent Agenda Items

11. Minutes of the Meeting of March April 27, 2017

The minutes of the meeting of April 27, 2017 were *approved by consent*.

12. Changes to the Certificates of Proficiency in Italian Language Department of Languages, Literatures & Linguistics, Faculty of Liberal Arts & Professional Studies (ASPC Report)

Senate *approved by consent* a series of changes recommended by ASPC related to the Certificates of Proficiency in Italian offered by the Department of Languages, Literatures & Linguistics, Faculty of Liberal Arts & Professional Studies involving:

The Senate of York University – Minutes

- closure of the Certificate of Proficiency in Italian Language Level One (Beginner Range)
- closure of the Certificate of Proficiency in Italian Language Level Two (Intermediate Range)
- change in name of the Certificate of Italian Language Proficiency, Level Three (Advanced Range) to the Certificate of Italian Language Proficiency
- changes to the requirements for the re-named Certificate of Italian Language Proficiency, including: a minimum grade of B+ in the last upper level course taken for the Certificate; an increase in the number of credits from 12 to 18; and omitting the requirement of a separate written / oral examination.

L. Beagrie, Chair _____

M. Armstrong, Secretary _____