AGENDA

1) Call to order and acceptance of the Agenda

2) Reading of acknowledgement of traditional land statement

3) Approval of the Minutes of October 4, 2018 (attached)

4) Business arising from the Minutes

5) Communications Received

6) Reports from Council Committees
   a) Executive Committee (attached)
   b) Standing Committees
      • Awards Committee (attached)
      • Committee on Standing (attached)
      • Programs Committee (attached)
         • Major Modification: new MI Concentration in Human-Centred Data Science (attached)
         • Major Modification: new PhD concentration in Media, Technology and Culture (attached)
   • Recruitment and Admissions
      • Master’s Recruitment and Admissions (M-RAC) (attached)
      • Doctoral Recruitment and Admissions (P-RAC)

7) Reports from Institutes (none received)
   a) McLuhan Centre for Culture and Technology
   b) Digital Curation Institute
   c) Identity, Privacy and Security Institute
   d) Knowledge Media Design Institute
   e) Technoscience Research Unit

8) Other reports
   a) Alumni Relations
   b) Careers Officer’s Report (attached)
   c) Communications Officer's Report
   d) Development and Advancement Initiatives
e) Inforum
9) Student Reports (none received)
   a.) MISC
   b.) MUSSA
   c.) DSA

10) FIAA Report (none received)

11) Dean’s report

12) Other Business

13) Question period

14) Announcements

15) Adjournment
COUNCIL

2018-2019 Session - 1st Regular Meeting

Thursday October 4, 2018  |  4:00pm-6:00pm  |  Room 728, Claude Bissell Building

MINUTES

PRESENT:
Ex-officio Members: Prof. Wendy Duff (Dean)

Teaching Staff: Prof. Periklis Andritsos, Prof. Christoph Becker, Prof. Matt Brower, Prof. Nadia Caidi, Prof. Colin Furness, Prof. Lynne Howarth, Prof. Kelly Lyons, Prof. Irina Mihalache, Prof. Seamus Ross, Prof. Dan Ryan, Prof. Leslie Shade, Prof. Olivier St-Cyr.

Professional Librarians: Elisa Sze

Directors (affiliated units): Lari Langford (Inforum)

Senior Administrative Officers: Colin Anderson (Chair of Council), Ann Brocklehurst, Glenn Cumming, Stephanie Rose, Anna Pralat

Associated instructor / sessional lecturer:

Administrative Staff: Christine Chan

Doctoral Students: Paula Sanchez-Nuñez de Villavicencio

MIS Students: Emma Findlay-White, Hugh Samson, Bronwyn Nisbet-Gray; Erin White

MMSt Studnets: Erica Chi, Laetitia Dandavino-Tardif, Natalie Heaton

Alumni: Heather McTavish

External Members:

Non-Voting Members:

Observers:

Recorder: Carol Lee

REGRETS: The President of the University of Toronto, Vice-President and Provost, Chief Librarian of the University, Dean of the School of Graduate Studies, Prof. Nicole Cohen, Prof. Alan Galey, Prof. Sara Grimes, Prof. Cara Krmpotich, Prof. Mary Luka, Prof. Eric Yu, Prof. Sherry Yu, Vicki Whitmell, Madison Trusolino, Jamie Duncan

ON LEAVE: Prof. Costis Dallas, Prof. Fiorella Foscarini, Prof. Heather MacNeil, Prof. Rhonda McEwen,

ABSENCES: Prof. Jeff Boase, Prof. William Bowen, Prof. Kenzie Burchell, Prof. Brett Caraway, Prof. Chun Wei Choo, Prof. T. L. Cowan, Prof. Alessandro Delfanti, Prof. Juris Dilevko, Prof. Jenna Hartel, Prof.
1) Call to order and acceptance of the Agenda, 4:12 pm
Council did not have enough voting members to constitute quorum. Prof. Lynne Howarth moved to continue as an unofficial meeting. Motion carried by consent.

2) Reading of acknowledgement of traditional land statement by Emma Findlay-White

3) Introductions of attendees

4) Approval of the Minutes of March 22, 2018 (attached)
MOTION: Prof. Shade moved to approve the minutes. Prof. Howarth seconded. All were in favour. The motion CARRIED.

5) Business arising from the Minutes
No business arising.

6) Communications Received
No communications received.

7) Reports from Council Committees
C. Anderson indicated that motions can be presented but a vote cannot take place without quorum. Prof. Matt Brower arrived and quorum was reached.

   a) Executive Committee (attached)
      i) Members of Council Committees
         MOTION to approve Committee Chairs and Non-Student Members of Council Committees moved by C. Anderson. All were in favour. The motion CARRIED.

      ii) Presentation of Standing Committee Student Members
          Doctoral Students Association (DSA): Paula Sanchez-Nunez de Villavicencio, Madison Trusolino
          Master of Information Student Council (MISC): Emma Findlay-White reported that elections will take place the following week.
          Museum Studies Students Association: Laetitia Dandavino-Tardif, Erica Chi

      iii) Election of Executive Committee Members
          Nominations:
          Prof. Dan Ryan, Prof. Lynne Howarth, Prof. Christoph Becker (nominated by Prof. Lyons)
          Prof. Matt Brower (nominated by C. Anderson)
          Emma Findlay-White (self-nominated)
          Laetitia Dandavino-Tardif (self-nominated)
          Madison Trusolino (self-nominated)
          MOTION to approve Executive Committee members moved by Stephanie Rose and seconded by Prof. Lyons. All were in favour. The motion CARRIED.

   iv) Upcoming Revisions to Council Constitution and Bylaws
       C. Anderson presented overview of proposed changes to Faculty of Information Council Constitution and Bylaws. Final version will be presented to Council on November 22, 2018 and brought to a vote on January 31, 2019. Discussion and questions followed: changes will reflect
new BI programs, language in bylaws will match constitution, other consultations in progress, change to student members of Council to ensure reaching quorum is not a problem.  
ACTION: Prof. Lyons will bring proposed changes to Programs Committee for review

b) Standing Committees
i) Awards Committee (attached)
C. Anderson reported that an earlier call for Vanier award applications will allow time for the Awards Committee to ensure students' applications are as competitive as possible

ii) Committee on Standing (attached)
Prof. Lyons provided overview of the report. No questions or discussion followed.

iii) Programs Committee (attached)
Prof. Lyons introduced main issues handled by this committee and overview of what constitutes minor/major modifications and approval process. Council can anticipate 2 major modifications to be voted on at the Nov. 22 meeting of Faculty Council. No questions or discussion followed.

iv) Master's Recruitment and Admissions (M-RAC) (attached)
Prof. Caidi reported a successful orientation program with an increase from 2 to 4 Boot camp sessions. No questions or discussion followed.

v) Doctoral Recruitment and Admissions (P-RAC)
Prof. Ross reported that students who apply by December would be eligible for Connaught and Trillium scholarships; the Committee can work with the candidate to prep the application package for the Jan 15 deadline. Discussion followed regarding lack of funding for international students for the coming year.

8) Dean’s report
Prof. Wendy Duff welcomed new teaching and administrative staff members. Prof. Duff reported the following: two CLTA faculty searches are underway; BI program requires approval from the Province to fund it, activities such as Walk with the Dean and Knitting with the Dean will be planned for the fall and winter. Discussion followed regarding: the feasibility study, timeline for building renovations, next steps to get sign-off from the statutory committees; plan to raise money; stakeholder relations; interdivisional teaching, UoT Coursera MOOC in Python suggested to engage incoming students, making museum studies more visible.
Prof. Lyons reported the Provost has struck a committee to search for the next dean and everyone is encouraged to participate in a survey by Oct. 8, 2018.

ACTION: Colin Anderson and Anna Pralat will send a reminder to Faculty listservs to participate in the Provost's survey regarding the search for the new dean.

9) Reports from Institutes
a) McLuhan Centre for Culture and Technology – no report received
b) Digital Curation Institute - Prof. Becker reported that a post-doctoral fellowship is accepting applications and reminds everyone to attend upcoming speaker event on October 15.
c) Identity, Privacy and Security Institute – no report received
d) Knowledge Media Design Institute – report received and appended to meeting package
e) Technoscience Research Unit – no report received

10) Other reports
a) Alumni Relations – no report received
b) Careers Officer’s Report
Stephanie Rose reported that recent iSkills sessions have been well-attended; installation of new software to manage student contact, careers and advising, will be launched later this year.
c) Communications Officer's Report
Ann Brocklehurst reported much interest in the Reid Hoffman Chair; announcement regarding BUL Chair is coming; Informed newsletter receiving good feedback and ideas for stories to be featured; communications committee needs a faculty member and additional student members.

d) Development and Advancement Initiatives
Prof. Duff reported that the Reid Hoffman Chair is the largest donation ever received by the Faculty; discussion and planning underway for an undergraduate scholarship fund.

e) Inforum
Lari Langford announced Daisy Dowdall is the new part-time librarian and reported on the Inforum newsletter, personal librarian program, forming of an advisory committee on services and programming, availability of the Inforum events calendar online. Prof. Howarth expressed appreciation for Anna Oh for going above and beyond to assist faculty members with transition to Quercus.

11) Student Reports
a) MISC
Emma Findlay-White provided event updates and upcoming special projects: orientation, Halloween trick or treat with students, standing committee to amend bylaws, clubs days, professional development videos; proposal to survey infrastructure in the building to increase engagement; reinstatement of class rep program.

b) MUSSA
Laetitia Dandavino-Tardif reported on past events and upcoming activities: summer social with MISC, orientation, development of bootcamp for incoming students 2019; council and constitution updates; Montreal field trip, MMSt 50 conference.

c) DSA (report received and appended to meeting package)
Paula Sanchez-Nuñez de Villavicencio provided overview of report submitted
ACTION: Prof. Ross will respond to DSA regarding the future of PhD Research Days.

12) FIAA Report
Heather McTavish announced upcoming Halloween iTea and Alumni Stars event October 31 and OLA alumni conference reception January 31, 2019.

13) Other Business
Prof. Furness raised the possibility of business cards for students participating in work-integrated learning.
ACTION: Comments can be sent to Prof. Furness who will discuss with the Dean.

14) Question period
No questions raised.

15) Announcements
Prof. Mihalache reported the Museum Studies 50th (MMSt 50) anniversary planning is underway; risk-taking will be the theme of the anniversary programming.
Prof. St-Cyr announced October 18 is the grand opening of UX studio, then every Thursday afternoon an open house hosted by UX club. The UX studio, BL 116, is bookable space. Prof. Ryan complimented how well-conceived the room is. Prof. St-Cyr credited Glen Menzies with and Glenn Cumming for excellent implementation and execution of the design plans.

16) Adjournment, 5:48 pm.
Executive Committee

1. Notice of Motion – Proposed Amendments to the Faculty of Information Constitution

The Faculty of Information Constitution and Bylaws must undergo revision in order to accommodate the new Bachelor of Information program, which is expected to welcome its first class in September 2019.

In preparation for this, the Executive Committee has consulted with stakeholders from across the University and Faculty of Information students, faculty members, and staff.

The Office of the Vice-Provost, Academic Programs has provided extensive feedback on our Constitution and Bylaws, and has also advised that the University of Toronto has adopted a new standard template model for Faculty Constitutions and Bylaws.

While we believe that this new template includes much of the same content as our current Constitution and Bylaws, there are significant changes to the format of the contents.

As a result, Executive Committee will be undertaking a lengthened review and consultation process to ensure that this move to the new template model and the addition of our undergraduate framework is completed in a highly transparent fashion.

A working draft of the Faculty Constitution and Bylaws under the new template will be made available to the Faculty community at the November 2018 Faculty Council meeting. Executive Committee invites feedback from all interested parties, and will be consulting broadly over the coming weeks.

The final draft will be presented to Faculty Council at the January 2019 meeting, with a vote at the March 2019 meeting.
Faculty of Information
Awards Committee
Report to Faculty Council
November 2018

Committee Membership

Voting Membership:

1. Dean of the Faculty of Information – Prof. Kelly Lyons (acting)
2. Full-time regular member of Teaching staff (prof rank) #1 – Prof. Eric Yu (Chair)
3. Full-time regular member of Teaching staff (prof rank) #2 – Prof. Seamus Ross
4. Full-time regular member of Teaching staff (any rank) – Prof. Sara Grimes
5. Assistant Dean, Registrarial & Student Services – Stephanie Rose
6. Member-at-large – Prof. Leslie Shade (Sep-Dec), Prof. Heather MacNeil (Jan-August)

Non-voting Membership:

1. Chair of Council – Colin Anderson

Quorum: Three members.

Committee Activity

The Awards Committee has met three times in person and has conducted other business by email since the last Faculty Council. The committee has discussed the following awards:

<table>
<thead>
<tr>
<th>Date</th>
<th>Awards Discussed</th>
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</table>
| Thurs Oct 11, 2018, 12:00PM | NSERC PGS/CGS Doctoral Ranking
iConference Best Dissertation Award
Ethel W. Auster Scholarship for Doctoral Research
Doctoral Completion Award – 2018-2019 Allocation
Faculty of Information PhD Enhancement Award |
| Thurs Oct 25, 2018, 1:00PM | SSHRC Doctoral Ranking
Trudeau Foundation Doctoral Scholarship Ranking |
| Thurs Nov 15, 2018, 1:00PM | Vector Scholarships in Artificial Intelligence
Fellowship in Public Librarianship
George H. Locke Memorial Fellowship
Grace Buller Aboriginal Student Scholarship
Professor Laurent G. Denis Memorial Fellowship
Ruth Corner Public Librarian Fellowship |

The Committee has also undertaken the following:

1. The Committee has received nominations for the 2019 Gordon Cressy Student Leadership Award
2. The Committee would like to especially thank Prof. Nicole Cohen, who agreed to help adjudicate the SSHRC Doctoral Awards applications, which are now in the University-wide round of competition.

Respectfully Submitted by Eric Yu, Chair, Awards Committee
Faculty of Information Committee on Standing Report – November 22, 2018

Report provided by Associate Dean Academic Prof. Kelly Lyons, Chair of Committee on Standing

This report includes all items brought before the sub-Committee on Doctoral Matters and the Committee on Standing since the last meeting of Faculty Council on October 4, 2018.

We did not have a Committee on Standing meeting since the last Council meeting so the only items to report on relate to the work of the SubCommittee on Doctoral Matters.

The Doctoral subcommittee approved two (first) extensions to completion.

We also dealt with additional issues that we cannot report on due to confidentiality concerns. As it states in our bylaws, one of the Committee’s responsibilities is: “To report to Council on its deliberations, recommendations, and decisions.” However, just as we may close meetings to student members¹ when discussing confidential matters concerning identifiable individuals, we are not able to report on all matters related to doctoral students given the size of the cohorts due to concerns of confidentiality.

¹ From the bylaws, “Meetings of the Committee are closed to Student members, at the discretion of the Chair or Vice-Chair, when confidential matters concerning identifiable individuals are discussed.”
Faculty of Information Programs Committee Report – Nov 22, 2018

Report provided by Associate Dean Academic Prof. Kelly Lyons, Chair of Programs Committee.
Since the last Faculty Council Meeting on October 4, 2018, the Programs Committee has completed the following:

The Programs Committee approved the following and brings them to Faculty Council for approval:

1. Major Modification: new MI Concentration in Human-Centred Data Science
2. Major Modification: new PhD concentration in Media, Technology and Culture

The Programs Committee approved the following and brings them to Faculty Council for information:

1. Minor Modification proposal – BI program: English requirements and academic references
2. Minor Modification proposal - INF3901Y, INF3902H, INF3903H: length of co-operative education placements
3. Minor Modification New Special Topics Course proposal – Global Histories of Disputed Archives & the Safeguarding of Cultural Heritage
4. Minor Modification New Special Topics Course proposal - Ethics, Vulnerable Population and information
5. Minor Modification New Special Topics Course proposal – Power, Media and Technology

The Programs committee anticipates approving the following by December 6 and will bring it to the Faculty Council for information or approval (as required) at the next Council Meeting:

1. Minor modification new course proposal: UXD for GLAM

Also attached is the current draft of the 2018-2019 Programs Committee Plan for information of Faculty Council.
# 2018/2019 Programs Committee Plan

The following table highlights the planned tasks and expected timing for each; it is not meant as an exhaustive list of agenda items for each meeting of the Programs Committee. It is expected that additional tasks will be brought forward throughout the year and added to the agendas for each meeting.

