



**School of Graduate Studies**

1280 Main Street West  
Hamilton, Ontario, Canada  
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Phone 905.525.9140  
Ext. 23679  
<http://graduate.mcmaster.ca>

To : Members of Graduate Council  
From : Christina Bryce  
Assistant Graduate Secretary

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The next meeting of Graduate Council will be held on **Tuesday June 12<sup>th</sup> at 9:30 am in Council Chambers (GH-111)**

Listed below are the agenda items for discussion.

Please email [cbryce@mcmaster.ca](mailto:cbryce@mcmaster.ca) if you are unable to attend the meeting.

## **A G E N D A**

- I. Minutes of the meeting of April 17<sup>th</sup> and May 15<sup>th</sup>, 2018**
- II. Business arising**
- III. Report from the Vice-Provost and Dean of Graduate Studies**
- IV. Report from the Graduate Associate Deans**
- V. Report from the Associate Registrar and Graduate Secretary**
- VI. Report from the Assistant Dean, Graduate Student Life and Research Training**
- VII. Recommendation to Senate Regarding Parenting Leave Policy**
- VIII. Changes to the Guide for the Preparation of Masters and Doctoral Theses**
- IX. New Awards**
- X. Faculty of Business Graduate Curriculum and Policy Committee Report**
- XI. Faculty of Health Sciences Graduate Policy and Curriculum Committee Report**
- XII. Report from Petitions Working Group**
- XIII. Changes to the Certificates and Diploma Policy**



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Tuesday April 17<sup>th</sup> at 9:30 am in Council Chambers (GH-111)

Present: Dr. M. Thompson (Chair), Ms. C. Bryce, Ms. S. Baschiera, Dr. K. Hassanein, Dr. S. Corner, Dr. A. Sills, Ms. A. Devitt, Dr. C. Hayward, Ms. S. Ramsammy, Mr. P. Self, Ms. L. Yousefi, Ms. M. Badv, Dr. J. Gillett, Dr. E. Badone, Dr. B. Doble, Dr. S. Feng, Ms. S. Oikawa, Dr. W. Farmer, Mr. R. Narro Perez, Dr. B. Gupta, Dr. P. Mhaskar, Dr. I. Marwah, Dr. E. Grodek

Regrets: Ms. C. Garneau, Dr. S. Pope, Dr. M. Verma

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## A G E N D A

### **I. Minutes of the meeting of March 20<sup>th</sup>, 2018**

The minutes of the meeting of March 20<sup>th</sup> were approved on a motion by Dr. Hayward, seconded by Dr. Hassanein, with one minor correction.

### **II. Business arising**

There was no business arising.

### **III. Report from the Vice-Provost and Dean of Graduate Studies**

There was no report.

### **IV. Report from the Graduate Associate Deans**

There were no reports.

### **V. Report from the Associate Registrar and Graduate Secretary**

There was no report.

### **VI. Report from the Assistant Dean, Graduate Student Life and Research Training**

Mr. Self reported on a SPICES project that had been running over the course of the last year. He noted that SPICES involve graduate students and postdocs presenting various proposals, some of which receiving funding from McMaster. The SPICES project in question was called Symbiosis and is a program of co-housing with

seniors in Hamilton and graduate students. There were three matches and the program was really well received, so they've applied for a renewal for next year and are optimistic that it'll grow a bit next year.

He also reported that the IUSRS program is in its fourth year and that there would be 11 students coming in for May and June and partnered with faculty members.

He also reported that they were developing a graduate student family network. A member of the Student Life Team along with students will be running the program to help offer more support to students who have children and such.

#### **VII. Faculty of Engineering Graduate Curriculum and Policy Committee Report**

Dr. Mhaskar introduced the changes for the Faculty of Engineering. He explained that SEPT proposed changing their admission requirements to include an online system because their application numbers had grown too large to conduct face to face interviews for each candidate. Civil Engineering proposed changing MENG from 6 courses plus project to courses only. Computing and Software proposed a change to their requirements to limit the areas in which students can take courses. Engineering Physics changed their requirements so that the industrial project is no longer a requirement. Dr. Gupta asked about the course requirements increasing for engineering physics. Dr. Thompson responded that the internship was considered equivalent to a number of courses and that they internship hasn't been popular in a number of years, so they're changing the requirements and also changing name of degree.

Dr. Gupta moved and Dr. Hassanein seconded, 'that Graduate Council approve the changes proposed by the Faculty of Engineering as described in the documents'

The motion was carried.

#### **VIII. Faculty of Health Sciences Graduate Policy and Curriculum Committee Report**

Dr. Hayward explained that the OT and PT programs originally had policies in place that are now replaced by procedures in their handbooks or a new policy that is FHS-wide (as in the case of vulnerable sector screening replacing the police check). They are getting rid of things that are now no longer being used and anything different from what is in the Graduate Calendar will be described in program handbooks.

Dr. Hayward also noted they were for information changes to two HRM courses.

Dr. Hayward moved and Dr. Raha seconded, 'that Graduate Council approve the changes proposed by the Faculty of Health Sciences as described in the documents'

The motion was carried.

#### **IX. Faculty of Humanities Graduate Curriculum and Policy Committee Report**

Dr. Corner explained that English and Cultural Studies proposed a simple change to their calendar copy. They are replacing a research methods requirement with a seminar and that seminar has an unusual structure broken into three sessions across the first two years. So, they proposed to administratively handle the first two sections as new Milestones and then complete with a course that would appear on the transcript and have adjusted their calendar copy accordingly.

Dr. Corner moved and Dr. Hassanein seconded, 'that Graduate Council approve the changes proposed by the Faculty of Humanities as described in the documents'

The motion was carried.

#### **X. Faculty of Health Sciences Spring 2018 Graduands**

Dr. Hayward moved and Dr. Raha seconded, 'that Graduate Council approve the list of the 2018 Faculty of Health Sciences Spring Graduands, with amendments/corrections to be made as necessary by the Associate Graduate Registrar.'

The motion was carried.

#### **XI. Thesis Working Group Recommendations (to be distributed)**

This item was removed from the agenda.

#### **XII. Quality Assurance Committee Terms of Reference and Meeting Procedures**

A council member commented that they thought the committee had been around for some time and asked what they'd been doing without terms of reference. Ms. Baschiera responded that they have had terms of reference but that they had not been approved formally. With the audit coming they wanted to ensure this was sorted out formally. She also said that the only new piece is the appeals procedure and that she thought this would be an asset going forward.

Dr. Hayward asked if there was student representation on the committee. Ms. Baschiera responded that it was a joint committee of Graduate and Undergraduate Council and that there was no requirement for student participation. Dr. Hayward suggested that there could be a potential change made to note that students could be members of the committee.

Dr. Gupta asked if meetings had not been held and minutes not been taken. Ms. Baschiera responded that meetings had happened and minutes been taken. She noted that the decisions have come to Graduate Council as well as Undergraduate Council.

Dr. Gupta moved and Dr. Corner seconded, 'that Graduate Council approved the Quality Assurance Committee Terms of Reference and Meeting Procedures as laid out in the documents.'

The motion was carried.

**XIII. Change to Award Name**

Dr. Hayward moved and Dr. Raha seconded, 'that Graduate Council approve the change to award name as laid out in the documents.'

The motion was carried.

**XIV. IQAP Final Assessment Report**

Dr. Thompson noted that the Final Assessment Report for Civil Engineering had been included in the meeting package. A council member commented that he had seen in the report and others a reference to an 18 month and asked if Graduate Council saw those reports. He noted that it seemed logical to him that Graduate Council would see them and asked if this was possible. Ms. Bryce commented that the policy mandated that final assessment reports come to Graduate Council and was silent on the 18-month report. She said that they could take it back as a recommendation. The council member commented that if it's coming to Graduate Council initially it would help to show the changes to graduate programs over time.



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Tuesday May 15<sup>th</sup> at 9:30 am in Council Chambers (GH-111)

Present: Dr. D. Welch (Chair), Ms. C. Bryce, Ms. S. Baschiera, Dr. K. Hassanein, Dr. S. Corner, Dr. M. Thompson, Dr. C. Hayward, Dr. A. Sills, Ms. A. Devitt, Dr. C. Hayward, Ms. S. Ramsammy, Mr. P. Self, Dr. S. Raha, Dr. B. Doble, Dr. E. Grodek, Ms. M. Badv

Regrets: Dr. W. Farmer, Dr. P. Mhaskar, Dr. A. Kitai, Dr. S. Pope, Dr. S. Feng, Dr. I. Marwah, Dr. E. Badone

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**I. Minutes of the meeting of April 17<sup>th</sup>, 2018**

There was no vote on the minutes due to lack of quorum.

**II. Business arising**

There was no business arising.

**III. Report from the Vice-Provost and Dean of Graduate Studies**

Dr. Welch thanked Drs. Gupta and Thompson for acting on his behalf while he was away. He reported that part of his trip involved attending a meeting of the Canadian Bureau of International Education in Norway. He noted that it's a country that has a lot of attraction for graduate exchanges and programs like cotutelle. They have excellent funding for students doing exchanges and the majority of grad programs that would interest McMaster students are delivered in English and everyone speaks English. He said it was a profitable and interesting visit. After that, he headed to Brisbane for a meeting of the U21. Patrick Deane also visited, and McMaster became the 26<sup>th</sup> member of the U21. Attached to the end of that trip was a meeting of deans and directors of graduate studies from institutions from around the world. He said it was very interesting to share issues and become knowledgeable about joint graduate programs. He said that he also met up with Julie Birch in Queensland.