**Last Updated:**

- November 9 – add placeholders for BI courses review and approval
- November 8 – tasks moved from Oct 18 to Nov 15 meeting
- October 11 – new Nov 15 meeting date; updated completed and upcoming tasks
- October 2 – added planned tasks to May meeting
- September 24 – added tasks for data science major modification
- September 20, 2019 – added tasks discussed at Sept 13 meeting

<table>
<thead>
<tr>
<th>Meeting Date</th>
<th>Faculty Council</th>
<th>Planned Tasks</th>
<th>Notes</th>
</tr>
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</table>
| Sept 13      |                 | 1. Review committee operations guide  
2. Review programs committee plan 2018-2019  
3. Review of minor mod for new special topics course Disputed Archives  
4. Minor Mod for BI program: English requirements and academic refs |               |
| Oct 4        |                 | 1. Minor mod for co-op courses INF3901Y, INF3902H, INF3903H (length of placement)  
2. Minor mod for co-op option for ML length of placement  
3. Possible review of minor mod for new course: Power, Media and Technology (Nicole Cohen)  
4. For approval: Minor Mod for new special topics course Disputed Archives |               |
| Oct 18       |                 | 1. Possible review of major mod: new PhD concentration - Media, Technology and Culture  
2. Review major mod: new concentration in Human Centred Data Science  
3. Possible review of minor mod for new course: Vulnerable Populations and Social Ethics (Jia Xue) |               |
<table>
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<tr>
<th>Date</th>
<th>Agenda Items</th>
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| Nov 15 | 1. For approval: major mod – new PhD concentration in Media, Technology and Culture  
   2. For approval: major mod new concentration in Human Centred Data Science  
   3. Review timeline for new course approvals for BI  
   4. Review Guidelines & Procedures for the Student Evaluation of Teaching in Courses |
| Nov 22 | 1. Major mod: new PhD concentration in Media, Technology and Culture  
   2. Major mod: New MI Concentration in Human-Centred Data Science |
| Dec 6  | 1. Minor modification new course proposal: UXD for GLAM (Olivier St-Cyr)  
   2. Review of template for BI minor modification course proposals |
| Jan 10 | 1. Review guidance document for PhD level work for master’s course  
   2. Minor modifications for BI courses  
   -remind faculty minor mods for new courses 2019-2020 should be submitted by Feb 28/Mar 14 |
| Jan 24 | 1. Review of MMSt course level learning outcomes  
   2. Minor modifications for BI courses |
| Jan 31 |                                                                 |
| Feb 14 | 1. Minor modifications for BI courses |
| Feb 28 | 1. Minor modifications for BI courses |
| Mar 14 |                                                                 |
| Mar 21 |                                                                 |
| May 16 | 1. Strike a subcommittee to review MI Degree Learning Outcomes for 2019-2020  
   2. For discussion: future BI-MI combined program |
University of Toronto

Major Modification Proposal:

New Field or Concentration Within an Existing Graduate Program

This template should be used to bring forward all proposals for new fields or concentrations in existing graduate programs for governance approval under the University of Toronto’s Quality Assurance Process.

A field or concentration within a graduate program refers to an area of specialization or focus that is related to the demonstrable and collective strengths of the program’s Faculty. Graduate programs are not required to have fields or concentrations in order to highlight an area of strength within a program.

The two terms are used interchangeably but one should be used consistently in the context of a specific program. In establishing fields or concentrations, select whichever term resonates most in your context.

<table>
<thead>
<tr>
<th>Program: e.g., Child Study and Education, Linguistics</th>
<th>Master of Information (MI)</th>
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<tbody>
<tr>
<td>Existing fields or concentrations: ARM: Archives &amp; Records Management</td>
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<tr>
<td>CIPS: Critical Information Policy Studies</td>
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<tr>
<td>C&amp;T: Culture &amp; Technology</td>
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<td>ISD: Information Systems &amp; Design</td>
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<tr>
<td>KMIM: Knowledge Management &amp; Information Management</td>
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<tr>
<td>LIS: Library &amp; Information Science</td>
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<tr>
<td>UXD: User Experience Design</td>
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<tr>
<td>Proposed new field or concentration: HCDS: Human Centred Data Science</td>
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<tr>
<td>specify what level program this will apply to; i.e., master’s, doctoral or both.</td>
<td>in the MI Program</td>
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<tr>
<td>Unit (if applicable): Faculty of Information</td>
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<tr>
<td>Dean’s office contact: Anna Pralat</td>
<td></td>
</tr>
<tr>
<td>Graduate unit contact: Kelly Lyons</td>
<td></td>
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<tr>
<td>Version date: October 26, 2018</td>
<td></td>
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</tbody>
</table>

1 Summary

- Please provide a brief summary or overview of how the proposed field or concentration relates to existing fields or concentrations in the program summarizing
many of the key points found in more detail elsewhere in the proposal. Please include:

- A clear statement of purpose
- Identification of existing fields or concentrations
- A description of the proposed field or concentration
- Rationale for its inclusion in the program
- The impetus for its development (including student demand) and how it fits with existing fields or concentrations
- Faculty and programmatic strength in the proposed area

This is a proposal to create a new (8th) concentration within the Master of Information (MI) program. The Human Centred Data Science (HCDS) concentration will educate students to deliver data-driven technical solutions while, at the same time, facilitating ethical and responsible management of data. The concentration will be built around the following themes.

Currently, prospective Master of Information students can choose to enroll in a general program pathway or in a concentration pathway. The concentration pathway allows students to pursue a specialization in a pre-defined area of study. There are currently 7 pre-defined concentrations: Archives & Records Management; Critical Information Policy Studies; Culture & Technology; Information Systems & Design; Knowledge Management & Information Management; Library and Information Science and User Experience Design. Within the concentration pathway, students can also choose to take the thesis option, the co op option, or all coursework. Students in the Human Centred Data Science concentration will be able to take the thesis option, or the co op option.

A new concentration in Human Centered Data Science is closely linked to our current Information Systems and Design and User Experience Design concentrations but it also builds on the Faculty’s expertise in people, information, and technology represented in all of our concentrations. Due to availability of jobs, students have been crafting a data science experience in the current Information Systems and Design (ISD) concentration by augmenting the ISD required courses with an elective (INF2190 Data Analytics: Introduction, Methods and
Practical Approaches) plus courses outside the Faculty in Statistics and Machine Learning in Computer Science. This new concentration in Human Centred Data Science will provide students with an opportunity to achieve a focus in data science in a structured way within the Faculty of Information.

This new concentration fits with the overall mission of the Faculty to support the humane, progressive stewardship of society’s knowledge and information fabric (https://ischool.utoronto.ca/about-us/mission-vision-goals/). The Faculty provides an interdisciplinary bridge that builds on technical expertise in engineering and computer science; long-standing strengths in libraries, archives and museums; and social, political, and cultural perspectives in the arts, humanities, and social sciences. Our faculty members and students are committed to looking beyond technology and algorithms to consider the social context in which they will operate. We strive to craft practices, policies, organizations and systems that can and will be held accountable in a world becoming ever more dependent on algorithms and automation. The new concentration in human centered data science fits within our overall mission and will provide students with the expertise to work as data scientists as well as data analysts, data managers etc.

As described in section 10, we currently have faculty with expertise in this area and we plan to have a joint hire with the Department of Statistics this year. Moreover, we have permission to hire a faculty member with expertise in artificial intelligence next year. The Faculty currently have teaching staff to teach the new courses but we will need new positions in this area as the number of students who opt for this concentration grows.

2 Effective Date

Anticipated start date of the field or concentration.

September 2019

3 Academic Rationale

- Identification of existing fields or concentrations.
- Description of the field or concentration (its intellectual focus, etc.) and its relationship to existing fields or concentrations.
- Address how the proposed field or concentration relates to the current state of the discipline or area of study. Identify pedagogical and other issues giving rise to the creation of this program. Where appropriate, speak to changes in the area of study or student needs that may have given rise to this development.
- Appropriateness and consistency of the field or concentration name.
- Distinctiveness.
  - Identify any distinctive or innovative aspects of the proposed field or concentration.
To what extent is what is being proposed “the norm”? As appropriate, speak to similar offerings elsewhere at the University of Toronto or at other universities.

Organizations are increasingly able to collect vast amounts of data and have access to powerful analysis tools and artificial intelligence solutions. There is a need for people who can understand business goals in order to design solutions that collect the right data, analyze it effectively, and use artificial intelligence systems to drive decisions that satisfy business needs while considering the ethics of the underlying algorithms and the social and cultural impacts of the resulting solutions. As noted in Section 4 Need and Demand, Canada’s Big Data Consortium (2015) has estimated the gap for professionals with solid data and analytical literacy as significant. Our current students have also requested we develop more courses in the area of data science. We offered four of the five required courses for this proposed concentration this year (2018/2019). Enrolment in these classes is as follows:

- INF1340: Programming for Information Systems (we plan to rename this course Programming for Data Science) has current enrolment of 95 students.
- INF2190H: Data Analytics: Introduction, Methods and Practical Approaches has current enrolment of 74 students.
- INF1344: Introduction to Statistics for Data Science with an enrolment of 70 students.
- INF2178H: Experimental Design for Data Science, with a current enrolment at 44 students.

While the Faculty of Arts and Science offers a data science specialization within the existing Arts and Science Degree and the Department of Computer Science in conjunction with the Department of Statistics offers a Data Science concentration within their Master of Science of Applied Computing, and Rotman offers a Master of Management Analytics, these programs educate students to combine their expertise in computer, management analytics and statistical science to produce and communicate analyses of complex, large-scale data sets. As noted in Section one of this proposal, our concentration will build on our faculty strengths in human centered design (UXD concentration), information ethics and policy (CIPS concentration) as well as Information systems and design (ISD concentration). The graduates of the HCDS concentration in the MI will have the skills and knowledge to deal with complex, large-scale data sets and information systems but they will also gain expertise in user centred visualization, ethics and policy. Graduate students of the new concentration will be able to differentiate themselves from others in comparative programs since in all contents of the new concentration, from the design to the implementation of their solutions, they will be able to assess the social implications of any solution.

While most data science programs that are being developed focus more on providing computational and statistical education, this concentration will integrate a human centered and societal focus throughout. All listed courses above present the foundational components of data science education with their contents including real-life case studies. In Section six, we also give evidence from the course contents as well as example elective courses as to how the concentration will address the connection between the technical and societal issues.

One of the key features of the HCDS concentration is the fulfilment of the Faculty’s Program Learning Outcomes (https://ischool.utoronto.ca/areas-of-study/master-of-information/).
More precisely, students will understand the fundamental concepts, theories, practices and different horizons in which data is retrieved and manipulated (SLO1) while they will apply new technological developments and realize the impact such developments may have on society (SLO5).

4 Need and Demand

- Provide a brief description of the need and demand for the proposed field or concentration focusing, as appropriate, on student interest, societal need, employment opportunities for prospective graduates, accreditation requirements, etc.

As the world enters a new era of data-driven technologies, including artificial intelligence and machine learning, information professionals will play an ever more important role across almost all sectors of society, including many not traditionally associated with information technology. While the dramatic technological changes of the past few decades have provided a taste of what the future holds, the expert consensus is that the most radical consequences remain ahead of us. The combination of unprecedented computational power and vast data repositories will produce far deeper and more disruptive social, political, economic and personal change than we have seen so far. The need for professionals in the area is significant as noted in recent reports. For example,

Canada’s Big Data Consortium (2015) has estimated between 10,500 and 19,000 professionals with deep data and analytical skills, such as those required for roles like Chief Data Officer, Data Scientist, and Data Solutions Architect. The gap for professionals with solid data and analytical literacy to make better decisions is estimated at a further 150,000, such as those required for roles like Business Manager and Business Analyst. Our concentration will go beyond such titles by giving our graduates the knowledge of possible bias and any ethical aspects when applying their data-oriented solutions.

Furthermore, they found that “Canadian employers across all regions, sectors, and industries are finding it increasingly difficult to recruit, retain, and train Big Data and Analytics professionals. We discovered that Ontario, particularly the Greater Toronto Area, is currently the demand epicentre for Big Data and Analytics talent. And we learned that the industries feeling the most pressure for talent include Finance and Insurance, and Professional, Scientific and Technical Services.” (page 3)


In 2016 the Canadian Start Up News also noted that, “40 percent of IT leaders had trouble recruiting IT professionals with the right skills and 46 per cent had difficulty filling a position in
the last 12 months.” [https://betakit.com/report-49-percent-of-it-firms-feel-canadian-tech-companies-arent-equipped-to-compete-globally/]

Finally, Canada’s Department of Innovation, Science and Economic Development identified six actions needed to mobilize Canada to build an inclusive Innovation agenda including “Harness the digital economy across sectors – infrastructure, broadband, ICTs, big and open data – to encourage digital adoption and strengthen competitiveness” [https://www.ic.gc.ca/eic/site/062.nsf/vwapj/Inclusive_Innovation_Agenda-eng.pdf/$file/Inclusive_Innovation_Agenda-eng.pdf]

The need for information professionals with expertise in programming, data science, experimental methods, statistical knowledge, data analysis and the ethics and values of data science is significant and growing. Our graduates will be able to cover the knowledge gaps both in the technical side of things by designing and implementing solutions as well as the impact these solutions may have in society. For instance, by understanding how algorithms are trained they will have the skills to identify whether the data used represents well the problem to be solved and whether the results will contain biases and adhere to social justice principles.

Table 1: Graduate Enrolment Projections*

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MI Year 1</td>
<td>0 of 240.7</td>
<td>34.3 of 285.0</td>
<td>44.3 of 285.0</td>
<td>54.3 of 285.0</td>
<td>64.3 of 285.0</td>
</tr>
<tr>
<td>MI Year 2+</td>
<td>0 of 210.7</td>
<td>30 of 247.9</td>
<td>34.3 of 297.0</td>
<td>44.3 of 305.6</td>
<td>54.3 of 307</td>
</tr>
<tr>
<td>Total</td>
<td>0 of 451.4</td>
<td>64.3 of 532.9</td>
<td>78.6 of 582.0</td>
<td>88.6 of 590.6</td>
<td>118.6 of 592</td>
</tr>
</tbody>
</table>

*Steady state projected in 2022-2023.

Notes:

We expect the HCDS concentration to drive much of the growth in the MI program in the coming years, while also attracting interest from students who may now be enrolling in ISD or UXD concentration areas.
Please adjust the table as necessary. Please show total registration in the program and indicate whether the addition of the new field or concentration will result in an overall increase in the total number of students or will be accommodated within the existing number of spaces. In either instance, please show the relative proportion of spaces in the proposed field or concentration.

Below please provide any relevant information or comments on the enrolment projections above (e.g., relationship of field or concentration to existing field or concentration, etc.)

5 Admission Requirements

Comment on the relationship of the admission requirements for the field or concentration to those of the parent program.

- If the same, describe the program admission requirements.
- If different, describe the field or concentration admission requirements; indicate how they are different from those of the parent program, and provide a rationale for the difference in relation to the focus and learning outcomes of the field or concentration; i.e., how are these admissions requirements suitable to help support the success of students.

How will these be administered?

The Admissions requirements will be the same as the requirement for the MI.

Minimum Admission Requirements

Applicants are admitted under the General Regulations of the School of Graduate Studies. Application deadlines are available on the Faculty of Information website. Applicants must also satisfy the Faculty's additional admission requirements stated below.

An appropriate bachelor’s degree with at least a B average (3.0 GPA) from a university recognized by the University of Toronto. Generally, successful applicants hold an academic level of B+ (3.3 GPA) or higher in the final year.

The bachelor's degree must normally contain at least 75% academic credits—that is, courses that are not professional, practical, technical, or vocational. Courses such as studio art, drama or music performance, theology, education, or undergraduate courses in library science are not normally considered to be sufficiently academic in content for admission purposes.

Applicants who meet current admission requirements and who hold a BLS degree from the University of Toronto, or its equivalent from an approved university, may be admitted to the MI program with advanced standing. Such students may be required to take additional courses if certain requisite instruction is lacking.
Applicants who have satisfactory standing in an undergraduate program and who have successfully completed information studies graduate courses in programs equivalent to the University of Toronto MI program may also apply for admission with advanced standing. Each application will be evaluated individually. At least 4.0 full-course equivalents (FCEs) towards the MI degree must be taken at the University of Toronto.

All incoming graduate students must have a good command of English. All applicants educated outside Canada whose primary language is not English must demonstrate proficiency in the English language. This requirement is a condition of admission and must be met before an offer of admission is made. The English language requirement may be satisfied using one of the following tests:

Test of English as a Foreign Language (TOEFL) with the following minimum scores:
- paper-based TOEFL exam: 600 with 5.5 on the Test of Written English (TWE)
- Internet-based TOEFL exam: 107/120 with 24/30 on the speaking section and 27/30 on the writing section.
- Michigan English Language Assessment Battery (MELAB) with a minimum required score of 95.
- International English Language Testing System (IELTS) with a minimum required score of 8.0.
- English Language Diagnosis and Assessment (ELDA)/Certificate of Proficiency in English (COPE) with a minimum required score of 6 and at least 3 in the writing portion.

5.1.1.1  Concentration-Plus-Co-operative Option (CCO)

To be considered for the CCO, Year 1 full-time MI program students must apply during the first (Fall) session of Year 1. For more information, visit the Faculty of Information website. Acceptance is limited and not guaranteed. Inquiries about the CCO may be emailed to ischool.coop@utoronto.ca.

6  Program Requirements

- Describe the requirements of the field or concentration. Please comment on the relationship of the requirements of the field or concentration to those for the program in general and any other fields or concentrations.
  - Provide, as an appendix, proposed calendar copy (with all changes tracked) including the specific program requirements, required courses, electives and prerequisites.
- Provide as an appendix, where appropriate:
A full list of the course numbers and titles, indicating clearly whether they are new or existing. Please note that new courses need to be proposed and approved separately following established Faculty/divisional procedures.

Please see Appendix [X] for proposed calendar copy. Students will also be able to participate in any of the Faculty’s seven (7) collaborative specializations.

**Program Requirements**

The minimum requirement is completion of **8.0 full-course equivalents (FCEs)**, regardless of pathway or option therein.

All students must successfully complete all degree requirements as outlined for either the concentration pathway or for the general program pathway.

**Human Centred Data Science (Concentration-only)**

0.5 core FCE (INF 1005H and 1006H).

2.5 required FCEs (INF 1340 H, INF 1344H, INF 2178H, INF 2190H, and INF XXXXH).

5.0 elective FCEs

Concentration plus co-op requirements

0.5 core FCE (INF 1005H and 1006H).

2.5 required FCEs (INF 1340 H, INF 1344H, INF 2178H, INF 2190H, and INF XXXXH).

co-op placement (one 24-week or two 12-week) courses (1.0 FCE), INF 3900H (0.5 FCE), and 3.5 elective FCEs

Concentration plus thesis option requirements

0.5 core FCE (INF 1005H and 1006H).