He reported that there had been an interesting development related to the MELD program led by the Faculty of Humanities. They are now offering a new program, MERGE (McMaster English Readiness for Graduate Excellence). The first offering will begin May 22<sup>nd</sup> and finish in July. It is designed to be an intense period during which an international student can bring up their English language skills to a level appropriate to graduate work. He said that it was a cost recovery program and would be relatively expensive. To get the first offering off the ground the provost is covering the costs for ten graduate students from various faculties. Associate

deans have been asked to identify the students. They have a chance to receive the training at no cost this year. It is likely to be an ongoing program, where students will normally take it before their graduate degree. He noted that they could take it once they were graduate students as well.

Dr. Welch also reported on developments for SMA 3. He noted that as it is not too far away, the province is working to steer institutions into readiness. There are 3 pilot projects related to the next SMA happening at McMaster university. Dr. Gupta is the lead on the pilot project for tagging grad courses for experiential learning and is interacting with partners at Laurentian and Ryerson. They are working on identifying experiential learning in graduate courses going forward.

He noted that the provincial winner of 3MT held at York University was from McMaster. The student in question is Matthew Berry from Psychology. As a result, McMaster is now hosting the provincial 3MT competition in 2019.

Dr. Welch reported that there is a search on currently for the acting associate dean graduate for the Faculty of Engineering. The hope is that the search will conclude in time for the appointment to be official on July 1<sup>st</sup> to cover Dr. Thompson's time as Vice-Provost and Acting Dean of SGS.

He also reported that Marsha Duncan had retired after being at McMaster for 30 years.

Dr. Welch noted that the online Ph.D. supervisory committee reports are fully functional and available to everyone. This change is something that he had been hoping to have achieved for many years and it will take a huge amount of paper out of circulation. The final report will become part of the student record in Mosaic. He thanked everyone involved in the project.

#### **IV. Report from the Graduate Associate Deans**

Dr. Gupta reported that he had asked programs in his Faculty to provide info on funding packages. They are doing this to see what changes are being put into place with regards to international tuition.

Dr. Hayward reported that the Faculty of Health Sciences Research Plenary was taking place and that the location for the posters session was on their website. She also reported that they had received approval from Quality Council for the Ph.D. in Global Health and M.Sc. in Psychotherapy. They are waiting to hear whether MAESD will fund the programs.

Dr. Hassanein reported that they had also received approval for the new Blended Learning Part-Time MBA program. When they opened admissions, they had over 90 applications for 35 spots planned and another 50 in the works.

Drs. Corner and Thompson had no report.

#### **V. Report from the Associate Registrar and Graduate Secretary**

Ms. Baschiera noted that the admissions project was still ongoing. They are hoping by the end of the summer to have some key deliverables including easier navigation and applications processing with a view to more substantive improvements and bigger projects in 2019.

#### **VI. Report from the Assistant Dean, Graduate Student Life and Research Training**

There was no report.

#### **VII. Faculty of Business Graduate Curriculum and Policy Committee Report**

Dr. Hassanein presented the changes. He noted that the first change in the approval section was to the Master of Finance program. They proposed changes to course information, course requirements (replacing 602 and 603 with 605), expanding the list of electives, and adding clarification on the condition for taking an elective outside of elective list of courses. The final change proposed was to add participation in a video interview as an admission requirement.

The second set of changes for approval were from the MBA program. He noted that the program had proposed the addition of specialization requirements to Graduate Calendar. This was a housekeeping item as these had been included in MBA handbook but were not in the Graduate Calendar. The second change proposed was the cancellation of the supply chain management specialization due to low enrolment. The third change proposed was the addition of a new specialization in Business Analytics. The fourth change proposed was the addition of the program calendar copy for the MBA BLPT. Dr. Hassanein noted that a minor adjustment to this document had been approved at the Faculty level: two electives from the Finance area, F741 and F743, should appear on page 55. He noted that the final change proposed for approval was overall changes to the MBA calendar copy and said that this was also a housekeeping item to remove some redundant information and reflecting some of the changes they've talked about. He noted that the same two courses mentioned previously were missing from this section as well and needed to be added in.

With respect to the for-information items he noted that the Faculty had approved a correction to i602 course description and there is an additional sentence to be removed. The course was being updated to reflect changes to the Foundations courses in the MBA program.

There was no vote due to lack of quorum.

#### **VIII. Faculty of Health Sciences Graduate Policy and Curriculum Committee Report**

Dr. Hayward reported on a number of items for approval. The first was a change to course requirements from Global Health; the program had introduced a new course in methodology and this course will replace another required course. The second change for approval was from the Speech Language Pathology program. She noted that the program had launched this year and have proposed a change to their calendar copy. Professional



behaviours are important in clinical programs and they had some people who have applied to the program and have been very rude. The program wanted to make it clear that that will be considered as part of the application process.

The next set of changes proposed were from Health Science Education. She noted that the program has a new incoming Assistant Dean and that he had gone through a lot of aspects of the program calendar to update the descriptions of length of time in program, statement of interest requirements, and the issue of full-time and part-time enrollment. She noted that the changes are all straight forward and in keeping with what they intend their practices to be.

The final change for approval was from the Child Life and Pediatric Psychosocial Care program. The program has two streams. Stream one is for students looking to gain professional qualification. Stream two is for folks who already work in the healthcare field and are taking the program to focus on pediatric issues. They changed their calendar copy to reflect that they can't change streams part way through the program.

She noted that the other changes are for information.

Dr. Thompson asked about the admissions piece, wondering if the program had talked to legal services or the equity office. Dr. Hayward responded that admission decisions are not appealable and the change to the language in the calendar is to be transparent that they include the behaviour of the applicant as part of their recommendation process. Dr. Thompson responded that he still wondered if they need a paper trail.

Dr. Welch said that usually if someone is going to appeal or complain they'll discuss how they've been treated unfairly and that there should be some standard about how egregious behaviour is recorded. He was not suggesting that Graduate Council modify the change proposed but noted that how it gets executed going forward will matter.

Dr. Gupta asked if the denial would contain this information and noted that that could be grounds for complaint. Dr. Hayward said it was not standard practice to provide a reason a student wasn't being admitted to the program and that they just wanted to make it transparent that this is one of the criteria that they are judging in the application process.

A council member thought applicants should be informed, if this is about transparency. Dr. Hayward responded that they don't give applicants feedback on how their scored. A situation like the one described is very rare but would not meet the requirements for behaviour in an academic program.

Another council member commented that the transparency is that this goes in the calendar. Dr. Hayward confirmed. She also said that no other programs give feedback about an applicant's admissibility and she thought that was probably the case university-wide.

Dr. Welch said a potential way to track would be a checkbox on the file regarding reasonable applicant behaviour. Dr. Hayward responded that she didn't think they would have to tick that off for most people. There were a few individuals with egregious behaviour.

A council member wondered how the line between acceptable and not acceptable behaviour was defined. Dr. Hayward responded that the professional group associated with the program has a long list of acceptable behaviour available on their website. The council member commented that it's known to the program. Dr. Hayward confirmed and noted the importance of these behaviours for group learning and clinical placement. Dr. Hassanein noted that the spirit of the change is for deterrence more than anything.

A council member asked if they had any examples of applicants that got admitted to the program who were professional when admitted but not as professional as they thought as time passed. Dr. Hayward responded that Speech Language Pathology is a new program so there is no historical data. She thought there was a lot of data for doctors regarding behaviour during training and success in practice and noted that part of the interview process and MMI that they use is to find people with the appropriate skills and behaviours.

There was no vote due to lack of quorum.

#### **IX. Faculty of Science Graduate Curriculum and Policy Committee Report**

Dr. Gupta explained that the Psychology program had proposed the introduction of a new course for the clinical internship in the RCT stream and related to that are changes in the calendar copy. In this stream students do an internship and the program recognized that this should be formalized. He noted that there were a few for-information changes for Kinesiology, removing three old courses and creating a new one.

There was no vote due to lack of quorum.

#### **X. Faculty of Social Sciences Graduate Curriculum and Policy Committee Report**

Dr. Corner explained that three programs proposed a calendar change to reflect a new co-op fee in each case. He noted that there was one item for-information regarding a minor change to course description.

There was no vote due to lack of quorum.

#### **XI. Spring 2018 Graduands**

There was no vote due to lack of quorum.

#### **XII. Thesis Working Group Recommendations**

Dr. Hassanein presented the proposal of the working group of Graduate Council. He noted that one of the main issues was the process for securing an external examiner. A Graduate Council working group was formed to discuss the issues and it included members from different faculties and a Ph.D. student. They also consulted with administrators and associate deans. The working group recognized that the current model is restrictive,

and the proposed approach is to ease the restrictive oversight of SGS particularly around the selection of the external. He noted that currently the supervisor and committee are in the dark about the external. He also said that emails from the thesis coordinator are often ignored and that on average they have to send 2.4 emails per examiner. This can cause a lot of bottlenecks.

The proposed new process involves a supervisor selecting external, while observing guidelines of what constitutes arms length, and contacting the examiner directly. A standard template will be provided which will include the arms length language. The interaction with the external will allow the supervisor to negotiate the time and date for defence. The supervisor will also have the option to nominate a chair. The student will initiate the defence process as now and will require the approval of the supervisory committee to proceed. SGS will continue to provide access to the defence room and will support technologically. They will also be responsible for ordering phone service when needed. The old process will be maintained for the time being in addition to new process. The supervisor will make a choice as to which process they would like to utilize.