2.5 required FCEs (INF 1340 H, INF 1344H, INF 2178H, INF 2190H, and INF XXXXH).

thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.0 elective FCEs.

Course descriptions are below.

**INF1340 Programming for Information Systems**
The purpose of this course is to provide a common basis for understanding the nature of information systems in their organizational contexts and, most importantly, implement components that may comprise them. We study how we can arrive at an implemented solution from individual requirements and modeling of specific problems. Topics covered include: basic programming concepts (variables, conditions, loops, etc.); introduction to computational thinking (implementation of basic algorithms); interaction among components (ex. database, text files) and how we can set them up in a real environment using a programming language as a vehicle; implantation of small information system components (ex. text analyzer); methods of development and evaluation; control of the design process; and error checking. The technical topics covered by this course include software principles and practices, programming concepts and techniques, data structures, and system development methods and practices.

INF1344H  Introduction to Statistics for Data Science (existing)

The course will provide a full introduction into probability theory as well as statistical concepts needed in every Data Science project, from its design to its implementation. The popularity of data science as a field of study has increased the importance of statistics, with the analysis of data and interpretation of the results as integral parts of it. The course will include subjects such as Probability theory, Descriptive and Predictive Statistics, Bayesian Modeling, Tests and Statistical Evaluation as well as Statistical Metrics.

INF2178H: Experimental Design for Data Science, (existing)

At the heart of every Data Science project exists the planning, design and execution of experiments. Such experiments aim at understanding the data, potentially cleaning it and performing the necessary data analysis for knowledge discovery and decision-making. Without knowing the experimental design processes that are used in practice, researchers may not be able to discover what is really hidden in their data. The first aim of this course is to look at existing experimental designs that take into account the questions that need to be answered as well as the nature of the data and the different parameters used by algorithms. Subsequently, the course will introduce different qualitative and quantitative methods to assess the quality of the results. All concepts will be accompanied by examples and the students will have practical exercises and a project in which they will demonstrate their knowledge.

INF2190: Data Analytics: Introduction, Methods and Practical Approaches (existing)

The influx of data that is created, gathered, stored and accessed has given birth to some new areas of data analysis. The terms “predictive analytics”, “big data” and “data science” are prevalent in scientific as well as broad audience publications and often make part of new business opportunities. Understanding the significance of techniques that perform analytics and knowing how to interpret their results offers a unique advantage in the performance of information professionals within an organization.

This course provides an introduction to the field of analytics, and therefore the extensive use of data, statistical and quantitative analysis, exploratory and predictive models to mine and extract valuable information.
discover unexpected but useful glimpses of previously unknown information. We discuss standard data mining algorithms that can be applied on both structured and unstructured data and experience their impact on decision making situations. The students will actively participate in the delivery of this course through case and project presentations.

INFxxxx Human Values in Data Science (new)
After the examination of many technical aspects of algorithms, from design to implementation, this course will examine principles that need to be followed in order to ensure that human values and ethics are preserved! It is important to note that this course is a required course taken in the last term of the 2-year degree. Completing this course in the last term will ensure students understand the foundational principles of algorithmic approaches before studying their impact.

Example of Relevant Electives

INF1343H Database Modelling and Database Design
The purpose of this course is to provide an introduction to databases by analyzing their structure, content and measurement and by applying principles governing data modeling, database design and production with an emphasis on modeling, design and representation of content, decisions and tradeoffs involved in modeling, design and creation, and issues of standardization, security and emerging trends.

INF2040H Project Management
This elective course covers the nature of projects, project management tools, techniques and organizational and interpersonal issues in project management within the context of the different types of projects in the information profession. The course will cover project management principles in general, project scope, organizational, leadership, interpersonal and political aspects of project management, and tools and techniques to support planning, budgeting, resource allocation and other technical aspects of project management. Exclusion: MSL2350H

INF2169H User-Centred Information Systems Development
Theoretical and practical implications for a user-centered perspective on the development of computerized information systems. Topics include user participation, alternative development methodologies, end-user computing, prototyping techniques, computer-supported cooperative work. Emphasis on the development of systems at the workgroup level using common software packages.

INFxxxxH Vulnerable Populations and Information Science (new)
This course will cover topics related to social ethics and information science affecting vulnerable populations. In particular, it will focus on social ethics and information communication technology. It aims to help students think through the ethical challenges by
using information technology and big data to help make social justice decisions, and to inform information students how the information technology has real life impact on vulnerable and under-represented populations. The course will include several sessions on different topics of areas (health, violence, media etc.), and will include readings, case discussions, group work and video/animation projects.

7 Degree-Level Expectations (DLEs), Program Learning Outcomes and Program Structure

- Clearly outline the learning outcomes as they relate to the proposed field or concentration, underlining where these are similar to or different from those for existing fields or concentrations. Indicate the means by which students will satisfy the relevant DLEs.
- Demonstrate the clarity and appropriateness of the program’s requirements and associated learning outcomes in addressing the institution’s DLEs.

Table 2: Master’s DLEs

<table>
<thead>
<tr>
<th>Master’s Degree-Level Expectations (Based on the Ontario Council of Academic Vice-Presidents [OCAV] DLEs)</th>
<th>Master’s Program Learning Outcomes</th>
<th>How the Program Design and Requirement Elements Support the Attainment of Student Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expectations:</strong> The Master of Information MI is awarded to students who have demonstrated:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Depth and Breadth of Knowledge</td>
<td>Depth and breadth of knowledge is defined in Master of Information as understanding and being conversant with fundamental concepts, theories, practices, and the diverse horizons of information disciplines.</td>
<td>The program design and requirement elements that ensure these student outcomes for depth and breadth of knowledge are:</td>
</tr>
<tr>
<td>A systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of the academic discipline, field of study or area of professional practice.</td>
<td>This is reflected in students who understand and are conversant with fundamental concepts, theories, practices, and the diverse horizons of information disciplines, and</td>
<td>Required courses in the concentration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INF1340 Programming for Information Systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INF1344H Introduction to Statistics for Data Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INF2178H: Experimental Design for Data Science,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INF2190Data Analytics: Introduction, Methods and Practical Approaches</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INFXXX Human Values in Data Science</td>
</tr>
</tbody>
</table>

Developed by the Office of the Vice-Provost, Academic Programs

Template updated on March 7, 2017
| **2) Research and Scholarship** | Research and scholarship is defined in Master of Information as the ability to contribute through research and publication, to the continuous expansion and critical assessment of the body of knowledge underlying the information and archives sciences. This is reflected in students who are able to:  
• demonstrate a working comprehension of how established techniques of research and inquiry are used to create and interpret knowledge in the study of information;  
• critically evaluate current research and scholarship in the study of information and in related areas of professional competence.  
• build on established principles and techniques from the study of information to treat complex issues. |
| **Level of Application of Knowledge** | Application of Knowledge is defined in the Master of Information as the ability to respond to changing information practices and needs of society. |

The program design and requirement elements that ensure these student outcomes for research and scholarship for the HCDS concentration are:

- projects that are based on real-life problems and use real datasets
- experimentation with modern tools that perform data analysis
- exposure to industry via course guest lectures

Moreover, the thesis option will be available to students, as in all other 7 concentrations of the MI.

|  | **3) Level of Application of Knowledge** | The program design and requirement elements that ensure these student outcomes for research and scholarship for the HCDS concentration are: |

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Template updated on March 7, 2017
| Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting. | Information as the development of understanding the theory concerning information, where it is found, and how it is used. This is reflected in students who are able to: develop an understanding of complex systems, and the application of new technological developments to the curation, preservation and communication of information, along with the identification of the impact of such developments on society. | outcomes for level and application of knowledge are: Understanding of the existing body of knowledge related to data science and its application is integral to the required courses in the concentration. Students will tackle a number of theoretical and practical problems as group projects and presentations. These will be included in all courses. |

4) Professional Capacity/Autonomy

- The qualities and transferable skills necessary for employment requiring:
  - the exercise of initiative and of personal responsibility and accountability; and
  - decision-making in complex situations;
- The intellectual independence required for continuing professional development;
- The ethical behavior consistent with academic integrity and the use of appropriate

Professional Capacity/Autonomy is defined in the Master of Information as knowledge and values appropriate to the future exercise of economic, cultural, and/or social leadership. Students continue in life-long intellectual growth beyond graduate.

This is reflected in students who are able to:

provide leadership in defining the social responsibility of information professionals to provide information services for all, regardless of age, educational level, or social, cultural, or ethnic
guidelines and procedures for responsible conduct of research; and
• The ability to appreciate the broader implications of applying knowledge to particular contexts.

<table>
<thead>
<tr>
<th>5) Level of Communications Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ability to communicate ideas, issues and conclusions clearly.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6) Awareness of Limits of Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>5) Level of Communications Skills</th>
<th>6) Awareness of Limits of Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of communication skills is defined in the Master of Information as: The ability to develop an understanding of the application of new technological developments to the preservation and communication of information, and in the identification of the impact of such developments on society.</td>
<td>Students continue in life-long intellectual growth beyond graduation.</td>
<td>The program design and requirement elements that ensure these student outcomes for level of communication skills are: The opportunity for students to present coursework using group work and formal presentation assignments in various courses. The opportunity to participate in professional networking and panel discussions with industry professionals. Courses will also include guest lectures with relevant professionals.</td>
</tr>
</tbody>
</table>

The program design and requirement elements that ensure these student outcomes for awareness of limits of knowledge are:

The opportunity to take part in industry and other professional development opportunities through Faculty-sponsored events and alumni activities. Courses will also include guest lectures with such professionals.

Table 2: Master’s DLEs

<table>
<thead>
<tr>
<th>Table 2: Additional Master of Information Learning Outcomes for CCO students Master’s Degree Level Expectations (based on the Ontario Council of</th>
<th>Master’s Program Learning Outcomes</th>
<th>How the Program Design and Requirement Elements Support the Attainment of Student Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Developed by the Office of the Vice-Provost, Academic Programs
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### Academic Vice Presidents (OCAV) DLEs

<table>
<thead>
<tr>
<th>EXPECTATIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The subset of students in the MI who complete the Master of Information concentration and co-op option (CCO) will achieve a small number of <strong>additional</strong> learning outcomes due to the coop activity. The learning outcomes below are in <strong>addition</strong> to those in Appendix A.</td>
</tr>
<tr>
<td>The Master of Information is awarded to students in the Master of Information concentration and co-op option (CCO) who have demonstrated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Level of application of practical knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting.</td>
</tr>
<tr>
<td>Application of Knowledge is defined in Master of Information CCO option as understanding of how information practices are changing in dynamic professional work environments and the impact of these changes on individuals, institutions and society.</td>
</tr>
<tr>
<td>This is reflected in students who are able to:</td>
</tr>
<tr>
<td>✔️ apply theoretical knowledge, gained through core and required courses to the critical analysis of a specific issue in the co-op as reflected in the student’s goals and final report</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Professional capacity/autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The qualities and transferable skills necessary for employment requiring i) The exercise of initiative and of personal responsibility and accountability; and ii) Decision-making in complex situations; b.</td>
</tr>
<tr>
<td>Professional Capacity/Autonomy is defined in Master of Information CCO Option as ability to contribute to their profession through active and critical integration of information concepts, theories and practices with institutional practices and goals.</td>
</tr>
<tr>
<td>The program design and requirement elements that ensure these student outcomes for research and scholarship are:</td>
</tr>
<tr>
<td>Mandatory workshop prior to co-op</td>
</tr>
<tr>
<td>Two sessions of co-op. These will be reflected in the goals developed by students and in their co-op final report</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The program design and requirement elements that ensure these student outcomes for research and scholarship are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory workshop prior to co-op</td>
</tr>
<tr>
<td>Two sessions of co-op.</td>
</tr>
</tbody>
</table>

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The intellectual independence required for continuing professional development; c. The ethical behavior consistent with academic integrity and

This is reflected in students who are able to:

☐ transfer skills necessary for employment in the co-op setting through initiative and initiative

8 Assessment of Teaching and Learning

- Please describe the methods of evaluation for the various program requirements as they relate to the proposed field or concentration.
- Describe how the methods for assessing student achievement are appropriate and effective relative to established program learning outcomes and DLEs (in other words, how will faculty be able to determine whether students have learned and can do what we expect them to by the end of the program).
- How will the program document and demonstrate the level of performance of students consistent with the University’s DLEs?

In 2014, the Faculty established a policy requiring that all Faculty of Information course syllabi articulate how individual course goals and learning outcomes relate to program-level student learning outcomes, and how the achievement of those course level goals and outcomes will be assessed. Therefore the collection of syllabi as a whole articulates how the program addresses all of the program level learning outcomes.

For example, INF1340 Programming for Information Systems (which will become Programming for Data Science) states “Information Systems are composed of smaller components. Designers, systems analysts and programmers need to have a good understanding of the internals, in order to take more accurate and knowledgeable decisions. To achieve this, INF1340H is a fundamental course that defines Information System components in terms of functions and modules that can be practically implemented. This course will help students to become conversant with Information Systems fundamentals and theories (Outcome 1). Given the case studies and practical assignment in this course, the students will develop an understanding of the development of theory concerning information, where it is found, and how it is used (Outcome 4). Through the use of a programming language, students will develop an understanding of the application of new technological developments to the preservation and communication of information, and in the identification of the impact of such developments on society (Outcome 5). Finally, the
course will allow students to develop their own goals and continue in life-long intellectual growth beyond graduation (Outcome 6). “

The Program documents and demonstrates the level of performance of students consistent with the University’s DLEs using three main process: 1) from data about the instructors’ assessments of SLOs in courses; 2) from data about the students’ learning through surveys and student evaluations of teaching in courses; and, 3) from employers of Co-op and Information Professional Practicum students through employer surveys.

The assessment mechanism for each course will differ depending on the content, intent, and delivery method of the course. Lecture courses may rely on exams, assignments, and term papers for evaluation. Project-based courses may rely on papers, posters, demos, and projects. Practica, coop placements and experiential learning courses may rely on regular student-supervisor interviews. The Faculty requires that any course with group work must have an assessment mechanism for evaluating the quality of work done by each member of the group, as well as assessing the work of the group as a whole.

9 Consultation

• Describe the expected impact of what is being proposed on the nature and quality of the unit’s/division’s program of study and any impact on other units/divisions.
• Describe any consultation with the Deans of Faculties/divisions that will be implicated or affected by the creation of the proposed field or concentration.

We held two information sessions to gather feedback from students on October 11, 2018. Sixteen students attended the afternoon session and 3 students attended an evening session. We also received feedback from one student via email.

All students at both of the sessions were unanimous about their support for the new concentration. Many first year students were interested in knowing how they could switch into the concentration. General comments included.

This is “very exciting”!
“This is a perfect combination... I always expected that this is the direction that the iSchool would go”.
“I would switch”.
“Sounds promising”.
“We should go in this direction”.

We have also discussed our proposed concentration with employers in a number of one on one meetings. John Schrag, Director of Experience Design at Autodesk, noted that designers are now using analytics to support design decisions. He also stated that they currently had a skills gap in this
area. Jane Motz Hayes Director of Design at Tribal Scale also noted the need for designer with data analytic skills. She indicated that she is looking for ways to educate her staff in this area. Finally Kathy Lalonde, Ontario Digital Services was very enthusiastic about the Faculty creating a new concentration in Human Centred Data Science.

Matt Medland, Professor in Computer Science and Director, Professional Programs and External Relations, has previously developed the MScAC concentration in Data Science. In reviewing this proposal, he has remarked that our proposed concentration will target different problems than the CS program. While the CS program is research focused, the FI concentration will have a professional focus and thus will be complementary to one another.

Moreover, Nathan Taback, Associate Professor, Teaching Stream, Department of Statistical Sciences and Computer Science is the Director of Data Science Programs in Statistical Sciences. In a conversation about the proposal, he expressed his enthusiasm and commented that our Human-Centered Data Science program will offer a different flavor than their program.

We have also sent the proposal to the FAS Vice Deans Dwayne Benjamin and Pamela Klassen, FASE Vice Dean Julie Audet, UTM Vice Dean Graduate Jeremy Packer, DLSPH Associate Dean Nancy Baxter) and Rotman Dean Tiff Macklem and the Director of the Master of Management Analytics (MMA).

Vice Dean Julie Audet commented, “Looks like a good idea. It seems to align with the Vector Institute’s criteria to be recognized (coop and ethics course etc..) and eligible for scholarships.”

10 Resources

- Describe any resource implications of the change(s) including, but not limited to, faculty complement, space, libraries and enrolment/admissions.
- Please specify where this may impact significant enrolment agreements with the Faculty/Provost’s office.
- Indicate if the major modification will affect any existing agreements with other institutions, or will require the creation of a new agreement to facilitate the major modification (e.g., Memorandum of Understanding, Memorandum of Agreement, etc.). Please consult with the Provost’s office (vp.academicprograms@utoronto.ca) regarding any implications to existing or new agreements.

Our current plans for enrolment will provide spaces for students in this new concentration. We do not see this new concentration negatively impacting any of our existing agreements. The two joint faculty hires (one with social work and one will department of statistics) will...
teach courses in this area. We currently have faculty to teach the required courses but new hires are needed to cover the courses in the concentration as the number of students grow. Currently our faculty in the ISD area must recruit thesis students from computer science. We anticipate that only a few students will opt for the thesis option; we currently have a number of students who could serve as supervisor for the thesis option. From discussions with current co op supervisors we believe we will have enough co op placement for the launch of the program. The Faculty plans to hire a consultant in stakeholder engagement to help continue to grow our co op placements.