He noted that the working group proposed some other changes to the current process. In the present model, the external report is not shared with the student. Now the report will be shared at least two weeks in advance with all and the student will have to agree to continue with the defence if the external report is not available two weeks in advance of their planned date.

The presence of an external examiner is now required, in person or by electronic means. This change resolves the issue of obtaining the internal examiner. He noted that students will not have any contact with the external examiner and the examiner will be able to withhold their identity in the case of a negative report.

Dr. Welch noted that nobody has to adopt this new channel if they don't wish to. SGS will continue to provide the same service as in the past. They are very aware of their limitations in terms of the ability to contact people, particularly in the summer. The change in process allows the black out periods for SGS arranged defences to be used if all the people involved agree to the dates and times. He believed the change would open opportunities with only a marginal additional burden to the supervisor and staff.

Dr. Hassanein noted that its easier for a potential external examiner to ignore an email from a generic address and that if a colleague from another institution is approaching them, they may be more responsive.

Dr. Gupta asked when the new process will completely switch over. Dr. Welch responded that SGS will continue to provide this process indefinitely until its clear that nobody wants the old process anymore. He imagined that different people in different faculties would use the new process different amounts. He thought that some programs would continue to do it the old way but also expected a very large number of programs would quickly appreciate the benefits of the new system. They will see how it goes and make the decision about a future switchover as appropriate.

Ms. Baschiera noted that there is no change for the student. The change and what everyone will see once it gets approved is that the supervisor will have a choice about which process to utilize. All supporting documents

will link off of their choice. David Lu will be developing a process in admin tools for the supervisor-coordinated defence.

Dr. Hassanein added that regardless of whether the old or new process is used, students will get the report ahead of time. The group saw no reason to not share the external report.

Dr. Welch asked if the change was approved today when can they start doing this. Ms. Baschiera responded that there had already been interest. They're hoping to start by June 1<sup>st</sup>. This will involve a minor change in admin tools, with decision point about which process to choose, for June 1<sup>st</sup>

Dr. Hayward noted that all programs indicated they were happy to try this out and asked if how the process was organized meant the supervisor could decide not to utilize it even if the program has agreed to do so.

Ms. Baschiera responded that they could. They hadn't discussed what would happen if there were two points of view in this case. Dr. Welch said that the Chair can send along some instructions and encouragement. Dr. Hayward wondered if Ph.D. programs should distribute to an overview letter suggesting that faculty members try this out. Ms. Baschiera noted that the Academic Services Officer for the program in question could go to meetings to show how the process is going to flow and explain expectations.

Dr. Gupta asked if the external is made aware of arms length criteria. Dr. Hassanein said this would be included in the form. Dr. Welch noted that it is already included in the documentation in the current state.

Dr. Hayward said if programs are communicating to supervisors it would be helpful to have a copy of what constitutes arms length in those materials.

A council member asked for confirmation that the two different processes only involved the process of securing an external and that the omission of the internal and sharing the report are in place now and will not be an option. Dr. Welch confirmed this was the case. He also said there should be clarity on whether they're just selecting the external or the external and chair. Dr. Hassanein responded that that will be included in the process, they have to select external and have the option of nominating a chair.

A council member said that she remembered a particularly nasty external report and in that case the report was sent to associate dean first. She asked if there is going to be a pause before it's shared widely as there have been cases where the reports were absolutely unprofessional. Dr. Hassanein said that they can continue the same practice. He believed that currently a negative report doesn't preclude a defence from going forward if the supervisory committee chooses to do so.

The council member said that they just wanted to make sure that such reports don't get sent blind. Dr. Welch said that the report is still received by SGS and the Academic Services Officer will look at it at the time. They will review and if there is something that is way off scale it will be identified at that point.

Ms. Baschiera noted that external reports are coming in 9 days late, generally, and they're hoping that faculty to faculty engagement will improve that rate. The student will also now have a decision point if the report hasn't been submitted in time.

Dr. Welch provided another example of a situation with a UK reviewer where data was not in appropriate format in their view and they were intending to stop the report until a data conversion was made. In that case they said no, that's unreasonable and they changed externals.

Dr. Welch noted that there would have to be an e-ballot before formal approval but that there has been a lot of consultation and it has come to a very workable form. He thanked Dr. Hassenein and the working group members and he hoped the new process was shortly approved.

There was no vote due to lack of quorum.

### **XIII. Graduate Calendar Administrative Section Changes**

Dr. Welch explained that every year they put together a package of changes that need to be made in the graduate calendar. They need to provide policy changes that improve the situation and student experience and clarity. He also noted that they track the changes at the provincial and federal level in terms of employment standards and human rights issues. He said that each program is going to be sent a collection of notes about what had changed this year.

He went over the list of changes which included:

- A change to the sessional dates to note the date that students have to initiate the defence, rather than date to submit pre-defence thesis. He noted an unclear sentence was also removed.

- New programs added to the list of those offered at McMaster

- A statement about document retention was added.

- Section 2.1.2 a statement added to the effect that in no case does successful completion of a Master's degree guarantee admission to a Ph.D. and the language was adjusted to note that students are encouraged to transfer prior to the start of the next term, rather than just fall term. This is a reflection of the change to the way the province is counting students.

- The Section on transfer to Ph.D. was adjusted as above, regarding the wording around the time to transfer.

- Section 2.5.3 was adjusted to clarify the 505 rules and some additional text was added to note what happens if student approaches or exceeds this limit.

- Section 2.5.7 Leaves of Absence was heavily modified. Dr. Welch noted that this was largely due to changes the province had made. He noted that there was a hand out of the section distributed, with further edits to the parenting leave section made subsequent to the circulation of materials for the meeting. Parenting leave has been made into its own section with changes therein to show that its

compliant with ESA. The remainder of other types of leave no longer intersect with parenting leave. He noted that the section now includes the provincial definitions of parenthood.

-The vacation section was adjusted to be more clear as it relates to the employment contract.

- With respect to 2.6.1 Dr. Welch noted that two years ago a chart was removed, and it was no longer clear why. They're bringing the chart back so that people have an example of how the calculations are done.

- Section 2.7 was changed to note that the supervisory committee must be declared within the first 12 months of study, to note that committee members are assumed to continue their participation on student committees unless otherwise replaced and to clarify the timing for supervisory committee meetings (this had stated September-August and has been changed from December-November).

-Section 2.8 includes a minor adjustment related to the proposed thesis process changes.

-Section 3.6 was adjusted to clarify how full-time students who switch to part-time and vice versa works.

-Section 4.3 was adjusted related to the proposed thesis process changes and to remove an inaccurate reference to the submission timeline for a thesis.

-Section 5.1 was adjusted to remove references to discounted tuition for international students.

-In Section 5.2.1 references to scholarships were changed to bursaries and a line that those funds were applied to tuition was removed to reflect current process

-Section 5.2.2 was adjusted to note how monies owing will appear on a students' account

-Section 6.1. Academic and Research Integrity was modified to include issues with applicants.

Dr. Hassanein said that section 2.5.7 on leaves of absence states that a leave of on up to one year is permitted and asked if they need to add language for the cases where the leave is beyond that period of time. Dr. Welch responded that in the section there is a reference to a special leave to be approved by the Vice-Provost and Dean of Graduate Studies which could be used in those cases. One year is still the standard amount. He noted that the parenting leave is a different amount. The parenting leave amount used to be in agreement with a one-year leave but now there is a distinction between leaves for parenting and otherwise. Dr. Hayward said that there are rare exceptions related to equity and inclusion but thought that the wording is good for what rules are generally in place.

Dr. Thompson said that an additional change to the calendar was necessary, noting that in 6.6 it says that in those instances where an NDA has been signed they have to alert the Vice-Provost and Dean. He said that that is not the normal practice and should include language about MILO. Dr. Welch agreed and

suggested that they change it to align with the current practice. He noted that student interests are being looked a after but not in the same way as ten years ago.

There was no vote due to lack of quorum.

## 2.5.7 Leaves of Absence

### General Regulations

Leaves of ~~A~~absence (“LOA”) are normally granted on a term-by-term basis. Whenever possible the ~~leave-LOA~~ should start and end at the beginning of a term (i.e., January 1, May 1, or September 1). During the period of a ~~Leave-LOA~~ the student ~~cannot expect to be given~~will not receive supervision or be entitled to use the University's academic facilities for the purposes of academic progression. During a ~~Leave-of AbsenceLOA~~, no tuition will be charged, nor will the student be eligible for any scholarship support. Students on a ~~leave-of-absenceLOA~~ have to pay applicable supplemental fees and will be able to use the services associated with those fees. The length of time for completing the degree, and for scholarship support eligibility (see qualifier below), will be extended by the duration of the ~~Leave-LOA~~ on the resumption of studies. If a ~~leave-LOA~~ begins or ends in the middle of a term, term count will be determined upon return in consultation with the Associate Dean.

~~Leaves-of-absenceLOA~~ affecting Teaching Assistantship duties are covered by the Collective Agreement with Local 3906 (Unit 1) of the Canadian Union of Public Employees. Please refer to the collective agreement for additional information: <http://www.workingatmcmaster.ca/elr/collective-agreements/cupe-unit1/>

Students should be aware that in the event of ~~Leaves-of-Absencea LOA~~, continuation of the same research project and/or supervisor cannot be guaranteed. Students applying for a ~~leave-of-absenceLOA~~ for personal reasons must normally have completed at least one year of full time graduate studies. ~~Students who have not completed a minimum of 16 weeks of graduate studies at McMaster will not be eligible for parenting leave scholarship funding as noted below.~~For additional information related to ~~parental-parenting and maternity~~-leaves, please refer to the next section.

Students returning earlier than planned from a ~~leave-of-absenceLOA~~ must provide ~~a minimum of 4~~ four week's notice to the School of Graduate Studies, in writing.

### Reasons for Leaves of Absence

A ~~leave-of-absenceLOA~~ for up to one year is permitted for reasons of illness, provided that the request is supported by adequate medical documentation. Students who have successfully completed at least one full year in a graduate program may apply for a ~~leave-of-absenceLOA~~ once for up to one year for other personal circumstances, provided that the student's supervisor and the department support the request. Alternatively, the student may request withdrawal (Withdrawal at the Request of the Student). Should the student opt to withdraw, ~~he/she/they~~ may be eligible for reinstatement, at the University's discretion upon reapplication.

A ~~leave-of-absenceLOA~~ to obtain externally paid relevant work experience may be granted for one term for a Master's student and for two terms for a Ph.D. student. A LOA for purposes of obtaining relevant work experience cannot be for two consecutive terms~~No two Leaves taken to obtain relevant work experience may be consecutive.~~

A ~~leave-of-absenceLOA~~ will not be granted to pursue another program of study.

Under certain circumstances the ~~AVP-Vice-Provost~~ and Dean of Graduate Studies may allow for a special ~~leave-of absenceLOA~~. In this case, application should be made directly to the ~~AVP-Vice-Provost~~ and Dean of Graduate Studies.

It is understood that when a student takes a LOA, the duration of the leave will not be counted as time towards the time limits in which the student is required to complete or make progress in his or her graduate studies program.

In order that the student's supervisor and/or program can make suitable arrangements to cover ongoing responsibilities during the student's LOA, students are expected to provide as much notice as possible of the intention to take a LOA.



Note: Students who hold fellowships, scholarships or grants from INSERC, SSHRC, CIHR, or OGS should be aware that these agencies or any other external funding source may have policies governing the interruption and continuation of awards that may differ from the University's policy on leaves of absence LOA. Students holding such awards and who intend to keep them are responsible for ensuring that any leave of absence LOA taken does not conflict with the granting agency's regulations. The appropriate agency should be contacted for details.

## **Parenting Leave Policy**

### **Intent**

The Parenting Leave Policy (the "Policy") is intended to assist parents in successfully combining their graduate studies and family responsibilities with minimum financial and/or academic impact. The University will provide the following arrangement for parents requiring parenting leave from their studies. The Policy applies only to full time graduate students as defined by the School of Graduate Studies.

### **Definitions**

**"McMaster Graduate Scholarship Funds"**—The sum total of departmental and graduate scholarships as well as research account support committed to the student. It does not include funding from external sources; funding from employment such as Teaching Assistantships or Research Assistantships, or; most scholarships held in trust.

**"Parent"**—Includes the birth mother of a child; a person with whom a child is placed for adoption; and a person who is in a relationship of some permanence with a parent of a child and who intend to treat the child as his or her own.

**"Parenting Leave"**—An unpaid leave of absence from studies of up to 52 weeks' duration for a birth mother of a child or up to 37 weeks' for the parent of child who is not the birth mother.

### **Leave of Absence from Studies**

#### **Eligibility**

A leave of absence for up to 52 weeks is permitted for Parenting Leave. A student electing not to take the maximum amount of time available for parenting leave will not have the option of taking any unused portion at a later date.

#### **Parameters**

A Parenting leave for the birth mother may consist of two parts—a pregnancy leave and parental leave. The pregnancy leave must begin, at the earliest, up to 17 weeks before the anticipated due date or on the date the child comes into the care and control of the parent for the first time and lasts for 17 weeks. The parental leave must begin right after the pregnancy leave and lasts for up to 35 weeks. Alternatively, the birthing mother may only take the parental leave. In this case the leave can be a maximum of 37 weeks in length and must begin at latest within 52 weeks after the birth of the child or the date on which the child comes into the care and control of the parent for the first time.

The Parenting leave for a non-birth mother can be a maximum of 37 weeks in length and must begin at latest within 52 weeks after the birth of the child or the date on which the child comes into the care and control of the parent for the first time.

It is understood that when a student takes a Parenting leave, the duration of the leave will not be counted as time towards the time limits in which the student is required to complete or make progress in his or her graduate studies program.

In order that the student's supervisor and/or program can make suitable arrangements to cover ongoing responsibilities during the student's absence, students are expected to provide as much notice as possible of the intention to take a Parenting Leave under this Policy.

A student is normally expected to give at least four weeks' notice of the date on which he/she intends to take his/her leave(s) and at least four weeks' notice of the date on which he/she intends to return from leave, should this date be different from the date agreed upon at the time the leave was granted.

A Parenting Leave or a portion thereof may be taken simultaneously with a Pregnancy and/or Parental leave from employment, in accordance with the Employment Standards Act, should the student also be an employee of McMaster University.

If both parents of a child are McMaster Graduate Students, only one parent is eligible to access Parenting Leave under this Policy at any one time. This Policy does not preclude the other parent from applying for a leave of absence under another policy or program and the approval or denial of that leave application will be determined on the basis of the parameters of that leave policy or program.

### **Combination with Other Leaves**

A Parenting Leave or a portion thereof may be taken concurrently with a Pregnancy and/or Parental leave from employment, in accordance with the Employment Standards Act, 2000, should the student also be an employee of the University.

If a student is also an employee, it is incumbent upon the student to review their terms and conditions of employment and/or Collective Agreement (if any) and apply for the appropriate leave of absence from employment there under.

Normally, pregnancy/parental leave is completed within 18 months of the date of birth or custody.

### **Financial Support from the School of Graduate Studies for Parenting Leave**

#### **Eligibility**

Students who have not completed a minimum of 16 weeks of graduate studies at McMaster will not be eligible for Financial Support under This Policy. They will remain eligible for a leave of absence from studies, in accordance with the above.

#### **Parameters**

A student in receipt of McMaster Graduate Scholarship Funds who has a child (or children) by birth or adoption may receive the financial support available under the Policy for a minimum period of 4 months and a maximum period of 8 months.

A student electing not to take the maximum amount of time available will not have the option of taking any unused leave at a later date.

A student in receipt of McMaster Graduate Scholarship Funds who takes a Parenting Leave under the Policy will be entitled to continue to receive graduate scholarship funds at the normal monthly rate, to a maximum of \$750 per month and to a maximum total of \$3,000, provided that a "Leave of Absence Information Form" has been submitted to and approved by the School of Graduate Studies.

The formula used to determine the "normal monthly rate" when a student is not currently in receipt of scholarship funds is the total of their McMaster Graduate Scholarship Funds averaged over the previous or current academic year depending on the start date of the parenting leave.

### **Combination with Other Forms of Financial Support**

To maximize flexibility, the financial support available under the Policy can be combined with stipends from sources, excluding those from the Tri-Agencies (noted below) and can be spread over a period of between 4 and 8 months at the discretion of the student. However, in no case will funding for Parenting Leave from the School of Graduate Studies exceed a total of \$3000 (and \$750.00/month).

If the parent of the child for whom the Parenting Leave is being taken is eligible to receive parental support from CIHR, NSERC, SSHRC or another agency that provides parental support for the leave at any time during the Parenting leave, the parent is not eligible for financial support under McMaster's Parenting Leave Policy.

When two McMaster graduate students are the parents of a child, only one of those students will be entitled to claim the financial support under the Policy.

Financial support during Parenting Leave for students who are also employees of the University, provided as part of their terms and conditions of employment, are distinct and separate from the financial support available under this Policy. Other financial benefits, except as specifically excluded herein, can be taken concurrently with the financial support provided under this Policy provided that the individual meets the eligibility requirements for those plans for the duration for which they are accessing financial support under those plans.

The financial support provided under this Policy is not considered an approved Supplemental Unemployment Benefit Plan for the purposes of receiving Employment Insurance. Therefore, students wishing to access financial support under this Policy in addition to Employment Insurance ("EI") benefits should be aware that Human Resources and Skills Development Canada ("HRSDC") may consider financial support under this Policy to be earnings and could therefore require repayment of some of all EI benefits received. It is incumbent upon the student accessing financial support under this Policy to contact HRSDC if they have questions in this regard.

For questions on the administration of the Policy, contact the School of Graduate Studies.

## 2.5.8 Parenting Leave

### Parenting Leave Policy

#### Intent

The Parenting Leave Policy (the "Policy") is intended to assist parents in successfully combining their graduate studies and family responsibilities with minimum financial and/or academic impact. The University will provide the following arrangement for parents requiring parenting leave from their studies at the time of pregnancy, birth or adoption and/or to provide care during the child's first year.

According to the Employment Standards Act 200 – May 7, 2018 version Part XIV, a "parent" includes:

"a person with whom a child is placed for adoption and a person who is in a relationship of some permanence with a parent of a child and who intends to treat the child as his or her own"

Consistent with the Employment Standards Act, (2000 – May 7 2018 version Part XIV) a Parenting Leave ends "61 weeks after it began, if the employee also took pregnancy leave and 63 weeks after it began, otherwise."

The form to apply is available on the School of Graduate Studies Resources page (insert appropriate link). A student electing not to take the maximum amount of time available for Parenting Leave will not have the option of taking any unused portion at a later date. Students returning from a leave should consult with their programs and should note that course availability may be affected by the timing of their return.