### 10.1 Faculty Complement

- Brief statement to provide evidence of the participation of a sufficient number and quality of faculty who will actively participate in the delivery of the program.
  - Comment on the expertise of the faculty who will actively support or participate in the field or concentration and discuss the role of any adjunct or contractual faculty.
  - Comment on the impact of the field or concentration on the parent program, focusing on the extent of the diversion of faculty from existing graduate courses and/or supervision.
  - Comment on the provision of supervision of experiential learning opportunities, as appropriate.
  - If relevant, describe the plan to provide additional faculty resources to support the program.

The Faculty currently have four tenured or tenured-track faculty members who teach in the Information Systems and Design concentration (Kelly Lyons, Eric Yu, Periklis Andritsos, and Christoph Becker). Last year, we hired an assistant professor (Jia Xue) who holds a 51% appointment with Social Work and a 49% appointment with the Faculty. This year we are searching for a faculty member with expertise in statistics who will hold a 51% appointment with the Department of Statistics and a 49% appointment with the Faculty. Furthermore, we have permission to hire a full time faculty member in the area of AI in 2019-20 and we have identified a second hire in the area in 2020 in our budget submission. Faculty associated with our Critical Information Policy Studies (CIPS) also teach courses relevant to the ethics and values of data science.

This year we are offering four of the proposed concentration’s required courses. This concentration will include courses that students from other concentrations can and will take.

<table>
<thead>
<tr>
<th>Table 4: Detailed Listing of Committed Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Name and Rank</td>
</tr>
</tbody>
</table>

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Template updated on March 7, 2017
10.2 Space/Infrastructure

- Address any unique space/infrastructure requirements including information technology, laboratory space and equipment, etc.

11 UTQAP Process

The UTQAP pathway is summarized in the table below.

<table>
<thead>
<tr>
<th>Steps</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development/consultation within unit</td>
<td></td>
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<tr>
<td>Consultation with Dean’s office (and VPAP)</td>
<td>Graduate unit approval as appropriate</td>
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Developed by the Office of the Vice-Provost, Academic Programs

Template updated on March 7, 2017
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<th>Step</th>
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<td>Report to AP&amp;P</td>
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<td>Report to Ontario Quality Council</td>
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12 Appendix A: Calendar Copy with Changes tracked

Information

Information: Introduction

Faculty Affiliation

Information

Degree Programs

Information

<table>
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<tr>
<th>MI</th>
<th>Concentrations:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Archives and Records Management (ARM)</td>
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<tr>
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<td>Critical Information Policy Studies (CIPS)</td>
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<td></td>
<td>Culture and Technology (C&amp;T)</td>
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<tr>
<td></td>
<td>Human Centred Data Science (HCDs)</td>
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<td></td>
<td>Information Systems and Design (ISD)</td>
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<td>Knowledge Management and Information Management (KMIM)</td>
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<td>Library and Information Science (LIS)</td>
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<td>User Experience Design (UXD)</td>
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<td>Archives and Records Management</td>
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<td>Cultural Heritage</td>
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<td>Library and Information Science</td>
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<td></td>
<td>Philosophy of Information</td>
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</table>

Museum Studies

MMSt

Combined Degree Programs

STG, Law, JD / MI
STG, MI/MMSt
UTM, Communication, Information and Technology (Major), Honours BA / MI

Developed by the Office of the Vice-Provost, Academic Programs
Diploma Program

Information Studies
Graduate Diploma of Advanced Study in Information Studies (GDiplSt, a post-master's diploma)

Collaborative Specializations
The following collaborative specializations are available to students in participating degree programs as listed below:

1. Addiction Studies
   - Information, PhD
2. Aging, Palliative and Supportive Care Across the Life Course
   - Information, MI, PhD
3. Book History and Print Culture
   - Information, MI, PhD
   - Museum Studies, MMSt
4. Environmental Studies
   - Information, MI, PhD
5. Food Studies
   - Information, MI
   - Museum Studies, MMSt
6. Jewish Studies
   - Information, PhD
   - Museum Studies, MMSt
7. Knowledge Media Design
   - Information, MI, PhD
   - Museum Studies, MMSt
8. Sexual Diversity Studies
   - Information, MI, PhD
   - Museum Studies, MMSt
9. Women and Gender Studies
   - Information, MI, PhD
10. Women's Health
  o Information, PhD

**Overview**

The Faculty of Information at the University of Toronto is one of the world’s most important information and knowledge management schools. Information is studied and tough questions are asked for the benefit of society and the students. Located in the heart of Canada’s most diverse and dynamic city, the programs are led by leading researchers and faculty across multiple disciplines and result in exceptional research and career opportunities. The Faculty of Information is the centre for information professions and leaders of research that matters.

People. Information. Technology. They intersect at the Faculty of Information, a launch pad for futures as highly skilled practitioners or researchers. Today’s technologies have transformed the way we connect with, shape, and use information. Similar changes have been taking place in the field of museums and cultural heritage.

**Contact and Address**

Web: [www.ischool.utoronto.ca](http://www.ischool.utoronto.ca)
General email: inquire.ischool@utoronto.ca
Admissions email: admissions.ischool@utoronto.ca
Telephone: (416) 978-3234
Fax: (416) 978-5762

Faculty of Information
University of Toronto
140 St. George Street
Toronto, Ontario M5S 3G6
Canada

**Information: Information MI**

**Master of Information**

**Program Description**
The MI program allows students to explore the breadth of information and to focus on one or more areas of study. Students may choose one of two pathways to completion:
• **Concentration pathway:** students choose one or two of seven concentrations and may complete:
  o concentration(s) only,
  o concentration(s) plus a thesis, or
  o concentration(s) plus a co-op (CCO)

• **General program pathway:** students do not choose a formal concentration and may complete:
  o coursework only,
  o coursework plus a thesis, or
  o coursework plus a co-op

**Minimum Admission Requirements**

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Application deadlines are available on the Faculty of Information website. Applicants must also satisfy the Faculty’s additional admission requirements stated below.

- An appropriate bachelor's degree with at least a B average (3.0 GPA) from a university recognized by the University of Toronto. Generally, successful applicants hold an academic level of B+ (3.3 GPA) or higher in the final year.

- The bachelor's degree must normally contain at least 75% academic credits—that is, courses that are not professional, practical, technical, or vocational. Courses such as studio art, drama or music performance, theology, education, or undergraduate courses in library science are not normally considered to be sufficiently academic in content for admission purposes.

- Applicants who meet current admission requirements and who hold a BLS degree from the University of Toronto, or its equivalent from an approved university, may be admitted to the MI program with advanced standing. Such students may be required to take additional courses if certain requisite instruction is lacking.

- Applicants who have satisfactory standing in an undergraduate program and who have successfully completed information studies graduate courses in programs equivalent to the University of Toronto MI program may also apply for admission with advanced standing. Each application will be evaluated individually. At least 4.0 full-course equivalents (FCEs) towards the MI degree must be taken at the University of Toronto.

- All incoming graduate students must have a good command of English. All applicants educated outside Canada whose primary language is not English must demonstrate proficiency in the English language. This requirement is a condition of admission and
must be met before an offer of admission is made. The English language requirement may be satisfied using one of the following tests:

1. Test of English as a Foreign Language (TOEFL) with the following minimum scores:
   - paper-based TOEFL exam: 600 with 5.5 on the Test of Written English (TWE)
   - Internet-based TOEFL exam: 107/120 with 24/30 on the speaking section and 27/30 on the writing section.
2. Michigan English Language Assessment Battery (MELAB) with a minimum required score of 95.
3. International English Language Testing System (IELTS) with a minimum required score of 8.0.
4. English Language Diagnosis and Assessment (ELDA)/Certificate of Proficiency in English (COPE) with a minimum required score of 6 and at least 3 in the writing portion.

**Concentration-Plus-Co-operative Option (CCO)**
- To be considered for the CCO, Year 1 full-time MI program students must apply during the first (Fall) session of Year 1. For more information, visit the [Faculty of Information website](#). Acceptance is limited and not guaranteed. Inquiries about the CCO may be emailed to [ischool.coop@utoronto.ca](mailto:ischool.coop@utoronto.ca).

**Concentration-Plus-Executive-Delivery Option—ISD Only (Under Review)**
- Applicants interested in completing the Master of Information degree in the executive delivery option must submit application documents (transcript, a minimum of two references, personal statement). For more information, visit the [Faculty of Information website](#).
- A third letter, from the applicant's current place of employment, will be required as a condition of admission. This letter must confirm supervisory support and the intent to complete the required workplace project.
- Proof of employment (minimum two years) full-time (35 hours a week) in an area that requires interacting with the creation and design of information systems (ISD).

**Program Requirements**
- The minimum requirement is completion of **8.0 full-course equivalents (FCEs)**, regardless of pathway or option therein.
- All students must successfully complete all degree requirements as outlined for either the concentration pathway or for the general program pathway.
- The Faculty of Information offers eight concentrations leading to the MI degree:
  1. Archives and Records Management
  2. Critical Information Policy Studies
  3. Culture and Technology
  4. **Human Centred Data Science**
  4.5. Information Systems and Design
  5.6. Knowledge Management and Information Management
  6.7. Library and Information Science
  7.8. User Experience Design

- Each concentration requires a total of **8.0 FCEs**.

- **Concentration-only option:**
  - Two quarter-weight core courses (0.5 FCE total).
  - Four or five required half courses depending on the concentration (2.0 or 2.5 FCEs total, depending on the concentration).
  - Plus 10 or 11 additional elective half courses (5.0 or 5.5 FCEs total, depending on the concentration).

- **Concentration-plus-thesis option:**
  The thesis option allows students to gain experience in developing and executing a research project from beginning to end. Students gain familiarity with the research process and hone their research skills. The thesis option is designed for students who have a clearly defined topic, can find a supervisor, and can meet tight deadlines in order to graduate within the usual time frame envisioned for the degree. Faculty approval is required to enter the thesis option; visit the [Faculty of Information website](#) for details. For information about completing a thesis in the General Pathway, please see the General Pathway program requirements below.
    - Two quarter-weight core courses: INF 1005H and INF 1006H (0.5 FCE total).
    - Five required half courses (2.5 FCEs total, specific to each concentration). The exception is Library and Information Science, which has four required half courses (2.0 FCEs).
    - 0.5-FCE research methods course appropriate to the student's program of study, with a final grade of at least A–.
    - 0.5-FCE reading course with the student's intended supervisor, with a final grade of at least A–.
    - A thesis (2.0 FCEs total).
• Four additional elective half courses (2.0 FCEs total, specific to each concentration). The exception is Library and Information Science, which requires five additional elective half courses (2.5 FCEs total).

• **Concentration-plus-co-op option:**
  - Two quarter-weight core courses (0.5 FCE total).
  - Five required half courses (2.5 FCEs total, specific to each concentration). The exception is Library and Information Science, which requires four half courses (2.0 FCEs total).
  - INF 3900H *Workplace Integrated Learning* (0.5 FCE).
  - One 24-week or two 12-week co-op placement courses (1.0 FCE total).
  - Seven additional elective half courses (3.5 FCEs total, specific to each concentration). The exception is Library and Information Science, which requires eight additional elective half courses (4.0 FCEs total.)

• **Concentration-plus-executive-delivery option—ISD only (under review):**
  The executive delivery option is specifically for students who are full-time working professionals and who have the support of their employer to participate in an executive program delivery model. This option is currently only available for the Information Systems & Design (ISD) concentration.
  - Two quarter-weight core courses: INF 1005H and INF 1006H (0.5 FCE total).
  - Five required half courses: INF 1340H, INF 1341H, INF 1342H, INF 1343H, and INF 2177H (2.5 FCEs total).
  - INF 3910Y *Workplace Project* 1.0 FCE), to be taken after the core and required courses are completed.
  - Right elective half courses (4.0 FCEs total).

**Concentration: Archives and Records Management (ARM)**

- 0.5 core FCE (INF 1005H and 1006H).
- 2.5 required FCEs (INF 1003H, INF 1330H, INF 1331H or INF 2186H, INF 2175H, and INF 2184H).
- 5.0 elective FCEs or co-op (1.0 FCE), INF 3900H (0.5 FCE), and 3.5 elective FCEs or thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.0 elective FCEs.

**Concentration: Critical Information Policy Studies (CIPS)**
• 0.5 core FCE (INF 1005H and 1006H).
• 2.5 required FCEs (INF 1001H, INF 2181H, INF 2240H, INF 2243H, and INF 2242H).
• 5.0 elective FCEs or
  co-op (1.0 FCE), INF 3900H (0.5 FCE), and 3.5 elective FCEs or
  thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.0 elective FCEs.

**Concentration: Culture and Technology (C&T)**

• 0.5 core FCE (INF 1005H and 1006H).
• 2.5 required FCEs (INF 1501H, INF 1502H, INF 2241H, INF 2243H, and either INF 2331H or INF 2320H).
• 5.0 elective FCEs or
  co-op (1.0 FCE), INF 3900H (0.5 FCE), and 3.5 elective FCEs or
  thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.0 elective FCEs.

**Concentration: Human Centred Data Science (HCDS)**

• 0.5 core FCE (INF 1005H and 1006H).
• 2.5 required FCEs (INF 1340H, INF 1344H, INF 2178H, INF 2190H, and INF XXXXH).
• 5.0 elective FCEs or
  co-op courses (1.0 FCE), INF 3900H (0.5 FCE), and 3.5 elective FCEs or
  thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.0 elective FCEs.

**Concentration: Information Systems and Design (ISD)**

• 0.5 core FCE (INF 1005H and 1006H).
• 2.5 required FCEs (INF 1340H, INF 1341H, INF 1342H, INF 1343H, and INF 2177H).
• 5.0 elective FCEs or
  co-op (1.0 FCE), INF 3900H (0.5 FCE), and 3.5 elective FCEs or
  thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.0 elective FCEs or
  executive delivery option and INF 3910Y *Workplace Project* (1.0 FCE) plus 4.0 elective FCEs.
Major Modification Proposal: New Field or Concentration Within an Existing Graduate Program

Concentration: Knowledge Management and Information Management (KMIM)
- 0.5 core FCE (INF 1005H and 1006H).
- 2.5 required FCEs (INF 1003H, INF 1230H, INF 2175H, INF 2176H, and INF 2186H).
- 5.0 elective FCEs or co-op (1.0 FCE), INF 3900H (0.5 FCE), and 3.5 elective FCEs or thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.0 elective FCEs.

Concentration: Library and Information Science (LIS)
- 0.5 core FCE (INF 1005H and 1006H).
- 2.0 required FCEs (INF 1321H, INF 1322H, INF 1323H, and INF 1324H).
- 5.5 elective FCEs or co-op (1.0 FCE), INF 3900H (0.5 FCE), and 4.0 elective FCEs or thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.5 elective FCEs.

Concentration: User Experience Design (UXD)
- 0.5 core FCE (INF 1005H and 1006H).
- 2.5 required FCEs (INF 1602H, INF 2169H, INF 2170H, INF 2191H, and INF 2192H).
- 5.0 elective FCEs or co-op (1.0 FCE), INF 3900H (0.5 FCE), and 3.5 elective FCEs or thesis (2.0 FCEs), research methods course (0.5 FCE), and reading course (0.5 FCE) plus 2.0 elective FCEs.

General Program Pathway (No Concentrations)

Coursework Option
Students choosing the coursework option must have their program of study approved by the Program Director.

- Two quarter-weight core courses: INF 1005H and INF 1006H (0.5 FCE total).
- Three required half courses: INF 1001H, INF 1003H, and INF 1240H (1.5 FCEs total).
- 6.0 elective FCEs.
Thesis Option
Faculty approval is required to enter the thesis option. Visit the Faculty of Information website for details.

- Two quarter-weight core courses: INF 1005H and INF 1006H (0.5 FCE total).
- Three required half courses: INF 1001H, INF 1003H, and INF 1240H (1.5 FCEs total).
- 0.5 required FCE consisting of one research methods half course appropriate to the student’s program of study, with a final grade of at least A–. INF 1240H can be used to meet this requirement.
- 0.5 required FCE reading course with the student’s intended supervisor, with a final grade of at least A–.
- A thesis (2.0 FCEs).
- Six elective half courses (3.0 FCEs), which may include up to 2.0 FCEs taken outside the MI program.

Program Length
4 sessions (2 years) full-time (typical registration sequence: F/W/F/W);
CCO and executive delivery option: 6 sessions (2 years) full-time (typical registration sequence: F/W/S/F/W/S);
11 sessions (5.5 years) part-time

Time Limit
3 years full-time;
6 years part-time

12.1 Information: Information MI and Information Studies GDipISt Courses
Not all courses are offered every year. Consult the Faculty of Information website for the annual course offerings; course descriptions; and details of prerequisites, co-requisites, and permissions. Inquiries concerning the selection of courses to be offered in any given session should be directed to the Faculty of Information.