Eligible students can also apply for a Parenting Grant. More information on this is available on the School of Graduate Studies Website (insert link to webpage where the applicable information will be listed).

It is understood that when a student takes a Parenting Leave, the duration of the leave will not be counted as time towards the time limits in which the student is required to complete or make progress in their graduate studies program.

In order that the student's supervisor and/or program can make suitable arrangements to cover ongoing responsibilities during the student's absence, students are expected to provide as much notice as possible of the intention to take a Parenting Leave under this Policy.

A student is normally expected to give at least four weeks' notice of the date on which they intend to take their leave(s) and at least four weeks' notice of the date on which they intend to return from leave, should this date be different from the date agreed upon at the time the leave was granted.

### **Combination with Other Leaves**

A Parenting Leave or a portion thereof *may* be taken concurrently with a Pregnancy and/or Parental Leave from employment, in accordance with the *Employment Standards Act, 2000*, should the student also be an employee of the University.

If a student is also an employee, it is incumbent upon the student to review their terms and conditions of employment and/or Collective Agreement (if any) and apply for the appropriate leave of absence from the employer.

Note: Students who hold fellowships, scholarships or grants from NSERC, SSHRC, CIHR, or OGS should be aware that these agencies or any other external funding source may have policies governing the interruption and continuation of awards that may differ from the University's policy on LOA. Students holding such awards, and who intend to keep them, are responsible for ensuring that any LOA taken does not conflict with the granting agency's regulations. The appropriate agency should be contacted for details.

For questions on the administration of the Policy, contact the School of Graduate Studies.

Summary  
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**New Document:**

[guide\\_for\\_the\\_preparation\\_of\\_masters\\_and\\_doctoral\\_theses-  
\\_new](#)

20 pages (538 KB)

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**Old Document:**

[guide\\_for\\_the\\_preparation\\_of\\_masters\\_and\\_doctoral\\_theses-  
\\_old](#)


20 pages (460 KB)


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 indicates a change.

 indicates deleted content.

 indicates pages were changed.

 indicates pages were moved.

GUIDE FOR THE PREPARATION OF MASTER'S AND DOCTORAL  
THESES



SCHOOL OF GRADUATE STUDIES HAMILTON, ONTARIO

June 2017

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## 1.0 GENERAL REQUIREMENTS

### 1.1 Introduction

A Ph.D. student may prepare and defend either a **standard thesis** (see sections 1.2 and 2.0) or a “**sandwich thesis**” (see sections 1.3 and 5.0) at oral examination (also known as the ‘thesis defense’). Normally, a Master’s student may submit only a standard thesis (see sections 2.0 and 5.2). Each department or program offering graduate work is wholly responsible for setting up oral examinations for Master’s candidates (see Sections 6.1 and 6.2). The School of Graduate Studies is responsible for **setting up** Ph.D. oral examinations (see Sections 6.3, 6.4, and Appendix 1). **If after reading the material in the guide, you have any questions, please do not hesitate to contact Academic Services in the School of Graduate Studies at [gthesis@mcmaster.ca](mailto:gthesis@mcmaster.ca).**

### 1.2 Criteria for Acceptance of Master’s and Standard Ph.D. Theses for Thesis Defense

A thesis is a coherent document that provides a complete and systematic account of the research work accomplished by the writer. The criteria for acceptance are listed in detail later in this guide, but in general, the requirements are summarized as follows:

- (a) Before submitting for defense, the text and accompanying illustrative material or multimedia must be clear and error-free and, where written using Canadian English and grammar; the student is advised to use a spell and/or grammar checker. The text of the Ph.D. thesis must not exceed 300 pages double spaced; normally, a Master’s thesis must not exceed 200 pages double spaced, but further information about a Master’s thesis will be supplied by the student’s department or Graduate Program.
- (b) Normally, only an electronic version of the thesis is acceptable for submission for thesis defense. The word-processing program, format or multimedia used by the student will be one that is mutually agreed between the student and the supervisory committee. The arrangement and numbering of each page must be within the specified margins (see section 2.2). However, it may be necessary to distribute a printed copy of the thesis to accommodate the wishes of an internal or external examiner who prefers to read a hard copy. **Consequently, the student should be prepared to supply a printed copy (or copies) of the thesis to the School of Graduate Studies before the defense (see Appendix 1).**
- (c) After a successful defense and after the corrections have been made and approved, the student is responsible for making sure that the final electronic thesis is correctly prepared (i.e. page numbering of the preliminary pages, order of sections, chapters, etc.) before converting the document to a pdf file or approved multimedia format and then uploading the file to ‘MacSphere’.

### 1.3 Criteria for Acceptance of a Sandwich Ph.D. Thesis (Containing Previously Published/Prepared Material) for Defense

It is increasingly common in many disciplines to present for defense a Ph.D. thesis which consists in part of previously published peer-reviewed scholarly works (or submitted for peer review). If some of the research undertaken expressly for the degree has been previously published or prepared for publication as one or more journal articles, or parts of books, then electronic files of these published, ‘in press’ or ‘submitted for publication’ items may be included *verbatim* within the thesis; the thesis is then termed a ‘sandwich’ thesis. **In addition to the criteria in 1.2, certain important conditions need to be followed when preparing a sandwich Ph.D. thesis:**

- (a) There must be a written introduction preceding the published (or ‘in press’ or submitted) article or articles which thoroughly sets the context for the entire thesis, and draws out the overall objectives and implications of the work. If the introduction itself includes a co-authored article or chapter, then the independent contributions of the student to that article or chapter must be outlined in the preface of the thesis. It is understood that the introduction is critical to evaluating the student’s contribution to the thesis separate from co-authors.
- (b) For all co-authored articles that are part of the body of thesis, the contribution of the student **to each of the** articles must also be outlined in the preface to the thesis. The aim of this procedure is to ensure that only co-authored papers to which the student has made a significant original contribution are included in the thesis. The author of the thesis shall normally be the main contributor to these co-authored articles.



(c) It is permissible to include electronic articles as they appear in an on-line journal (or by photocopying them for a hardcopy version of the thesis); however, the **Vice-Provost** and Dean of Graduate Studies, on a recommendation from the examining committee, may require that the published articles be reproduced as the final word processing file submitted for publication and in a form described in section 2.2. Illegible captions due to small fonts, miniaturized figures or tables, and irregular margins are among the reasons for insisting on incorporating the word processing file rather than reproducing the electronic reprint into the electronic thesis.

(d) If copies of previously published material are presented in the thesis, the material must indicate the names and order of the co-authors exactly as published, and the relative contribution of each author. The name of the journal and other publication information (date, volume, pages and so forth) must also be included. All of the required information must be presented at the beginning of the chapter or section of the thesis that reproduces the previously published material. The objective of this requirement and of requirements (b) and (c) is to assure examiners that there has been full disclosure of collaborative activity. It is the student's responsibility to obtain the copyright to include previously published material in the thesis.

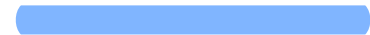
**More details of the requirements for writing a sandwich Ph.D. thesis are described in section 5.0.**

## **2.0 PREPARATION OF THE MASTER'S AND STANDARD PH.D. THESIS**

### **2.1 The Electronic Thesis for Oral Defense**

The **Master's thesis** which has been prepared for defense will be e-mailed by the student as an electronic file to those members of the supervisory committee who will act as examiners and to the Chair of the defense. The Master's student can obtain information about their thesis defense (i.e. the date, time, and venue; the names of the examiners) from the Graduate Coordinator or Graduate Administrator in the department or Graduate Program in which they are registered.

The **Ph.D. thesis** for defense will be e-mailed by the student to **all** supervisory committee members prior to initiating the thesis defense system (see Appendix 1). In addition, the Ph.D. student should be prepared to deliver a **print copy** (or copies) of the thesis to **Academic Services** who will be responsible for distributing it to an internal or an external examiner if they require a hard copy. **The text of the hardcopy version must be the same as that of the electronic thesis**, and must be printed on regular quality 8½" x 11" printer paper and back-printed to save paper. ▲



### ▲ 2.2 The Text of the Thesis

#### 2.2.1 General

The thesis must be typed in either 10 or 12 point font. There are two types of fonts: proportional and fixed (typewriter style) and different space values for each character in a proportional font. Arial and Times New Roman are examples of proportional fonts. If you are using a proportional font for your thesis you must use a 12-point font. A fixed font has the same value for each character, and an example of this is Courier. If a fixed font is used, the smallest you can use is 10 point (10 characters per inch). **The student is encouraged to select a font that is easy for the examiner to read.**

The text may be single or double spaced; footnotes and long quotations should be single spaced. Word processors such as WordPerfect, LaTeX and MSWORD are automatically set to create footnotes in the correct format. The entire thesis must be in the same typeface and font, and, for hardcopies, care should be taken to ensure an even black copy is produced.

It is recommended that a laser printer be used for hardcopies. If an ink-jet printer is used, be sure to use paper that is specifically designed for this kind of printer, to avoid smudging and to achieve good print quality.

The student is urged to find a text processing program which includes unusual symbols or characters should they be necessary. Characters that are not readily available (e.g. unique symbols) may need to be created in an electronic format which can be readily downloadable from a pdf file by future readers.

### 2.2.2 Margins and Indentations

For students who wish to send a copy (or copies) of their finally-approved thesis for binding, the following should be noted. To ensure sufficient space on the page for binding, the TOP and LEFT margins should be 3.8 cm, and the RIGHT and BOTTOM margins should be 2.5 cm. If the thesis is to be back printed, both LEFT and RIGHT margins should be 3.8 cm. These margins also apply to all illustrative material, including diagrams, maps, photographs, charts, tables, and computer printouts.

### 2.2.3 Header

All pages of the thesis, beginning with the Introductory chapter (or Chapter 1), must have header information containing the degree program, the author's name, McMaster University and the department, e.g.

Ph.D. Thesis - J. Smith; McMaster University - Mechanical Engineering.

The word processing program should automatically insert headers at the top of each page. The purpose of the header information is to provide identification if people subsequently print or photocopy sections of the thesis.

### 2.2.4 Pagination

All pages are to be numbered EXCEPT the half title page, which is disregarded in the pagination, and the title page, on which the number (i) is implied but not written. The remaining pages of the preliminaries should be numbered with lower-case Roman numerals (ii, iii, iv, etc.) placed in the centre at the bottom of the page, approximately 2 cm from the bottom edge of the paper. Page numbers should be in a consistent location on each page.

All pages of the thesis, beginning with the Introduction or Chapter 1, must be numbered with Arabic numerals (1, 2, 3 and so on). This includes pages with tables, illustrations, diagrams, bibliographies and appendices.

### 2.2.5 Preparing and Sending the Electronic Thesis for Binding

After a successful defense and required changes have been made and approved by the supervisor, the student will upload a pdf version of the final thesis to MacSphere. Inevitably, the student will also want some copies of the final thesis printed and bound. To this end, students are encouraged to e-mail the same pdf file to the binding company to ensure that electronic and printed versions are the same. The student when ordering copies of the bound thesis will be expected to pay all costs for binding and delivery. Delivery of copies of the bound thesis will be arranged by the student; **the bound thesis must not be delivered to the School of Graduate Studies.**

### 2.2.6 Non Text Format and Multimedia

*Maps, diagrams, figures and tables* may be drawn or prepared using a black font colour. The finished drawing should be scanned into an electronic format which can be incorporated into the text of the thesis using the word-processing program. Similarly, photographs should be scanned or converted into an electronic format which is suitable for including in the word-processing program.

For examiners who prefer to read the thesis as a hard copy, illustrations must be dark enough to reproduce well, and have standard margins on all sides. Pages wider than 8.5" x 11" should be photo-reduced provided the material is still readable. Drawings for a hardcopy of the thesis may be photocopies of high quality. Photographs should be originals, not photocopies. Students should consult McMaster Printing Services for page-reduction advice. *Oversized pages* (charts, graphs, maps, tables, etc.) should be carefully folded into the hardcopy thesis and should not extend the full width of the standard page.

## 2.2.7 Abbreviations and Symbols

Abbreviations and symbols must be those that are generally accepted in the field of study, must be defined in a list of Abbreviations and Symbols at the start of the thesis (see section 3.1.h below), and must be used consistently throughout the thesis.

## 3.0 SEQUENCE OF PARTS OF THE THESIS

A standard graduate thesis consists of the following parts, and is arranged in this order:

### 3.1 The Preliminary Pages

The following preliminary pages will precede the main text: The Half Title Page; Title Page; Descriptive Note (page ii); Abstract; Acknowledgements; Table of Contents; List of Illustrations, Charts, Diagrams; List of Tables; List of Abbreviations and Symbols, Declaration of Academic Achievement. Preliminary pages from (c) onwards will be numbered using Roman numerals.

(a) *Half Title Page*: The purpose of the half title page is to indicate to the binder what words should be put on the spine of the bound volume to serve as a significant label. The length should not exceed sixty (60) characters (including Spaces). This page must **not** be numbered. **See Example 1 on p. 10 for the required format.**

(b) *Title Page*: All text on the title page must be centred between the margins. The top and left margins should be 3.8 cm (1.5 inches) and the right and bottom margins should be 2.5 cm (1.0 inch). The copyright line should be placed as the last line of the page. This page must not be numbered. **See Example 2 on p. 11 for the required format.**

(c) *Descriptive Note*: This page simply lists degree and year; department; university name and location; full title in lower case; full name of author followed by degrees previously conferred; supervisor; and number of pages, counted separately for the preliminary pages and the text. This page must be numbered 'ii'. **See Example 3 on page 12 for the required format.**

(d) *Lay Abstract*: A lay abstract of not more than 150 words must be included explaining the key goals and contributions of the thesis in lay terms that is accessible to the general public. This page must be numbered 'iii'.

(e) *Abstract*: An abstract of not more than 300 words must be included and will indicate the major emphasis of the thesis, new discoveries, and its contribution to knowledge. The style of abstract varies somewhat from discipline to discipline; the student should follow an appropriate style. This page must be numbered 'iv'.

(f) *Multimedia Abstract*: (Audio, video, animation) Students may include a 3 minute audio or video clip describing their thesis, which will be linked to their thesis on MacSphere. Such multimedia abstracts must be approved by the supervisory committee.

This is not a requirement and is at the discretion of the student.

(g) *Acknowledgements*: An expression of thanks for assistance given by the supervisor of research and by others should be either set forth on a separate page or incorporated into the Preface (if there is one). These and all subsequent preliminary pages listed under (f), (g) and (h) must be numbered in lower case Roman numerals, i.e. 'iv', 'v', 'vi' etc.

(h) *Table of Contents*: Must include the titles of all section or chapter headings and subheadings with their respective page numbers and must be numbered in lower case Roman numerals continuous after (e).

(i) *Lists of Figures and Tables* with their respective titles and page numbers; must be numbered in lower case Roman numerals continuous after (f).

(j) *List of all Abbreviations and Symbols* with their appropriate definitions; must be numbered in lower case Roman numerals continuous after (g).

(k) *Declaration of Academic Achievement*: The student will declare his/her research contribution and, as appropriate, those of colleagues or other contributors to the contents of the thesis.

**NOTE: The Preliminary pages described above will also precede the main text of a 'sandwich' thesis**

### 3.2 Text, References and Footnotes

The text of the standard graduate thesis consists of the 'Introduction' section or chapter, followed by several well-defined sections or chapters which contain the research results, finishing with a Conclusion and

Discussion section or chapter, or a summary statement of the results of the investigation.

The List of References section (or bibliography) follows the text, and this section is followed by any appendices. **See Example 4 on p. 13 for the recommended format of the bibliography for different disciplines.**

Regarding the style of writing, it is common practice to adopt the style (e.g. phraseology, nomenclature, abbreviations) practiced within the field of study. For more advice, the student may wish to be advised by the guidelines presented in A Manual for Writers of Term Papers, Theses and Dissertations (Kate L. Turabian, 8th edition, published 2013). These guidelines provide alternative formats to accommodate the practice in different disciplines but, once chosen, the format must be adhered to consistently.

Footnotes should be numbered (as necessary) and placed at the foot of the page or, with less convenience to the reader, at the end of the chapter or section, or at the end of the thesis. If footnotes are collected in one place, their location must be shown in the table of contents by title and page. Most word processors, by default, place footnotes at the end of each page and assign them consecutive numbers (see Turabian, Ch. 13, Section 13.17).

**Students should contact their department to ascertain any departmental specifications for the preparation of a master's thesis.**

## 4.0 CITATIONS AND REFERENCES

### 4.1 Citing Published Articles within the Text

In the basic and applied sciences, referencing within the text must follow a **consistent system** which **normally** gives the surname of the author(s) followed by the year of publication (see Turabian, Chapter 10). The Thesis Writer's Handbook by Miller & Taylor (1987) may also be consulted for instructions and examples of MLA and APA document styles (also see the section on Electronic References below).

Note: Citing Master's and PhD theses written by others fall into this category. Theses are publications that are available (either via the internet or through interlibrary loans, or through Library and Archives Canada) and should be cited as publications.

### 4.2 Citing Unpublished Articles by the Student within the Text

In respect of articles not yet published in the literature, the term "*to be published*" is not to be used, since a more precise term is desirable both for bibliographic accuracy and for information as to the status of the material. Either of the following wordings must be used, as appropriate:

- (a) *Accepted for publication in the [Name of Journal].* (If the issue in which the article will appear is known, it should be cited.) If the issue is not known, the date of acceptance should be stated immediately after the word accepted.
- (b) *Submitted [Date] to [Name of Journal].*

Note: The author of a thesis could alternatively treat an item in section 4.2 (b) as a 'private communication' (see section 4.3), but if there seems good cause to suppose the submitted article will be accepted, it may be of more value to mention the likely journal of publication.