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<th>Course Code</th>
<th>Course Title</th>
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<td>INF XXXXH</td>
<td>Vulnerable Populations and Information Science</td>
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<td>INF 1001H</td>
<td>Knowledge and Information in Society</td>
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<td>INF 1002H</td>
<td>Representation, Organization, Classification, and Meaning-Making</td>
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<td>INF 1003H</td>
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<td>INF 1006H</td>
<td>Information Workshop II</td>
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<td>INF 1240H</td>
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<td>INF 1300H</td>
<td>Foundations in Library and Information Science</td>
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<td>INF 1310H</td>
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<td>INF 1320H</td>
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<td>System Requirements and Architectural Design</td>
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<td>Data Modeling and Database Design</td>
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<td>Introduction to Statistics for Data Science</td>
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<td>INF 1502H</td>
<td>Culture and Technology II (prerequisite: INF 1501H Culture and Technology I)</td>
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<td>INF 1601Y</td>
<td>User Experience Design Capstone Project (CR/NCR)</td>
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<td>Fundamentals of User Experience</td>
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<td>INF 2010H</td>
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<td>Geographic Information Systems (GIS) in Libraries</td>
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<td>Design and Evaluation of Information Literacy Programs</td>
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<td>Business Information Resources</td>
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<td>International Organizations: Their Documents and Publications</td>
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<td>INF 2141H</td>
<td>Children's Cultural Texts and Artifacts</td>
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<td>Issues in Children's and Young Adults' Services</td>
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<td>INF 2145H</td>
<td>Creation and Organization of Bibliographic Records</td>
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<td>Trusting Records</td>
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<td>Administrative Decision-Making in Information Organizations</td>
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<td>INF 2155H</td>
<td>The Public Library in the Community: Developing a Critical Practice</td>
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<td>Reading and the Reading Public in North America and Around the World</td>
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<td>Management of Corporate and Other Special Information Centres</td>
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<td>Analytical and Historical Bibliography</td>
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<td>History of Books and Printing</td>
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<td>INF 2162H</td>
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<td>Social Issues in Information and Communication Technologies</td>
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<td>INF 2169H</td>
<td>User-Centred Information Systems Development</td>
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<td>Information Architecture</td>
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<td>INF 2171H</td>
<td>Major Subject Heading and Classification Systems</td>
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<tr>
<td>INF 2172H</td>
<td>Readers' Advisory: Reference Work and Resources</td>
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<td>INF 2176H</td>
<td>Information Management in Organizations—Models and Platforms</td>
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<td>INF 2177H</td>
<td>Information Management and Systems (prerequisite: INF 1341H Systems Analysis and Process Innovation)</td>
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<td>INF 2178H</td>
<td>Experimental Design for Data Science</td>
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<td>INF 2180H</td>
<td>Archives: Access, Advocacy, and Outreach</td>
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<td>INF 2194Y</td>
<td>Information Systems Design Project</td>
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<td>INF 2221H</td>
<td>Digital Divides and Information Professionals: Developing a Critical Practice</td>
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<td>INF 2225H</td>
<td>Digital Discourse</td>
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<td>INF 2240H</td>
<td>Political Economy and Cultural Studies of Information</td>
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<td>INF 2241H</td>
<td>Critical Making: Information Studies, Social Values, and Physical Computing</td>
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<td>INF 2242H</td>
<td>Studying Information and Knowledge Practice</td>
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<td>INF 2243H</td>
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<td>Art Librarianship: Theory Informs Practice</td>
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<td>Introduction to Service Science</td>
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<td>Remix Culture</td>
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<td>INF 2325H</td>
<td>Launching Information Ventures</td>
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<td>INF 2330H</td>
<td>Information Ethnography</td>
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<td>INF 2331H</td>
<td>The Future of the Book</td>
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<td>INF 2332H</td>
<td>Information Behaviour</td>
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<td>INF 3902H</td>
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<td>JIE 1001H</td>
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Developed by the Office of the Vice-Provost, Academic Programs
Template updated on March 7, 2017
University of Toronto
Major Modification Proposal:
New Field or Concentration Within an Existing Graduate Program

This template should be used to bring forward all proposals for new fields or concentrations in existing graduate programs for governance approval under the University of Toronto’s Quality Assurance Process. A field or concentration within a graduate program refers to an area of specialization or focus that is related to the demonstrable and collective strengths of the program’s Faculty. Graduate programs are not required to have fields or concentrations in order to highlight an area of strength within a program. The two terms are used interchangeably but one should be used consistently in the context of a specific program. In establishing fields or concentrations, select whichever term resonates most in your context.

**Program:**
e.g., Child Study and Education, Linguistics

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<thead>
<tr>
<th>Program:</th>
<th>Faculty of Information</th>
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<td>• Critical Information Studies</td>
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<td>• Library &amp; Information Science</td>
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<tr>
<td>• Archives &amp; Records Management</td>
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<tr>
<td>• Information Systems, Media, &amp; Design</td>
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<tr>
<td>• Cultural Heritage</td>
</tr>
<tr>
<td>• Knowledge Management &amp; Information Management</td>
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<td>• Philosophy of Information</td>
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<td>specify what level program this will apply to; i.e., master’s, doctoral or both.</td>
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<td>Faculty of Information</td>
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<table>
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<tr>
<th>Dean’s office contact:</th>
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<tbody>
<tr>
<td>Professor Kelly Lyons, Acting Dean</td>
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</table>

<table>
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<td>November 15, 2018</td>
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### 1 Summary

- Please provide a brief summary or overview of how the proposed field or concentration relates to existing fields or concentrations in the program.

Developed by the Office of the Vice-Provost, Academic Programs
Template updated on March 7, 2017

UoT Faculty of Information Council
November 22, 2018

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summarizing many of the key points found in more detail elsewhere in the proposal. Please include:

- A clear statement of purpose
- Identification of existing fields or concentrations
- A description of the proposed field or concentration
- Rationale for its inclusion in the program
- The impetus for its development (including student demand) and how it fits with existing fields or concentrations
- Faculty and programmatic strength in the proposed area

As Toronto further establishes its centrality as one of North America’s locations for innovation in information, media and technology, a PhD concentration at the University of Toronto, which emphasizes the politics and philosophy of media and technology within cultural formations, is imperative. The Faculty of Information already exhibits strengths in these various research areas and it should be obvious that information (its collection, its storage, its processing, its transmission) are central to all media technologies. Further, the Faculty of Information houses the McLuhan Centre for Culture and Technology which provides brand recognition in the areas of “culture and technology” while McLuhan’s legacy is of course best remembered in terms of research on media. These areas of faculty specialization and this history are already helping to attract media and technology oriented PhD students to the Faculty of Information. This concentration will highlight, focus, and strengthen what is already being done.

This concentration in Media, Technology and Culture places special emphasis on a materialist approach to information technologies where understanding the technological underpinnings that have always affected how media have and will be designed, developed and culturally appropriated, are central concerns. This approach draws on a rich history of theoretical influences and methodological frameworks from humanistic and social scientific perspectives. The interdisciplinary methods taught draw on historical, critical theoretical, human-interactionist, sociological, political economic, and psychological modes of inquiry.

A new concentration in Media, Technology, and Culture will accomplish several goals that will prove beneficial across the three campuses. First, it will enhance the PhD program in Information, broaden the pool of top applicants, and produce uniquely and appropriately prepared students in this area. Second, current and future faculty in the Faculty of Information will be able to better leverage their research, pedagogical, and mentoring expertise through their work with PhD students in this concentration. Third, the ongoing tri-campus relationships between faculty in the Department of Arts, Media and Culture at UTSC, the Institute for Communication, Culture, Information, and Technology at UTM, and the Faculty of Information at St. George will be strengthened. Fourth, the University of Toronto’s unique potential to be a world leader in scholarship and education related to media, technology, and culture will be reinforced.

This PhD concentration will clearly position the Faculty of Information as the site for doctoral studies in media and technology at the University of Toronto, bringing together the associated faculty expertise from UTSC, UTM and UTSC. Faculty growth at all three campuses with expertise in media, culture, and technology has been considerable. While these faculty have been working with PhD students, there is now

Developed by the Office of the Vice-Provost, Academic Programs
Template updated on March 7, 2017
a critical mass of faculty who can support the resources necessary for this
collection. Further, faculty from all three campuses have been working in
associated centres such as the McLuhan Centre for Research in Culture and
Technology and the Semaphore Research Cluster that will be further leveraged to for
PhD student benefit by promoting and developing research opportunities for students
in this new concentration and provide benefit in terms of recruitment, promotion, and
branding for the entirety of the Faculty of Information.

2 Effective Date

September 2019

3 Academic Rationale

- Identification of existing fields or concentrations.
- Description of the field or concentration (its intellectual focus, etc.) and its
  relationship to existing fields or concentrations.
- Address how the proposed field or concentration relates to the current state of the
discipline or area of study. Identify pedagogical and other issues giving rise to the
creation of this program. Where appropriate, speak to changes in the area of study
or student needs that may have given rise to this development.
- Appropriateness and consistency of the field or concentration name.
- Distinctiveness.
  - Identify any distinctive or innovative aspects of the proposed field or
    concentration.
  - To what extent is what is being proposed “the norm”? As appropriate, speak to
    similar offerings elsewhere at the University of Toronto or at other universities.

Seven existing concentrations are represented in the Faculty of information: Critical
Information Studies, Library & Information Science, Archives & Records
Management, Information Systems, Media, & Design, Cultural Heritage, Knowledge
Management & Information Management, Philosophy of Information.

This concentration in Media Technology and Culture shares several defining
considerations with two concentrations; Critical Information Studies and Information
Systems Media & Design. Most notably, each of these concentrations develops an
interdisciplinary approach to important political, cultural, and technical considerations
as they relate to information. This proposed concentration draws greater attention to
the material conditions that shape and are shaped by technology and culture by
Major Modification Proposal: New Field or Concentration Within an Existing Graduate Program

drawing heavily from the fields of media studies and communication studies for its intellectual grounding.

The research interests of our faculty are disciplinarily diverse yet oriented around a particular treatment of information best described as a materialist approach to technology. The two largest clusters of research expertise in this concentration are in digital culture and human-computer interaction, with smaller clusters in media theory, political economy, network analysis, feminist technologies, mobile media, digital labour, professional writing, and intellectual property. This range of research areas reflects the interdisciplinary approach to media, culture and technology that is at the core of the twenty-faculty cohort who have initially indicated they would participate in this concentration. Further, it is a very attractive set of research foci for doctoral students as this is a growing area of scholarly and industry employment, including the non-profit cultural sector. The Faculty of Information doctoral applicant pool has increasingly shown an interest in research areas that align with this new concentration, yet the current curriculum does not best serve those interests. This new concentration has been developed to service the needs of these students to be successfully prepared to compete for jobs in these areas.

Currently, nearly all tenure-stream members of the ICCIT at UTM and several of the Media Studies Program faculty at UTSC are also members of the graduate faculty of the Faculty of Information. The new concentration consolidates emerging tri-campus strengths in media and communication studies within information studies. This consolidation will more fully support students in this area and allow for the recruitment of top faculty on all three campuses within information studies broadly, and media and communication studies more specifically. The concentration thus will significantly enlarge U of T’s research strengths in the area of information studies.

A PhD concentration in Media, Culture, and Technology would also enhance the Faculty of Information’s brand in Ontario specifically, and Canada more generally, as the place where knowledge is produced that is necessary to critically and innovatively respond to and creatively imagine new means for integrating digital information technologies and cultural practices into the social, political, and economic fabric in meaningful, ethical, equitable, and democratic ways.

While media, culture, and technology would be the defining areas of specialization, what would uniquely set our program apart from other English-language Canadian programs that specialize in research on digital information technologies, including the joint Communication and Culture program at York (Toronto) and Ryerson (Toronto), Carleton (Ottawa), Western FIMS (London), Simon Fraser University (Vancouver), and McGill (Montreal), is the focus upon information in its material forms. Whether this materiality demands unique methodological, theoretical, or practical considerations, it is the grounding upon which this concentration coheres. This defining feature both unites our faculty research specializations and provides a unique approach for potential PhD students who will be able to seamlessly move across high-
level theoretical debates, applying varied and appropriate methodologies, in order to act in scholarly, political, commercial, and governmental arenas.

Media, Technology, and Culture is an acknowledged and central area of specialization in the field of information studies and more broadly within the approach of scholars investigating the central and interactive role that these three elements (media, technology, culture) play in contemporary informational processes, institutions, and procedures. Other programs across Canada, North America, and internationally would recognize this field as a cohesive area of specialization with a unique, though related, history of scholarly enquiry.

The concentration in Media, Technology, and Culture will allow our PhD program to compete internationally with other successful programs operating in this area, which have over the past few decades combined theoretically and historically grounded insight toward the development of new methodological approaches to emerging trends in digital media uses, development, organization, and politicization.

The concentration in Media, Technology, and Culture will strengthen the U of T PhD program in Information by allowing all students new academic routes by which to fulfill the Program Learning Outcomes. This includes new research methods courses in social scientific and cultural and interpretive approaches to media, which expose students to foundational literature in this concentration area and leads to a thorough understanding of a substantial body of knowledge (PLO 1), as well as new courses which examine issues such as the intersection of power, media, and technology, which train students to become intellectually independent, academically and professionally engaged, and current with emerging information issues (PLO 4). The MTC concentration’s relationship to the PhD Program Learning Outcomes is further discussed in Table 3.

This concentration will provide area-specific courses that help create a more robust and thorough set of offerings for students in all concentrations of the PhD program that contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches, and/or materials in information studies. The Media, Culture, and Technology concentration will redistribute some preparatory work away from reading courses toward a slightly more standardized curriculum as a central component of preparing students to compete in Canada and across North America and internationally.

4 Need and Demand

• Provide a brief description of the need and demand for the proposed field or concentration focusing, as appropriate, on student interest, societal need, employment opportunities for prospective graduates, accreditation requirements, etc.
The Faculty of Information applicant pool has increasingly shown an interest in research areas that align with this new concentration, yet the current curriculum does not best serve those interests. The new concentration has been developed to service the needs of these students to be successfully prepared to compete for jobs in these areas. Specifically, numerous current students and recent graduates have done research and been professionalized in the area of media, technology, and culture. In the past ten years (2009-2018) 64% of PhD graduates from the Faculty of Information (30 of 47) researched topics highly related to Media, Technology, and Culture, and in the past five years, this number has increased to 74%.

It is these kinds of students who we would expect to be attracted to the concentration and who it is expected would benefit from the proposed curriculum. Further, many of these students were advised by the faculty component below.

Faculty listed in Table 4 have already placed more than 20 PhD graduates in tenure-line positions in the areas of media and communication studies over the past six years (though many of these placements came while the faculty were at other institutions). According to the 2015 report titled “Where are Canada’s PhDs Employed,” published by the Conference Board of Canada, 40% of PhD graduates work in the post-secondary education (PSE) sector, while the majority of PhDs end up working outside academia (https://www.conferenceboard.ca/press/newsrelease/15-11-24/Where_Are_Canada_s_PhDs_employed.aspx?AspxAutoDetectCookieSupport=1).

We note that, in keeping with this trend the MTC concentration will prepare PhD graduates for roles in industry, such as government (policy analysis), the technology sector, and in non-profit organizations. Several faculty listed in Table 4 have already placed 8 PhD graduates in these sectors over the past six years.
Table 1: Projected MTC Concentration Participation Relative to Total PhD FTE Enrolment

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Notes:
- The Faculty of Information PhD Program in Information has one recruitment and admissions committee and students apply to and are admitted to the Program not to a specific concentration. Student course selection and research affinity determines participation in a concentration area.
- The above projections reflect our expectations based on interest in this concentration, and are not meant to direct the future decisions of the PhD Recruitment and Admissions Committee.
- Due to funding constraints, the large majority of students in the MTC concentration are expected to be domestic with limited consideration for top international applications. This is consistent with expectations for the broader PhD program.
- Overall 5-year growth of 91% in the PhD program is projected to be driven largely by the introduction of the MTC concentration.
- A steady state of 32 FTE additional doctoral students is projected in 2024-2025.
- Given the balance of faculty expertise among faculty with graduate their graduate appointment in the Faculty of Information, in academic year 2019-2020 the MTC concentration is expected to represent 37.5% of the incoming cohort and 13.6% of the total program. By steady state, relative MTC participation is expected to rise to 42% of the incoming cohort and form 42% of the total PhD program.
- Partial FTEs are the result of PhD Flex-time enrolment.
5 Admission Requirements

- Comment on the relationship of the admission requirements for the field or concentration to those of the parent program.
  - If the same, describe the program admission requirements.
  - If different, describe the field or concentration admission requirements; indicate how they are different from those of the parent program, and provide a rationale for the difference in relation to the focus and learning outcomes of the field or concentration; i.e., how are these admissions requirements suitable to help support the success of students.
- How will these be administered?

The Faculty of Information PhD Program in Information has one recruitment and admissions committee (the PhD Recruitment and Admissions Committee -- PRAC) and students apply to and are admitted to the Program, not to a specific concentration. There are no concentration-specific target enrollments but a program-wide enrollment target. Students are admitted who meet the requirements of the program and for whom a supervisor and committee members are identified. The PRAC engages with all faculty members who have full graduate membership in the Faculty of Information to help identify potential supervisors and committee members for top applicants.

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Faculty of Information's additional admission requirements stated below.
- Average of at least A- in an appropriate master's degree program, or equivalent. Equivalency is normally determined by the number of courses and/or credits taken. Applicants holding an MLS or other master's degree earned in two or three sessions, or by completing 5.0 to 7.5 full-course equivalents (FCEs), will normally be required to take additional courses in the MI program.
- Admission is limited to graduates of high intellectual ability who have an interest in research. Evaluation of applicants is based on academic records, a statement of research interest, and three academic letters of reference. A personal interview may be requested.
- All incoming graduate students must have a good command of English. All applicants educated outside Canada whose primary language is not English must demonstrate proficiency in the English language. This requirement is a condition of admission and must be met before an offer of admission is made. The English language requirement may be satisfied using one of the following tests. Scores must be from tests taken within the last two years.
  - Test of English as a Foreign Language (TOEFL) with the following minimum scores:
    - paper-based TOEFL exam: 600 with 5.5 on the Test of Written English (TWE)
6 Program Requirements

In May 2018 the Faculty of Information approved a minor modification to the PhD program requirements. As this modification is effective September 2019, it is not reflected in the 2018-2019 SGS calendar. These changes will be published in the 2019-2020 SGS calendar.

This proposal for the creation of a new concentration in Media, Technology, and Culture is based on the Faculty of Information PhD program requirements as they currently exist after the modification in May 2018.

It is important to note that the MTC concentration requirements fit entirely within the framework of the overall PhD program requirements after the May 2018 modification. Students in the MTC concentration will not fulfill a different set of requirements than their counterparts in other areas of the PhD program; rather, they will simply follow a more specific path through the same set of requirements.

In the current PhD requirements, to achieve candidacy, students must fulfill the following requirements:

- Complete 4.0 full-course equivalents (FCEs) as follows:
  - INF 3001H Research in Information: Foundations (0.5 FCE)
  - A methods course: INF 3003H Research in Information: Frameworks and Design (0.5 FCE) or a specific methods course (to be determined through consultation with research advisor) (0.5 FCE)
  - INF 3006Y Major Area Reading Course (1.0 FCE) or 2 additional electives (to be determined through consultation with research advisor) (1.0 FCE)
  - 2.0 FCEs in elective courses.
- Other courses appropriate for the student's research may also be required.
- Pass a qualifying exam.
- Present and defend a thesis research proposal.
To achieve candidacy in the MTC concentration, students must fulfill the following requirements:

- Complete 4.0 full-course equivalents (FCEs) as follows:
  - INF 3001H Research in Information: Foundations (0.5 FCE)
  - A methods course: INF 3003H Research in Information: Frameworks and Design (0.5 FCE), INF30XXH Social Scientific Methods for Media (0.5 FCE) or INF30XXH Cultural and Interpretive Methods for Media (0.5 FCE) or a specific methods course (to be determined through consultation with research advisor) (0.5 FCE). Notes: 1) students in the MTC concentration must normally take INF30XXH Social Scientific Methods for Media or INF30XXH Cultural and Interpretive Methods for Media; 2) all methods courses are open to students in all concentrations in the PhD program.
  - Instead of: INF 3006Y Major Area Reading Course (1.0 FCE) or 2 additional electives (to be determined through consultation with research advisor) (1.0 FCE), they must normally take: INF3009H Theory and History of Media Technology (0.5 FCE) and INF30XXH Power, Media and Technology (0.5 FCE) Notes: in the same way that INF3006Y helps students prepare for their thesis proposal, these two courses serve to help the students prepare for their thesis proposal.
  - 2.0 FCEs in elective courses (see below for example courses that are open to students in all PhD concentrations)
    - Other courses appropriate for the student's research may also be required.
    - Pass a qualifying exam.
    - Present and defend a thesis research proposal.

Post-candidacy requirements are the same for all concentrations.

Course Descriptions:

The following MTC required courses are proposed to focus on critical areas of research within the Media, Technology, and Culture concentration, but are not meant to be exclusive to students in this concentration. Rather, they are designed to fulfill PhD Program Learning Outcomes for any student who takes them to fulfill the obligations of their PhD program, regardless of their chosen concentration.

INF3009H (0.5 FCE) - Theory and History of Media Technology

This course examines the history of media technology and its iterative relationship to the social, cultural, economic, and legal structures conditioning its development. Students will explore this relationship using a variety of theoretical literatures useful to the study of technological systems, including critical theory, science and technology studies, actor-network theory, social construction of technology, cultural studies, and political economy.
Through course deliverables, students demonstrate focused understandings of how the history of media technology has developed in relation to the social, cultural, economic, and legal structures that have provided the conditions under which it has developed. This is designed to fulfill objectives such as PLO 1: Depth and Breadth of Knowledge - A thorough understanding of a substantial body of knowledge that is at the forefront of information, and PLO 2: Research and Scholarship - a. The ability to conceptualize, design, and implement research that generates new knowledge, applications, and understanding at the forefront of information.

INF3XXXH (0.5 FCE) - Power, Media, and Technology

This course investigates the way in which power manifests itself in uneven ways across the media, technological, and cultural landscapes. In particular, considerations of race, gender, sexuality, and class will be addressed in terms of how media and technology are implicated in structural inequity. Finally, the central role of technology in structuring and organizing power relations will be examined.

Through discussion of and critical response to readings in this course, students will be provided with opportunities to demonstrate their ability to make informed judgements, and to demonstrate a capacity to communicate their research and understanding of the field. This fulfills objectives such as PLO 2: Research and Scholarship - b. The ability to make informed judgments on complex and emerging issues in information studies, which may require the creation of innovative methodologies;

INF 30XXH Social Scientific Methods for Media

This course is a survey of social scientific methods used in the mainstream of social sciences, including sociology, political science, and psychology. Students will learn about both quantitative and qualitative methods. Quantitative methods will include the collection and analysis of survey, experimental, and digital trace data. Qualitative methods will include the collection and analysis of interview, ethnographic, and textual/material data. Throughout this course students will consider the ethical implications different methodological approaches, and how to design a research project with practical constraints in mind.

This course presents the opportunity for students to learn and apply foundational theories in the field of Media, Technology and Culture through coursework deliverables such as research papers, proposal reviews, and research design documents. This fulfills objectives such as PLO 2: Research and Scholarship - b. The ability to make informed judgments on complex and emerging issues in information studies, which may require the creation of innovative methodologies, as well as c. The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication in diverse scholarly and practitioner venues.
INF 30XXH Cultural and Interpretive Methods for Media

This course is a survey of cultural and interpretive methods as they are applied to the study of media and technology across fields such as media studies, science and technology studies, cultural studies, game studies, and internet studies. Students will learn about the genealogical, analytical and interpretative approaches to media content and technologies as well as cultural and critical ethnographic approaches to the understanding of media audiences, online communities, and creative labour participants. The emergent ethical and political dimensions of cultural and interpretive research will be stressed.

This course presents the opportunity for students to learn and apply foundational theories in the field of Media, Technology and Culture through coursework deliverables such as research papers, proposal reviews, and research design documents. This fulfills objectives such as PLO 2: Research and Scholarship - b. The ability to make informed judgments on complex and emerging issues in information studies, which may require the creation of innovative methodologies, as well as c. The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication in diverse scholarly and practitioner venues.

Example Elective Courses:

Note: It is expected that two electives will be offered annually as special topics in MTC. There will be a different set of two offered each year over 3 years and then the set may repeat. These courses are open to students in all concentrations in the PhD program. Some example topic areas are listed below.

Infrastructure, Technology, Platform

This course investigates the role of information in social and cultural activities and how information technology is impacting the capacity to create, find, access, use, share, transform, and curate information. We will consider the implications for individuals, groups, organizations, institutions, and society at large.

Networks, Data, Analytics

This course delves into theories and analysis of networked data, using methods of large-scale information analysis in terms of network, textual, and other kinds of digital trace data. We will pay close attention to the processes which produce digital trace data and learn methods of handling these types of data at scale using tools from computer science and data science.

Markets, Labour, Policy
This course investigates the production, distribution, consumption, and disposal of media technologies and informational artifacts with particular emphasis given to political economic concerns and policy. Students will analyze the transformation of information into a marketable commodity while giving careful attention to the implications for forms of labour, exploitation and policy formation.

Design, Practice, Installation

This course contextualizes digital theory within the field of design by linking theory to creative practice, allowing students to consider how the historical precedents of digital media relate to the social, cultural, and political contexts of its development. Students will consider how conceptual and theoretical approaches to design are linked to developments in technology and their relevant communities of practice. Students will also look at the implications of digital media for the physical body, the psyche, individual subjectivity, collective identity, and the environment.

Media, Technology, and Methods II

This course delves more deeply into methodologies for studying media and technology. We will pay close attention to more sophisticated methods of inquiry. Depending on the course instructor, this can include a deep dive into natural language processing, social network analysis, or spatial data analysis.

Interaction Studies

This course surveys theories of HCI design, models of user interfaces, interface design, and empirical approaches for analyzing systems and interfaces. This course emphasizes applied user experience (UX) design grounded in the analysis of the essential aspects of human perception and cognition. Students will evaluate design through an emphasis on UX lifecycle, usability, utility, and emotional impressions.

7 Degree-Level Expectations (DLEs), Program Learning Outcomes and Program Structure

- Clearly outline the learning outcomes as they relate to the proposed field or concentration, underlining where these are similar to or different from those for existing fields or concentrations. Indicate the means by which students will satisfy the relevant DLEs.
- Demonstrate the clarity and appropriateness of the program’s requirements and associated learning outcomes in addressing the institution’s DLEs.
### Table 3: Doctoral DLEs

<table>
<thead>
<tr>
<th>PhD Degree-Level Expectations (Based on the Ontario Council of Academic Vice-Presidents DLEs)</th>
<th>PhD Program Learning outcomes for Faculty of Information PhD in Information</th>
<th>How the Program Design and Requirement Elements Support the Attainment of Student Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depth and Breadth of Knowledge A thorough understanding of a substantial body of knowledge that is at the forefront of their academic discipline or area of professional practice.</td>
<td>1. Depth and Breadth of Knowledge A thorough understanding of a substantial body of knowledge that is at the forefront of information.</td>
<td>The elements of the MTC concentration that ensure these outcomes are achieved include the courses that focus on theory and history of media technology, power structures and research foundations and methods. INF3009H Theory &amp; History of Media Technology; INF30XXH Power, Media &amp; Technology; INF30XXH Social Scientific Methods for Media; INF30XXH Cultural &amp; Interpretative Methods for Media. Through research papers, presentations, design schemas, and annotated bibliographies, students demonstrate focused understandings of how the history of media technology has developed in relation to the social, cultural, economic, and legal structures that have provided the conditions under which it has developed, and the specific methodological approaches to studying MTC topics. Students also expand their foundational knowledge through a selection of elective courses that closely examine the materiality of practices (e.g. INF30XX Interaction Studies; INF30XXH Networks, Data, Analytics; INF30XXH Information Technology Platforms). The qualifying exam ensures the attainment of a depth and breadth of knowledge</td>
</tr>
</tbody>
</table>

Developed by the Office of the Vice-Provost, Academic Programs
Template updated on March 7, 2017
<p>| PhD Degree-Level Expectations (Based on the Ontario Council of Academic Vice-Presidents DLEs) | PhD Program Learning outcomes for Faculty of Information PhD in Information | How the Program Design and Requirement Elements Support the Attainment of Student Learning Outcomes within the Media, Technology and Culture field. |</p>
<table>
<thead>
<tr>
<th><strong>PhD Degree-Level Expectations (Based on the Ontario Council of Academic Vice-Presidents DLEs)</strong></th>
<th><strong>PhD Program Learning outcomes for Faculty of Information PhD in Information</strong></th>
<th><strong>How the Program Design and Requirement Elements Support the Attainment of Student Learning Outcomes</strong></th>
</tr>
</thead>
</table>
| **2. Research and Scholarship**  
- The ability to conceptualize, design and implement research for the generation of new knowledge, applications or understanding at the forefront of the discipline, and to adjust the research design or methodology in the light of unforeseen problems;  
- The ability to make informed judgments on complex issues in specialist fields, sometimes requiring new methods;  
- The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication. | **2. Research and Scholarship**  
- The ability to conceptualize, design, and implement research that generates new knowledge, applications, and understanding at the forefront of information;  
- The ability to make informed judgments on complex and emerging issues in information studies, which may require the creation of innovative methodologies;  
- The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication in diverse scholarly and practitioner venues. | **a. INF3001H Research in Information: Foundations; INF30XXH Social Scientific Methods for Media; INF30XXH Cultural & Interpretative Methods for Media**  
Through the examination and development of research topics/themes/questions, the above required courses in the MTC concentration include requirement elements that ensure student outcomes for research and scholarship. This includes the development of a research question(s) that reflects the current issues in the field of Media, Technology and Culture and further develop a comprehensive literature, research proposal and research for the PhD dissertation.  

**b. INF3009H Theory & History of Media Technology; INF30XXH Power, Media & Technology**  
Through discussion of readings and later the writing and presentation of research papers and ultimately a Qualifying Exam, students will be provided with opportunities to demonstrate their ability to make informed judgements which draw on courses in a. above to demonstrate a capacity to communicate their research and understanding of the field.  

**c. INF3009H Theory & History of Media Technology**;
<table>
<thead>
<tr>
<th>PhD Degree-Level Expectations (Based on the Ontario Council of Academic Vice-Presidents DLEs)</th>
<th>PhD Program Learning outcomes for Faculty of Information PhD in Information</th>
<th>How the Program Design and Requirement Elements Support the Attainment of Student Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>INF30XXH Power, Media &amp; Technology; INF3001H Research in Information: Foundations. Through the writing of research papers from the abovementioned required courses, the presentation and defense of a thesis proposal, and the creation and defence of a major research thesis, students will be advised by their supervisors to evolve research papers and thesis chapters into publishable forms that meets the standards of peer review in journals at the top of the MTC field.</td>
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<tr>
<td>PhD Degree-Level Expectations (Based on the Ontario Council of Academic Vice-Presidents DLEs)</td>
<td>PhD Program Learning outcomes for Faculty of Information PhD in Information</td>
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</tbody>
</table>
| 3. Level of Application of Knowledge  
The capacity to  
• Undertake empirical and/or applied research at an advanced level;  
• Contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches and/or materials. | 3. Level of Application of Knowledge  
The capacity to: i) undertake pure and/or applied research at an advanced level in information studies; and ii) contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches and/or materials in information studies. | The MTC concentration design and requirement elements that ensure these student outcomes for level and application of knowledge are in the following required courses:  
i) INF3001H Research in Information: Foundations;  
INF30XXH Social Scientific Methods for Media;  
INF30XXH Cultural & Interpretative Methods for Media  
The opportunity for students to learn and apply foundational theories in the field of Media, Technology and Culture through coursework deliverables such as research papers, proposal reviews, research design documents, and the presentation and defense of a Thesis Proposal.  
ii) INF3009H Theory & History of Media Technology;  
INF30XXH Power, Media & Technology. Students contribute to the development of academic and professional skills via seminar discussions in these courses with faculty and industry professionals on policy development, the critique and design of networks, and through the development of PhD research day presentations and academic posters. |
### PhD Degree-Level Expectations (Based on the Ontario Council of Academic Vice-Presidents DLEs)

#### 4. Professional Capacity / Autonomy

- a. The qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and largely autonomous initiative in complex situations;
- b. The intellectual independence to be academically and professionally engaged and current;
- c. The ethical behavior consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and
- d. The ability to evaluate the broader implications of applying knowledge to particular contexts.

### PhD Program Learning outcomes for Faculty of Information PhD in Information

- a. The qualities and transferable skills necessary for employment requiring the exercise of personal responsibility, maintenance of high ethical standards, and largely autonomous initiative in complex situations;
- b. The intellectual independence to be academically and professionally engaged and current with emerging information issues;
- c. The ethical behavior consistent with academic integrity and the use of appropriate guidelines, procedures and appropriate methodologies for responsible conduct of research; and
- d. The ability to evaluate the broader implications of applying knowledge to particular information contexts.

### How the Program Design and Requirement Elements Support the Attainment of Student Learning Outcomes

The MTC concentration design and requirement elements that ensure these student outcomes for level of communication skills are in the following required courses/elements:
- INF3009H Theory & History of Media Technology;
- INF30XXH Power, Media & Technology; INF3001H Research in Information: foundations;
- INF30XXH Social Scientific Methods for Media;
- INF30XXH Cultural & Interpretative Methods for Media

Opportunities for students to participate in discussions and panels based on issues in the field of Media, Technology and Culture studies, present their research through scholarly articles, academic posters, and conference presentations; passing a Qualifying Examination; and through their oral dissertation research proposal and defense presentations.
<table>
<thead>
<tr>
<th>PhD Degree-Level Expectations (Based on the Ontario Council of Academic Vice-Presidents DLEs)</th>
<th>PhD Program Learning outcomes for Faculty of Information PhD in Information</th>
<th>How the Program Design and Requirement Elements Support the Attainment of Student Learning Outcomes</th>
</tr>
</thead>
</table>
| 1. 5. Level of Communication Skills  
2.  
3. The ability to communicate complex and/or ambiguous ideas, issues and conclusions clearly and effectively | 5. Level of Communication Skills  
The ability to communicate complex and/or ambiguous ideas, social and policy issues, and conclusions clearly and effectively for academic, professional and community audiences. | The MTC concentration design and requirement elements that ensure a superior level of communication skills are in required courses:  
INF3001H Research in Information: Foundations;  
INF3009H Theory & History of Media Technology;  
INF30XXH Power, Media & Technology;  
INF3001H Research in Information: foundations;  
INF30XXH Social Scientific Methods for Media;  
INF30XXH Cultural & Interpretative Methods for Media  
The required courses focus on the honing of excellence in written, oral and design skills through the production of research papers, design schemas, presentation and defense of the thesis Proposal – all outcomes for Professional Capacity and Autonomy.  
Students may also optionally participate in The Graduate Professional Skills (GPS) program, an initiative of the School of Graduate Studies, designed to help all graduate students become fully prepared for their future through further developing communication, time management and entrepreneurial skills. Students are encouraged to participate in Faculty PhD Research Day presentations and Research in Progress presentations to share their progress, ideas and get feedback from the academic and community. |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
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<td>other communities. Students will also have the opportunity to demonstrate their capacity to follow ethical standards and maintain integrity when conducting and presenting research to a broad range of audiences, cognizant of the current climate around media and technology.</td>
</tr>
<tr>
<td>PhD Degree-Level Expectations (Based on the Ontario Council of Academic Vice- Presidents DLEs)</td>
<td>PhD Program Learning outcomes for Faculty of Information PhD in Information</td>
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</tbody>
</table>
| 5. **6. Awareness of Limits of Knowledge**  
An appreciation of the limitations of one’s own work and discipline, of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines.  
Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting. | 6. **Awareness and Limits of Knowledge**  
An appreciation of the limitations of one’s own work in information studies, and of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines in information studies. | The MTC concentration design and requirement elements that ensure these student outcomes for awareness of limits of knowledge are included in required courses:  
INF3001H Research in Information: Foundations;  
INF3009H Theory & History of Media Technology;  
INF30XXH Power, Media & Technology;  
INF3001H Research in Information: foundations;  
INF30XXH Social Scientific Methods for Media;  
INF30XXH Cultural & Interpretative Methods for Media  
These courses involve methodological training; foundational readings in the theory and concepts in media, technology and cultural studies; oral and written assessment of knowledge of the theory/concepts; development of a doctoral proposal; preparation of research ethics proposal (as required); and lifelong participation in the community of research scholarship and professional development through peer reviewing articles, membership in scholarly associations, contributions to conferences, etc. |
8 Assessment of Teaching and Learning

- Please describe the methods of evaluation for the various program requirements as they relate to the proposed field or concentration.
- Describe how the methods for assessing student achievement are appropriate and effective relative to established program learning outcomes and DLEs (in other words, how will faculty be able to determine whether students have learned and can do what we expect them to by the end of the program).
- How will the program document and demonstrate the level of performance of students consistent with the University’s DLEs?