### 4.3 Citing Other Unpublished Information or Articles within the Text

This category includes anything other than published accepted or submitted items. It could include material that is in draft prior to submission, internal reports that are not available through the internet or in standard reference library lists, and personal letters and oral communications. In the case of a letter or a report, a reference could read e.g.:

*Private Communication from Dr. John Doe: Dept. of Gastronomy, McMaster University, Report No. 10/70.*

#### 4.4 Electronic References

The following are recommended website links which provide information on how to cite electronic references:

Columbia Style Guide: [http://www.chicagomanualofstyle.org/16/ch14/ch14\\_toc.html](http://www.chicagomanualofstyle.org/16/ch14/ch14_toc.html)

APA Style Guide:  
<http://guides.library.ualberta.ca/content.php?pid=51541&sid=380592>

MLA Style Guide: <http://library.mcmaster.ca/guides/mla-style-guide>

University of Alberta Library: <http://www.library.ualberta.ca/guides/citation/>

## 5.0 PREPARATION OF THE “SANDWICH” PH.D. THESIS

Some of the research undertaken by the student expressly for the Ph.D. degree may have previously been published or prepared as one or more journal articles, or chapters of books; these items may be included within the Ph.D. thesis subject to the following regulations and to obtaining permission from the supervisory committee. A thesis consisting of peer-reviewed scholarly works (e.g. journal articles), whether previously published, submitted for peer-review, or prepared for publication but not yet submitted, is often referred to as a **“sandwich” thesis**. A **minimum of three published or submitted but not yet published scholarly works** must be included within the sandwich thesis; **normally, at least one** of these must be published or ‘in press’ at the time the thesis is submitted for defense. The following points pertain specifically to the sandwich thesis:

**5.1** The sandwich thesis must be a coherent presentation of the candidate's research work which includes an introductory chapter (normally ‘Chapter 1’) that outlines the general theme and the objectives, and a final chapter of conclusions that draws out the overall implications of the research. The introductory and concluding chapters need to be substantial in content, depth and length, not paper thin. In addition to setting the overall context, and identifying how the several papers relate to each other, it would be valuable if the introduction could also warn a reader of any overlap in the article chapters, such as in the literature reviews or the methods section of each article. Likewise, the concluding chapter should show clearly how the preceding chapters form a coherent substantial body of work and how significantly this body of work advances our knowledge. The different chapters (or sections) which include the published or prepared articles must contribute to the general theme of the thesis. Repetition of material that appears in more than one journal article (e.g., introduction, background, methodology) should be avoided. **The author of the thesis shall normally be the main contributor to these published or prepared articles.**

**5.2** A sandwich thesis may be the choice of document for a Ph.D. student who has researched a topic for 4-6 years. In contrast, a Master's student who has undertaken a research topic for a relatively short time (1-2 years) would normally write a standard thesis rather than a sandwich thesis, but in exceptional circumstances the supervisory committee may agree that the Master's student should write a sandwich thesis.

**5.3** The Preliminary pages (see section 3.1) for the sandwich thesis are similar to those of a standard thesis. However, the Preliminary pages of a sandwich thesis must include a preface that clearly documents the student's (and the other authors') contributions to each multi-authored work and when the work was conducted. The student must justify why his/her original contributions should be included in the main body of the thesis.

**5.4** There must be a written introduction **preceding each published (or ‘in press’, or submitted) scholarly work** which sets the context and draws out the overall implications of the work. The metaphor, ‘sandwich thesis’, implies that the ‘meat’ is in each of the scholarly works, but it is also important that there is ‘bread’ to hold the sandwich together.

**5.5** For any chapter of the sandwich thesis that includes a **published scholarly work**, the student may choose to either incorporate **an electronic version of the published reprint** (with pages renumbered to fit in with

the pagination of the thesis; see item 5.10 below), or **an electronic version of the published work** (e.g. the MSWORD document) that complements the first (Introductory) and last (Discussion and Summary) chapters of the sandwich thesis in respect of font type and size, margins, and overall style.

**5.6** In addition to the written text, which may include diagrams, figures and tables, the student may also include film or sound files with the electronic thesis. It will be the student's responsibility to ensure that all electronic files supplied to an external examiner are in formats that the examiner may access easily. In the event an internal or an external examiner prefers to assess a hard-copy of the thesis, the student will provide **a print copy (or copies) of the sandwich thesis (including a CD, DVD, or USB Key as appropriate)** to **Academic Services** prior to the thesis defense. The text of the printed version of the thesis must be the same as that of the submitted electronic copy.

**5.7** Written permission to include copyright material in a Ph.D. thesis must be obtained by the student from the copyright holder. **This permission must also include a grant of an irrevocable, non-exclusive license to McMaster University and to Library and Archives Canada to reproduce the material as part of the thesis.** While these licenses should normally be obtained at no cost, any payment which might be required by the rights holder is the exclusive responsibility of the student. If the scholarly work has been published in an academic journal, copyright will normally have been assigned to the publisher of the journal. If the material has been published in another format (e.g. as part of a book, or as a technical report, etc.) the copyright may not have been assigned to the publisher, but rather licensed by the author(s) for a specific purpose. The exact status of the rights attaching to the material must be determined. If the material has been co-authored, the status of the rights of each co-author in the work must be determined. The candidate must secure from any co-author of a published work a written waiver of all rights in favour of McMaster University and Library and Archives Canada so as to permit publication of the thesis. In addition, written permission must be obtained from any co-author who retains copyright or the person to whom the co-author has assigned copyright, by way of a grant of an irrevocable non-exclusive license to McMaster University and to Library and Archives Canada, to reproduce material generated by the co-author as part of the thesis. The thesis should indicate that scholarly works have been printed either "with permission" or "under license" (either by a statement in the preface or on the first page of each article). **Electronic copies of the letters of permission or licenses should be submitted to the School of Graduate Studies prior to the defense. See Appendix 3 for an example of a Letter of Permission.**

**5.8** For unpublished work (e.g., a paper that has been submitted for publication in a peer-reviewed journal but not yet published), a statement concerning the status of any dealing or contemplated dealing with the copyright or the auspices under which the work was prepared must be on the first page of the separately prepared, unpublished work. If copyright has already been legally assigned, written permission, as described in item 5.7 above, must be obtained.

**5.9** For each published scholarly work, a complete citation, including first and last page number in the journal publication (or the Digital Object Identifier (doi) number) and recognition of the copyright holder must be written on the first page of the chapter.

**5.10** The previously published or prepared scholarly works must be assigned page numbers that are sequential within the thesis. To avoid confusion, it is essential to remove the original journal page numbers; this information will be included in the citation given on the first page of the chapter.

**5.11** Journal articles typically contain many more words per page than a page of a thesis. Such articles must be prorated to assess their acceptability within the maximum-allowed 300-page length of the thesis.

**5.12** A list of references is included in most journal articles or manuscripts that are included in a sandwich thesis. References should remain self-contained within each article, as they appear in the original published document. Frequently, this may appear as a serial number, often a superscript incorporated appropriately within the text, which relates to a non-alphabetic bibliography at the end of the article (or chapter; see for example Turabian 10.33). It is acceptable that, because journal articles from more than one journal may be included, more than one referencing styles will also be included within the sandwich thesis. References for the new material in the thesis, e.g. the first and last chapters, should be listed in the main reference list at the end of the thesis as in the standard thesis (see section 3.2). A reference in one or more of the reproduced articles or manuscripts should only be included in the main reference list if it is also cited in the new material.

Finally, after a successful defense and all changes and corrections have been completed to the satisfaction of the supervisor (or examination committee as necessary), the student will upload the sandwich Ph.D. thesis

(including all associated approved files) as a pdf file to 'MacSphere' as described for the standard thesis (see section 6.4).

## 6.0 SUBMISSION OF THE THESIS: BEFORE AND AFTER THE DEFENSE

### 6.1 Submission of a Master's Thesis prior to Defense

To meet the requirements for a Master's degree, the thesis must be submitted by the student to the graduate administrator of the department (or Graduate Program) prior to the defense, either in an electronic form (e.g. by e-mail or a memory stick) which is preferred by the examiners or, if preferred, as a hardcopy no later than the date specified in the 'Sessional Dates' section of the School of Graduate Studies Calendar for the degree to be recognized at the appropriate convocation.

### 6.2 Submission of a Completed Master's Thesis after a Successful Defense

After a successful defense, the Chair of the examination committee will inform the student in general terms of the changes to the thesis which are required by the examiners. Usually, the supervisor will be asked by the Chair of the examination committee to supervise these changes. In addition, the Chair of the examination committee will give to the student a form [entitled: 'Final Thesis Submission Sheet'] which will be initialed by the Chair to indicate whether the examination committee have decided that minor or major changes are required to the thesis. This form will be given to the student to hand to the supervisor when all changes have been made. The form must be signed by the supervisor if the changes are minor (or by all of the examiners if major changes are required) when all changes have been approved. When the supervisor has signed the form, the student will prepare a pdf version and upload the final thesis to 'MacSphere', **and either send (by internal mail) or take the signed form to the School of Graduate Studies. It is the student's responsibility to ensure that all pages of the final thesis are complete and placed correctly before uploading to MacSphere.**

**The student is advised to submit their final thesis after defense no later than the date specified in the 'Sessional Dates' given in the School of Graduate Studies Calendar for the appropriate convocation.**

### 6.3 Submission of a Ph.D. Thesis prior to Defense

Having e-mailed a copy of the thesis to each member of the supervisory committee, the student will access the 'Student Centre' portal in Mosaic to initiate the defence process online. The student, in consultation with the supervisor and supervisory committee members, will also provide the **School of Graduate Studies** with a preferred date(s) for the defense. The **School of Graduate Studies** will then e-mail the supervisor and all supervisory committee members to ask them to (i) approve the date for defense and (ii) approve the written thesis as defensible; the supervisor and all supervisory committee members will reply appropriately to the **School of Graduate Studies**. When the thesis has been approved by the supervisory committee as worthy of defense, the **School of Graduate Studies** will arrange the selection of an external examiner (from a list of prospective examiners supplied by the student's supervisor), and the date and time of the Oral Defense. ▲

When all of the examiners have been determined by the **School of Graduate Studies**, they will be notified of the date, time and place of the thesis defense. Furthermore, the external examiner and internal examiner (as necessary) will be sent an electronic copy of the thesis. If an internal or external examiner prefers to evaluate a hard copy of the thesis, **the student must be prepared to provide the School of Graduate Studies with a printed copy (or copies) of the thesis.** The text of the printed version of the thesis must be the same as that of the submitted electronic copy. If an external examiner requests a printed copy of the thesis, the **School of Graduate Studies** will supply it to the examiner.