In their first two years of the program, students will complete core courses and electives and write their qualifying examination. Coursework and the qualifying exam will enable students to engage the field through breadth and depth, and place their work within a broad historical scope of scholarship. Coursework includes assigned readings, research papers, in-class presentations/leading seminar discussions, and engaged participation in seminars, all of which will expose students to cutting-edge, cross-disciplinary scholarship in the field. In their third year, students will complete and defend a proposal for a novel, feasible, and useful dissertation project that integrates disparate paradigms and disciplines, and begin research for the dissertation. Students will complete and defend their dissertations in their fourth year. Cumulatively, coursework, the qualifying exam, dissertation proposal, and dissertation will prepare students to undertake independent research in the interdisciplinary field of media, technology and culture. Faculty will also encourage PhD students to make use of professional development seminars and resources available through the School of Graduate Studies’ Graduate Professional Skills Program.

In their first two years of the PhD program, students are assessed by faculty in individual courses and by their qualifying exam committee through their examination. In addition, students will be encouraged to prepare a presentation on their research in progress for the annual PhD Research Days, and their progress through the program will be assessed annually through an annual review process, described below. Students are expected to complete their qualifying exam (written and oral components) and successfully defend their dissertation proposal by the end of their third year in order to achieve candidacy. Faculty supervisors will work closely with each student to ensure their progress. As students undertake research for their dissertations, they are expected to meet regularly with their supervisor and dissertation committee. By presenting their research in progress annually at the PhD Research Days, students receive feedback from a panel of faculty members and an external scholar.

Each year, students must submit an Annual Progress Report (APR), signed by their research supervisor, and include a current copy of their CV. The Director of Doctoral Studies, the Committee on Standing Sub-Committee on Doctoral Matters, and all faculty members are invited to review and comment on the reports and attend the meeting where each student’s progress is discussed. The students receive a written summary of the committee’s discussion of their progress, which often includes recommendations, and they must sign-off to acknowledge receipt of the report.

By the end of the program, students will have demonstrated expertise in their field and will have produced an original piece of research in the area of media, culture, and technology that
will prepare them to obtain a position in the academy, industry, or non-profit/governmental sectors.

A continuum of success and assessment of the PhD program is documented using a number of mechanisms: through the cyclical program reviews process; by assessing student results during the program; by assessing student results upon graduation (partially tracked through alumni surveys and the 10,000 Ph.Ds project run through SGS); through meetings of the PhD program faculty during which the design of the program is discussed at Faculty Meetings; through program design discussions during activities in the PhD Recruitment and Admissions Committee (PRAC); from data about the instructors’ assessments of SLOs in PhD courses (required in all syllabi); and through student evaluations of teaching in those courses.

9 Consultation

- Describe the expected impact of what is being proposed on the nature and quality of the unit’s/division’s program of study and any impact on other units/divisions.
- Describe any consultation with the Deans of Faculties/divisions that will be implicated or affected by the creation of the proposed field or concentration.

The proposed concentration will enhance the course offerings in the graduate faculty supporting master’s and doctoral programs. Additionally, a concentration in Media, Technology and Culture defines a clear area drawing existing U of T scholars together for academic exchange and will attract like scholars to UofT for collaborations.

Beginning in Spring of 2017 and continuing throughout 2018 we have had several consultation meetings. An initial meeting was held with faculty, the Faculty of Information Dean and PhD Program Director and representatives from the Office of the Vice-Provost Academic Programs (Jennifer Francisco and Daniella Mallinick) on September 6, 2016. Two meetings between Rhonda McEwen, Jeremy Packer, Wendy Duff (Dean Faculty of Information), Heather MacNeil (PhD Program Director), and Kelly Lyons (Associate Dean Academic, Faculty of Information) were held in late 2016 and early 2017. Two meetings with the 20 faculty listed in Table 4 were held to develop the concentration structure and proposal in May of 2017 and June of 2017. An initial version of the concentration proposal was presented to the entire Faculty of Information in September of 2018 and a revised version was presented to the entire Faculty of Information in April 2018. A final meeting was held in September of 2019 with the new PhD Program Director, Seamus Ross, Rhonda McEwen, Jeremy Packer, Kelly Lyons, Colin Anderson (Associate Registrar), and Christine Chan (Registrarial Assistant). A final meeting with existing doctoral students was held on Oct 31st, 2018 to discuss most current version of the proposal= with Rhonda McEwen, Jeremy Packer, Seamus Ross, and Kelly Lyons.

A high-level description of the program was discussed with three senior management industry representatives – Ms. Roula Shimaly (PWC - advisory); Mr. Liban Gasshan, (Government of Ontario – Policy); and Ms. Trisha Cipriani (TD Bank – Projects). All
three indicated that there would be interest in considering graduates of this doctoral program for hire in relevant senior research positions.

Commitment was secured for annual teaching and supervisory workload from both Prof. Anthony Wensley, Director, Institute of Communications, Culture, Information and Technology (ICCIT) and Prof. Barry Freeman, Interim Chair, Dept. of Arts, Culture & Media, University of Toronto Scarborough. Further support was provided from Prof. Jeremy Packer, Associate Dean, Graduate at the University of Toronto, Mississauga and Prof. Mary Silcox, Vice Dean Graduate, UTSC. (See Appendix B.)

10 Resources

- Describe any resource implications of the change(s) including, but not limited to, faculty complement, space, libraries and enrolment/admissions.
- Please specify where this may impact significant enrolment agreements with the Faculty/Provost’s office.
- Indicate if the major modification will affect any existing agreements with other institutions, or will require the creation of a new agreement to facilitate the major modification (e.g., Memorandum of Understanding, Memorandum of Agreement, etc.). Please consult with the Provost’s office (vp.academicprograms@utoronto.ca) regarding any implications to existing or new agreements.

While it is expected that more courses will need to be offered to fulfill the curricular obligations of the concentration, the resource implications will be minimal. For one, the Faculty of Information already teaches several of these courses. More importantly, the increased number of courses being taught by recent and future hires with research expertise in this concentration will more than offset the number of courses necessitated. A maximum of six courses will be offered every year:

- Two methods courses: INF30XXH Social Scientific Methods for Media (0.5 FCE) and INF30XXH Cultural and Interpretive Methods for Media (0.5 FCE)
- INF3009H Theory and History of Media Technology (0.5 FCE)
- INF30XXH Power, Media and Technology (0.5 FCE)
- Two special topics electives (there will be a different set of two offered each year over 3 years and then the set may repeat)

In some years, it may be the case that the two methods courses are each offered every other year which would result in a total of 5 courses needed per year to fulfill the requirements of the new concentration.

The general expectation is that all faculty with primary appointment at UTSC or UTM who is a member of the Faculty of Information will teach one graduate course per year (see consultation section 9 for workload commitments from those units). There are currently 9 tenure stream research faculty in the ICCIT at UTM and 5 tenure stream research faculty in the Media Studies program at UTSC who have full-member graduate appointments in the Faculty of Information. The majority of these faculty members were hired in the past five years, several more searches are under way this year, and it is expected that further additions to the faculty complement will continue to
be granted in the coming years based upon the recommendations of external reviews. There is an existing commitment for UTSC and UTM faculty to teach graduate courses at the Faculty of Information, serve as PhD advisors, and serve on dissertation supervisory committees. Many of the courses being taught by UTSC and UTM faculty are elective courses in the Faculty’s Master of Information (MI) program. The Faculty does not have the need nor capacity for this many elective courses in the MI program so there is capacity for faculty members to teach doctoral-level courses.

### 10.1 Faculty Complement

- Brief statement to provide evidence of the participation of a sufficient number and quality of faculty who will actively participate in the delivery of the program.
  - Comment on the expertise of the faculty who will actively support or participate in the field or concentration and discuss the role of any adjunct or contractual faculty.
  - Comment on the impact of the field or concentration on the parent program, focusing on the extent of the diversion of faculty from existing graduate courses and/or supervision.
  - Comment on the provision of supervision of experiential learning opportunities, as appropriate.
  - If relevant, describe the plan to provide additional faculty resources to support the program.

The new concentration will be offered from the existing faculty complement. The Faculty of Information currently possesses the human capital to mount this concentration – indeed it is currently offering it without the benefit of an explicit concentration identification. While the new concentration will call for the creation of a more deliberate and cohesive grouping of skills and objectives around technology and media studies, new faculty resources will not be required.

Our proposal is actively supported by a number of faculty appointed or cross-appointed at the Faculty of Information. Adjunct and contractual faculty have always participated in graduate teaching at the Faculty of Information and will continue to do so with the new concentration. Further, the number of recently hired faculty, on all three campuses, has greatly enhanced the number of available faculty whose long-term academic success would be greatly enhanced by more extensive collaboration with PhD students. As such, there will be no diversion of existing faculty resources away from other concentrations. Combined, the faculty expertise will enable the coverage of a broad number of subjects within technology and media studies, and the range of their backgrounds will ensure appropriate interdisciplinarity is achieved at both the teaching and research levels. Most of the faculty listed below are already teaching at the graduate level within the Faculty of Information; many supervise MI and/or PhD students and all of those with graduate appointments in the Faculty of Information have full membership in SGS.
### Table 4: Detailed Listing of Committed Faculty

<table>
<thead>
<tr>
<th>Faculty Name and Rank</th>
<th>Home Unit of Budgetary Appointment</th>
<th>Graduate Appointment(s)</th>
<th>Area(s) of Specialization</th>
<th>Potential Course Instructor for MTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruoyun Bai, Associate Professor</td>
<td>Arts, Culture &amp; Media (UTSC)</td>
<td>Current grad home is with Comparative Lit and Cinema Studies but is pursuing an additional appointment with Faculty of Information</td>
<td>Media scandals, Chinese Internet and politics, Digital Cultural Practices</td>
<td>Cultural and Interpretive Methods for Media</td>
</tr>
<tr>
<td>Jeffrey Boase, Associate Professor</td>
<td>Institute of Communication, Culture, Information &amp; Technology (UTM)</td>
<td>Faculty of Information</td>
<td>Mediated Communication, Social Networks, Mixed Methods</td>
<td>Social Scientific Methods for Media Networks, Data, Analytics Media, Technology, and Methods II</td>
</tr>
<tr>
<td>Kenzie Burchell, Assistant Professor and Director of the Specialist Program in Journalism, ACM</td>
<td>Arts, Culture &amp; Media (UTSC)</td>
<td>Faculty of Information</td>
<td>Media Sociology, Mobile Communications, Surveillance and Platform Studies, Journalism Studies</td>
<td>Cultural and Interpretive Methods for Media Infrastructure, Technology, Platform</td>
</tr>
<tr>
<td>Nadia Caidi, Associate Professor</td>
<td>Faculty of Information</td>
<td>Faculty of Information</td>
<td>Information Behaviour, Migration and Displacement, Information Policy</td>
<td>Social Scientific Methods for Media Design, Practice, Installation</td>
</tr>
<tr>
<td>Brett Caraway, Assistant Professor</td>
<td>Institute of Communication, Culture, Information &amp; Technology (UTM)</td>
<td>Faculty of Information</td>
<td>Marxist Theory, Economics, Internet law and policy, Social Movements</td>
<td>Power, Media, and Technology Markets, Labour, Policy</td>
</tr>
<tr>
<td>Nicole Cohen, Assistant Professor</td>
<td>Institute of Communication, Culture,</td>
<td>Faculty of Information</td>
<td>Political Economy of Communication,</td>
<td>Power, Media, and Technology</td>
</tr>
<tr>
<td>Proposed Program</td>
<td>Faculty of Information &amp; Technology (UTM)</td>
<td>Faculty of Work and Labour Studies, Journalism</td>
<td>Markets, Labour, Policy</td>
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<tr>
<td>T. L. Cowan, Assistant Professor</td>
<td>Arts, Culture &amp; Media (UTSC)</td>
<td>Transgender, Feminist and Queer Media &amp; Cultural Studies, Digital Research Ethics, Performance Studies</td>
<td>Power, Media, and Technology Cultural and Interpretive Methods for Media Media, Technology, and Methods II</td>
<td></td>
</tr>
<tr>
<td>Alessandro Delfanti, Assistant Professor</td>
<td>Institute of Communication, Culture, Information &amp; Technology (UTM)</td>
<td>Digital Labour; Science &amp; Technology Studies, Digital Culture, Science Communication</td>
<td>Markets, Labour, Policy Design, Practice, Installation</td>
<td></td>
</tr>
<tr>
<td>Alan Galey, Associate Professor, Director of the Collaborative Specialization in Book History and Print Culture</td>
<td>Faculty of Information</td>
<td>History and Future of the Book; Textual Scholarship; Digital Technologies</td>
<td>Cultural and Interpretive Methods for Media</td>
<td></td>
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<tr>
<td>Sara Grimes, Associate Professor</td>
<td>Faculty of Information</td>
<td>Children's Media and Play, Digital Game Studies, Critical Theories of Technology</td>
<td>Cultural and Interpretive Methods for Media Media, Technology, and Methods II Design, Practice, Installation Interaction Studies</td>
<td></td>
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<tr>
<td>Tero Karppi, Assistant Professor</td>
<td>Institute of Communication, Culture, Information &amp; Technology (UTM)</td>
<td>Social Media, Media Theory, Affect Theory, AI, Algorithms, Platform Studies, Facebook</td>
<td>History and Theory of Media Technology Infrastructure, Technology, Platforms</td>
<td></td>
</tr>
<tr>
<td>Patrick Keilty, Assistant Professor</td>
<td>Faculty of Information</td>
<td>Technology Studies, Media Studies, Pornography,</td>
<td>Power, Media, and Technology Infrastructure, Technology, Platforms</td>
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</table>
### Proposed Areas of Focus

<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Institute</th>
<th>Faculty of Information</th>
<th>Areas of Focus</th>
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</thead>
<tbody>
<tr>
<td>ME Luka, Assistant Professor</td>
<td>Arts, Culture &amp; Media (UTSC)</td>
<td>Faculty of Information</td>
<td>Gender, Sexuality, Race Design, Practice, Installation; History and Theory of Media Technology Infrastructure; Cultural and Interpretive Methods for Media Media, Technology, and Methods II</td>
</tr>
<tr>
<td>Rhonda McEwen, Associate Professor</td>
<td>Institute of Communication, Culture, Information &amp; Technology (UTM)</td>
<td>Faculty of Information</td>
<td>Social/New media, Network Analysis, Mobile Communication, Information Practices Social Scientific Methods for Media Networks, Data, Analytics Infrastructure, Technology, Platform Media, Technology, and Methods II Design, Practice, Installation</td>
</tr>
<tr>
<td>Cosmin Munteanu, Assistant Professor</td>
<td>Institute of Communication, Culture, Information &amp; Technology (UTM).</td>
<td>Faculty of Information plus an Associate Membership with the Department of Computer Science.</td>
<td>User Experience (UX) Design, Human-Computer Interaction, Ethics, Natural Language Processing, Assistive Technologies Social Scientific Methods for Media Networks, Data, Analytics Media, Technology, and Methods II Design, Practice, Installation Interaction Studies</td>
</tr>
<tr>
<td>David Nieborg, Assistant Professor</td>
<td>Arts, Culture &amp; Media (UTSC)</td>
<td>Faculty of Information</td>
<td>Political Economy, Platform and App Studies, Game Studies, Games Journalism Power, Media, and Technology Infrastructure, Technology, Platforms Markets, Labour, Policy</td>
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</tbody>
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Developed by the Office of the Vice-Provost, Academic Programs Template updated on March 7, 2017

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Ruoyun Bai’s research interests include televisual practices in the digital era, the political economy of scandals, and scandal narratives, primarily in the Chinese context. She teaches contemporary media cultures in East Asia, Chinese media and politics, and scandal as a global phenomenon. Her current scholarship focuses on the transmedia production and circulation of scandal narratives at various sites ranging from mainstream news media and social media to legal documents, TV fiction and gossips.

Jeffrey Boase has an expertise in the areas of mediated communication, social networks, and mixed methods. He is well suited to each the required research methods course and
other courses in his areas of expertise. Dr. Boase is an experience advising graduate students and serving on dissertation committees.

Kenzie Burchell's research agendas emerge from the media sociology and comparative journalism studies. Media technologies, practices, and time are a central themes in his research into everyday media practices. He is also currently leading a SSHRC funded research team into the emerging strategies of global media interference, a project which aims to develop both methodological tools as well national-linguistic comparative case studies. He has experience training and working with both masters-level and doctoral-level graduate students as part of his research teams.

Nadia Caidi has an expertise in the areas of human information behaviour, information policy, and information/media practices of vulnerable communities. She is well suited to teach courses in her areas of expertise. Dr. Caidi has ample experience advising graduate students and serving on dissertation committees.

Brett Caraway has expertise in the areas of Marxian theory, social movements, and media economics and law. At the graduate level, he has experience teaching political economy and cultural studies approaches to communication, Internet law, and history of communication technologies. He has supervised and served on committees for both MI and PhD students.

Nicole Cohen has expertise in the areas of political economy of communication, work and labour in media and cultural industries, collective organizing and resistance among precarious cultural workers, and journalism studies, particularly digital journalism and gender in journalism. She has published widely in these areas in international venues and has won awards for her scholarship. Nicole can teach and supervise a range of courses in the proposed PhD and has experience supervising graduate students and service on dissertation committees.

T. L. Cowan is working with several students in the iSchool PhD program that cross over Information Studies & Media, Technology & Culture – specifically in the context of feminist & queer media & archive studies. This proposed program reflects Dr. Cowan's own research expertise and interests on Humanities genealogies of Media, Technology & Culture.

Alessandro Delfanti’s research focuses on digital labour, science communication, and algorithmic culture. Trained in media studies and science & technology studies, he has published on the significance of openness in contemporary science and medicine, on resistance to and non-participation in digital platforms, as well as on the politics of hacking. Alessandro is the member of four doctoral committees at the Faculty of Information.

Alan Galey is Associate Professor in the Faculty of Information at the University of Toronto, where he is also the director of the collaborative program in Book History and Print Culture. His research focuses on the intersections between textual scholarship and digital technologies, especially in the context of theories of the archive and the history of scholarly editing.

Sara Grimes has expertise in the areas of children's media, culture and play; digital game studies; and critical theories of technology. She is well suited to teach the research
methods courses, the Media, Technology and Culture course, as well as other courses related to her areas of expertise. She has experience supervising doctoral students, as well as serving on dissertation committees.

The expertise of Tero Karppi, Assistant Professor ICCIT, relate to critical social media studies including cultural studies of algorithms and AI. He has been a committee member for 7 PhD Students at the level of general exam and 3 PhD students at the level of dissertation. Karppi’s main responsibility in advising these students has been in the context of media theory.

Patrick Keilty's primary research interest is the politics of digital infrastructures in the online pornography industry. His work spans issues in visual culture, sexual politics, technology studies, media studies, information studies, critical algorithm studies, political economy, database logic, critical theory, and theories of gender, sexuality, and race. He is the author of more than a dozen peer-reviewed articles, editor of three journal special issues, an edited book, and has delivered more than 40 refereed conference papers and 35 invited lectures.

ME Luka has expertise in the areas of arts, culture and media management and policy, digital archives, digital and feminist research ethics and methods, cultural leadership, management and ethics, collaborative research and experimental pedagogies, arts, culture and media production, distribution systems and practices, communication, social media and media production studies and critical theory.

Rhonda McEwen is a Canada Research Chair in Tactile Interfaces, Communication and Cognition. Her research focuses on the communicative interactions that arise when users engage with new media technologies. McEwen has pursued the study of mobile media and cognitive informatics through two trajectories, including theoretical inquiries into the cognitive effects of using touch-input devices in educational environments, corresponding to a learning science sub-specialism in cognitive informatics that focuses on information processing and communications technology design; and in analyses of the social consequences of everyday information practices and of engagement with new media, with a focus on expanding the core concept of information practice within the fields of communication and information studies. She has recent publications in Information, Communication & Society, Computers and Education, Learning & Instruction, New Media and Society, and Library and Information Science Research journals.

Cosmin Munteanu's expertise is at the intersection of Human-Computer Interaction, User Experience (UX) Design, and Assistive Technologies. Cosmin's multidisciplinary interests include speech and natural language interaction for mobile devices, mixed reality systems, learning technologies for marginalized users, and ethics in human-computer interaction research. Cosmin has an extensive record of supervising graduate students (currently 5 research-stream PhD), in addition to serving on several PhD thesis committees and as external PhD examiner.

David Nieborg researches platform power and politics. He has expertise in the political economy of digital platforms and is co-founder of the App Studies Initiative, an international research network that advances research on apps. Research topics include the platformization of cultural production, business models, game apps, app advertising, and digital methods. See: gamespace.nl and appstudies.org.
Jeremy Packer researches the historical, epistemological, and political dimensions of technology. He is the author or editor of six books and two journal special issues on these topics as well as the author of dozens of articles. He has been the director of an interdisciplinary PhD program and has advised 9 PhD students to completion with 8 having received tenure-stream faculty offers. Currently he is the Associate Dean, Graduate at UTM.

Leslie Regan Shade has expertise in the social and policy aspects of digital technologies with a focus on political economy, gender and youth. She is well suited to teaching courses in digital policy and contemporary issues in communication studies. Dr. Shade has supervised to completion numerous doctoral students at U of T and at Concordia where she was previously, and has ample experience serving on a myriad of doctoral supervisory committees.

Sarah Sharma has expertise in media theory and feminist approaches to technology. She is suited to teach the required courses for the specialization related to media theory and critical approaches to technology and communication. She has advised 6 PhD students to completion with 5 receiving tenure track positions. She has served on over 30 completed dissertation committees.

Sherry S. Yu's research explores media, culture, and technology in communication, with a special interest in diasporic media in relation to cultural literacy, intercultural dialogue, and civic engagement in a multicultural society.

10.2 Space/Infrastructure

- Address any unique space/infrastructure requirements including information technology, laboratory space and equipment, etc.

11 UTQAP Process

The UTQAP pathway is summarized in the table below.

<table>
<thead>
<tr>
<th>Steps</th>
<th>Approval</th>
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<tbody>
<tr>
<td>Development/consultation within unit</td>
<td></td>
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<tr>
<td>Consultation with Dean’s office (and VPAP)</td>
<td>Graduate unit approval as appropriate</td>
</tr>
<tr>
<td></td>
<td>Faculty/divisional council</td>
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<tr>
<td>Submission to Provost’s office</td>
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<tr>
<td>Report to AP&amp;P</td>
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<td>Report to Ontario Quality Council</td>
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Appendix A: Calendar with Changes Tracked

Information: Information PhD

Doctor of Philosophy

Program Description
The PhD program in Information provides opportunities for advanced scholarly inquiry into theoretical aspects of information and in the empirical investigations of information in various contexts.

PhD students come from different backgrounds and with different areas of interest. Therefore, the curriculum both fosters a common conversation about the field of information and supports the development of individual (even idiosyncratic) research projects. The focus of the program is to enable the student to achieve competence in order to carry out the research and writing of an original thesis in information.

PhD Program

Minimum Admission Requirements
• Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Faculty of Information's additional admission requirements stated below.

• Average of at least A- in an appropriate master's degree program, or equivalent. Equivalency is normally determined by the number of courses and/or credits taken. Applicants holding an MLS or other master's degree earned in two or three sessions, or by completing 5.0 to 7.5 full-course equivalents (FCEs), will normally be required to take additional courses in the MI program.

• Admission is limited to graduates of high intellectual ability who have an interest in research. Evaluation of applicants is based on academic records, a statement of research interest, and three academic letters of reference. A personal interview may be requested.

• All incoming graduate students must have a good command of English. All applicants educated outside Canada whose primary language is not English must demonstrate proficiency in the English language. This requirement is a condition of admission and must be met before an offer of admission is made. The English language requirement may be satisfied using one of the following tests. Scores must be from tests taken within the last two years.
  o Test of English as a Foreign Language (TOEFL) with the following minimum scores:
• paper-based TOEFL exam: 600 with 5.5 on the Test of Written English (TWE)
• Internet-based TOEFL exam: 107/120 with 24/30 on the speaking section and 27/30 on the writing section.
  o Michigan English Language Assessment Battery (MELAB) with a minimum required score of 95.
  o International English Language Testing System (IELTS) with a minimum required score of 8.0.
  o Certificate of Proficiency in English (COPE): with a minimum required score of 95 overall; 41 on the writing component; 27 on each of the other components.
  o Academic English Level 60, U of T School of Continuing Studies: "A" overall score.
• Admission procedures are described in the General Regulations section of this calendar.
• Doctoral students are admitted in September.
• Meeting the minimum requirements of the Faculty of Information and the School of Graduate Studies does not guarantee admission.

Program Requirements
To achieve candidacy, students must fulfil the following:

• Students in the Media, Technology and Culture concentration complete 4.0 full-course equivalents (FCEs) as follows:
  o INF 3001H Research in Information: Foundations (0.5 FCE)
  o INF 30xxH Social Scientific Methods for Media (0.5 FCE) or INF 30xxH cultural and Interpretative Methods for Media (0.5 FCE). Course selection to be determined in consultation with the student’s research advisor.
  o INF 3009H Theory and History of Media Technology (0.5FCE) or INF 30xxH Power, Media and Technology (0.5 FCE)
  o 2.0 FCEs in elective courses relevant to Media, Technology, and Culture (see elective list below)

• Students in all other concentrations complete 4.0 full-course equivalents (FCEs) as follows:
  o INF 3001H Research in Information: Foundations (0.5 FCE)
  o A methods course (0.5 FCE): INF 3003H Research in Information: Frameworks and Design (0.5 FCE) or a specific methods course (to be determined through consultation with research advisor) (0.5 FCE)
  o INF 3006Y Major Area Reading Course (1.0 FCE) or 2 additional electives (to be determined through consultation with research advisor) (1.0 FCE)
2.0 FCEs in elective courses.

- **Students in all concentrations must:**
  - Complete other courses appropriate for the student's research may also be required.
  - Pass a qualifying exam.
  - Present and defend a thesis research proposal.
  - Complete a thesis and pass a Doctoral Final Oral Examination.
  - PhD students must be regularly registered in the School of Graduate Studies during each year of their program.

**Program Length**
4 years

**Time Limit**
6 years
Appendix B: Commitment for Annual Teaching and Supervisory Workload

Commitment from Professor Barry Freeman, Interim Chair, Dept. of Arts, Culture & Media, University of Toronto Scarborough

Dear Kelly,

I write in my capacity as Interim Chair of Arts, Culture & Media (ACM) at UTSC. I and our UTSC Media Studies faculty are supportive of the launch of your the new PhD concentration in Media, Technology and Culture, which aligns well with faculty expertise and the undergraduate curriculum at UTSC.

ACM has 6 faculty members cross-appointed to the iSchool (Profs. Petit, Nieborg, Cowan, Burchell, Yu and Luka). These faculty anticipate teaching 1 graduate course each year, the choice of which is based on individual consultation. Given the areas of expertise of our faculty, it is reasonable to expect that 3-4 of them could teach a course in this new concentration annually.

Our faculty are excited to contribute to graduate supervision at the iSchool. Given that all of them are pre-tenure, however, our commitment here must be modest in the short-term. While some faculty suggest they are willing to serve on 1 or 2 additional committees, their time must be protected pre-tenure to focus on their promotion. As these faculty are promoted over the next 3-6 years, we can expect the capacity for graduate supervision to grow.

Warmly,
Barry.
cover between 5 or 6 courses. In addition, I agree to these faculty providing supervisory support for PhD students and serving on Doctoral committees as appropriate.

Regards.

Anthony

--
Anthony Wensley, PGCE, MA, MA, MBA, PhD
United Way Co-Chair
Associate Professor of Information Systems and Accounting
Management Department and ICCIT, The University of Toronto at Mississauga and The J.L. Rotman School of Management, The University of Toronto.
Director, Institute of Communications, Culture, Information and Technology (ICCIT)
Director, Digital Enterprise Management Program, ICCIT
Director Exchange Programs, ICCIT
Associate Professor, Professional Graduate Programs Centre, UTM
Associate Professor, Knowledge Media Design Institute
Associate Professor, Faculty of Information
Executive Editor, Knowledge and Process Management
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Canada
Tel: +1 905 569 4733 +1 905 569 4733
Fax: +1 905 569 4734
Cell: +1 647 290 1933 +1 647 290 1933

anthony.wensley@utoronto.ca or anthony@wensley.ca

Call
Send SMS
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Support from Prof. Jeremy Packer, Associate Dean, Graduate at UTM

Dear Kelly,

I am writing in my capacity as the Associate Dean, Graduate at UTM to acknowledge that the Dean’s Office is in support of the Media, Culture, and Technology Concentration proposal for the Faculty of Information PhD program. This proposal has strong support from the Dean’s Office where it has been discussed for the past two years.
If you have any questions in this regard, please get in touch.

Best,
Jeremy

Jeremy Packer, PhD
Associate Dean, Graduate
University of Toronto Mississauga

Associate Professor
Institute for Communication, Culture, Information, and Technology
Faculty of Information
University of Toronto

Support from Prof. Mary Silcox, Vice Dean Graduate, UTSC

Dear Dean Lyons,

I am writing to express my support for the proposed new concentration in Media, Technology and Culture as part of the Faculty of Information’s PhD program. It seems like a very timely proposal, which fits well with UTSC’s burgeoning interest in Media Studies. I am confident that it will be a popular option for students, and will also help to foster stronger connections among the related programs on the three campuses.

Best of luck with the submission of the proposal, and its passage through governance.

Dr. Mary T. Silcox
Vice Dean Graduate, UTSC
Department of Anthropology
University of Toronto Scarborough
1265 Military Trail
Scarborough, ON M1C 1A4
e-mail: vdgraduate@utsc.utoronto.ca
office phone: 416-208-2791
Graduate Fairs 2018:
- Promoted the Faculty of Information at 24 outreach events from late September into mid November at the following universities across Canada: Queen’s, UTSC, UTM, McGill (Science), McGill (Arts), Concordia, Laurier (Waterloo), York, Trent, Carleton, Western, McMaster, Waterloo, Guelph, Uoit & Durham College, UofT Economics Student Association (ESA), UTM, UTSC, UTSG Fall Campus Day's, Calgary, Mount Royal, UBC, Seneca (up from 20 events in 2017).
- Connected with 982 prospective applicants in 2018 (up from 756 in 2017)

Information Day
- October Information Day: 205 attended (up from 80 in October 2017). Purposely planned on the same day and UTSG Fall Campus Day to draw greater interest. Volunteers were set up in the Hart House and walked visitors over the Bissell for our information sessions & tours.
- There are currently 200 registered to attend November Info day

November Information Day - NEW format: Students will be encouraged to move freely from one concentration to the other, as this is often the most common feedback that we receive. After the concentration overview, students and faculty would transition into the Inforum and surrounding rooms to have the opportunity to ask questions/ engage in conversation in an informal setting. The admissions, careers, financial aid information sessions will be offered separately from the concentration overview session / 3 times throughout the day.

BI Promotion:
- Visited first & second year UofT undergraduate courses
- Met with college registrars and undergraduate advisors at UofT
- High School Information drop off visits to guidance counsellors in the GTA (SHSM schools)
- Social media outreach (Facebook, Instagram) and posters on plasma screens on all three campuses
- Attended Fall Campus Day on all three UofT campuses to increase awareness
- Monthly newsletter to prospective applicants

Tours and webinars 2018-19:
- Weekly tours starting in September (every Wednesday) + evening tours and information sessions once a month starting in October.
- 16 people attended October Info Night and 8 people November Info Night
- A series of webinars and online chats will be taking place from October to July (General Admissions, Student Experience Panel & Experiential Learning, Financing Your Education, Collaborative Specializations)

Upcoming events 2018-19:
- Information Days:
  - November 17, 2018
  - January 12, 2019
- Meet & Greet: April 6 – faculty not required
- Getting Started: July 13 – faculty required
Careers Report

Co-op

- Current Master of Information Co-op students are completing their final work terms. This year there were a total of 45 students placed. New placements have included AutoDesk, Tangerine, Robert Bosch, Canadian Pension Plan Investment Board, George Weston and more.
- Faculty, Staff and students are invited to the Co-op Student Exhibition taking place Thursday, November 29th from 5:00pm – 8:00pm in the Inforum to hear more about these work placements, meet the students and their supervisors.
- Screening for the upcoming 2019 Co-op cohort is taking place and final decisions will be made by December 13th. Students will begin their Co-op job search in January in order to secure Summer and Fall placements in 2019.

Practicum (INF2158)

- 58 projects submitted from various hosts institutions. 28 students currently completing their 45-hour projects.
- Practicum Student Exhibition will be taking place Tuesday, December 4th from 4:00pm – 7:00pm in the Inforum.

iSkills

- Work Study students have put together results from career-related iSkills workshops. There were 7 career-related workshops offered, including the first Museum Studies Portfolio workshop offered by Laura Robb.
  - Most-attended workshops were for Building Your Professional Network and Job Interview Readiness.
  - Overall, on-average, student confidence in areas related to job interview readiness, job application readiness, and networking increased 65%.

Outreach meetings

- Careers Officer is continuing to conduct outreach meetings with new and prospective employers. We are inviting faculty to share any information, organizations and/or contacts they feel may be suitable to engage in discussions for the purpose of hiring co-op, practicum or museum studies interns.

Events

- Professional Associations event took place November 13th. There were 15 representatives from 10 associations in attendance mostly in ARM, LIS, KMIM and Museum-related areas. Feedback from association representatives was very positive, including feedback that students in attendance were more engaged and insightful than other years.

Orbis

- Student Services is moving ahead with the implementation of the Orbis software platform, in partnership with the Division of Student Life. At the moment we are using Orbis – also known as
the Career Learning Network – to schedule Co-op selection interviews. We are also piloting the appointments module to track student appointments.

- In Winter/Spring 2019 we intend to implement the Experiential Learning module as part of the platform.