### 6.4 Submission of a Completed Ph.D. Thesis after a Successful Defense



After a successful Oral Defense, the examination committee may ask for changes to the written thesis. The Chair of the examination committee will give to the student a form [entitled: 'Final Thesis Submission Sheet'] which will be initialed by the Chair to indicate whether the examination committee have decided that the changes, collectively, are of a major or a minor nature (a decision which is made by the examination committee).

If the changes are deemed to be minor, then the Chair will ask only the supervisor to oversee the changes by the student. There will be no requirement for the revised thesis to be sent to all supervisory committee members for further comment.

If the changes are deemed to be major, the Chair will ask the supervisor and appropriate members of the supervisory committee to supervise the student in making these changes; when suitable changes have been made, the revised thesis will be sent (in electronic format) to all examiners for further appraisal. The members of the examination committee, in consultation with the examination Chair, will then decide whether the revised thesis is 'approved' or if it requires further alteration and scrutiny. It is conceivable that the student may be called by the examination committee for a formal re-examination and re-defense of the written thesis.

When the student's supervisor (or the examination committee) is satisfied that all changes have been made correctly, the supervisor will complete and sign the "Final Thesis Submission Form". The student will then send the signed form by internal mail (or deliver personally) to **the School of Graduate Studies**. Finally, the student will convert the final thesis to a pdf file; **it is the student's responsibility to ensure that all pages are complete and correctly numbered AFTER converting the final thesis to a pdf file and before uploading to MacSphere**. The student must also ensure that all components that are included in the thesis, e.g. sound or video files, are readily accessible to future readers after uploading to MacSphere. **Sometime** after the thesis has been uploaded, the student will automatically receive an e-mail invitation from the **Vice-Provost** and Dean of Graduate Studies to complete the on-line 'Ph.D. Student's Exit Survey'.

After the final thesis has been uploaded to MacSphere but **before** its official publication, the **School of Graduate Studies** will access the thesis to check the information given by the student to MacSphere, and check the essential details on the Preliminary pages of the thesis. If the **School of Graduate Studies** is satisfied that the essential information is correct, only then will the thesis be officially published. An e-mail giving the official date of publication of the thesis will automatically be sent to the student.

**The student is encouraged to upload the final thesis after defense no later than the date specified in the Sessional Dates contained in the School of Graduate Studies Calendar for the appropriate convocation.**

#### **6.5 Binding Copies of the Final Master's or Ph.D. Thesis**

As of May 1, 2011, McMaster University no longer requires that a graduate student provide the university library or the student's department, school, or graduate program with suitably bound copies of their printed thesis. Furthermore, Library and Archives Canada will no longer require an unbound copy but will access the student's thesis directly via MacSphere. Nevertheless, after a successful defense and after all the corrections and changes have been approved by the supervisor, the student will probably want to have copies of their Master's or Ph.D. thesis bound for personal reasons or for presentation, for example, to their supervisor or even to the department. It is the student's responsibility to ensure that the electronic thesis sent to the bindery (or print copies sent for binding) is **the same version** as that uploaded to MacSphere. The student will be expected to pay for all copying and binding costs including any charges for delivering copies of the bound thesis to the student's address. The student should **not** instruct the bindery to deliver copies of the bound copies of the thesis to the School of Graduate Studies at McMaster University.



**Example 1: Half-Title Page**

GOVERNOR JOHN WENTWORTH

*(Note: All Capital Letters)*

*The length should not exceed 60 character spaces, including spaces between words.*

**Example 2: Title Page**

THE CHARACTER AND ADMINISTRATION OF GOVERNOR JOHN WENTWORTH

*(Note: All Capital Letters)*

By KATHLEEN STOKES, B.A.

*(Note: All Capital Letters) (All previous degrees should be listed)*

A Thesis Submitted to the School of Graduate Studies in Partial Fulfilment of the Requirements for  
the Degree Master of Arts

McMaster University © Copyright by Kathleen Stokes, June 1992

### **Example 3: Descriptive Note**

McMaster University MASTER OF ARTS (1992) Hamilton, Ontario (History)

TITLE: The Character and Administration of Governor John Wentworth AUTHOR: Kathleen Stokes, B.A. (McMaster University) SUPERVISOR: Professor H.E. Duckworth NUMBER OF PAGES: vii, 212

*(To follow the title page and to be numbered ii)*

#### Example 4

##### BIBLIOGRAPHY

- Achtert, Walter S., and Joseph Gibaldi. *The MLA Style Manual*. New York: Modern Language Association of America, 1985.
- American Mathematical Society. *A Manual for Authors of Mathematical Papers*. 8<sup>th</sup> ed. Providence, R.I.: American Mathematical Society, 1990.
- American Psychological Association. *Publication Manual of the American Psychological Association*. 6th ed. Washington, D.C.: American Psychological Association, 2009.
- Becker, Howard S. *Writing for Social Scientists: How to Start and Finish Your Thesis, Book, or Article*. Chicago: University of Chicago Press, 2<sup>nd</sup> Edition, 2007.
- Council of Biology Editors Style Manual Committee. *Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers*. 6th ed. New York: Cambridge University Press, 1994.
- Day, Robert A. *How to Write and Publish a Scientific Paper*. 5th ed. Phoenix, Arizona: Oryx Press, 1998.
- Dodd, Janet S., ed. *The ACS Style Guide: A Manual for Authors and Editors*. Washington, D.C.: American Chemical Society, 2<sup>nd</sup> Edition, 1997
- Gibaldi, Joseph. *MLA Handbook for Writers of Research Papers*. 7th ed. New York: Modern Language Association of America, 2009.
- Kirkman, John. *Good Style: Writing for Science and Technology*. New York: Chapman and Hall, 2<sup>nd</sup> Edition, 2006.

## APPENDIX 1

### STEPS FOR THE SUBMISSION, EXTERNAL EXAMINATION, AND DEFENSE OF A Ph.D. THESIS

#### STEP 1: Student Initiates the Ph.D. Thesis Defense Process Online

The link to initiate a thesis defense through **Mosaic** is available on the School of Graduate Studies website (<http://gs.mcmaster.ca/doctoral-degree>). Once the defense is initiated, the supervisor will be contacted by e-mail through the Thesis Defense System to submit nominations for an external examiner. The names of the potential examiners nominated by the supervisor must **not** be revealed to the student. **The selection of an external examiner is the responsibility of the Vice-Provost and Dean of Graduate Studies.** All nominees must be at 'arm's length' from all members of the supervisory committee and the student. To maintain this distance, all communication with the external examiner must originate only from the School of Graduate Studies, and **not** from the supervisor or members of the supervisory committee.

As it takes time to contact a proposed External Examiner and to receive word of his or her acceptance, this completed electronic form must be submitted by the supervisor **at least 4-6 weeks** before the student moves to Step 2.

#### STEP 2: Propose a Date and Time for Ph.D. Thesis Defense

The student will be prompted via email to submit a date and time for their thesis defense. The student is expected to have conferred with the supervisory committee members regarding suitable dates before submitting the thesis online via the **Thesis Defense System**. Once the student has submitted the thesis, the members of the supervisory committee will be prompted via email to (a) agree on the time and date for defense, and (b) agree that the thesis is ready for defense.

- ⚠ A majority of the Supervisory Committee must approve the thesis before it can be sent out for external examination. This means that if two out of the three members approve the thesis and **the third**
- ⚠ member does not approve, the thesis can still be sent to the external examiner for review. However, if the student has a four-member supervisory committee and only two members approve, the thesis cannot be sent for external examination.

A **300-page limit** on the **text** is imposed on all Ph.D. theses [i.e. excluding the Preliminary pages (see Section 3.1), bibliography and any appendices]. In cases where students and their supervisors believe that the thesis topic requires substantially greater length than 300 pages, written approval from the appropriate Associate Dean of Graduate Studies must be obtained before the external examiner is contacted. Potential external examiners must be informed of the exceptional length of a thesis in advance.

The thesis (whether an electronic or hardcopy version) will not be sent to the External Examiner until it has been approved for submission and defense by the Supervisory Committee.

#### STEP 3: The Defense

In addition to three members of the supervisory committee (one of which will be the supervisor) who will act as **examiners**. In addition, a Chair of the examination committee will be selected by **Graduate Studies**; the ⚠ Chair is not expected to be an expert in the topic of the defense, but is expected to facilitate a fair and orderly examination process.

If the external examiner's report on the thesis is favourable and they give their approval that the defense should proceed, the date and time of the thesis defense is then confirmed by **Graduate Studies** who will send out a notice of the examination to the examination committee, the student and the relevant department or program. The Thesis Coordinator will then select a Chair. ⚠ If the external examiner's report is negative, the examination will be postponed until the external examiner's concerns have been addressed (or alternative

arrangements have been agreed) by the supervisory committee and the student in consultation with the **Vice-Provost** and Dean of Graduate Studies.

#### **STEP 4: After the Defense**

The Chair of the examination committee will discuss in general terms with the student the examiners' conclusions and desired changes to the thesis (i.e. whether 'minor' or 'major' in nature), and give the student a form, 'Final Thesis Submission Sheet'; this form will be initialed appropriately by the Chair. When the student has completed the changes and corrections indicated by the examination committee and the supervisor (or supervisory committee) has approved these changes, the supervisor (or supervisory committee) will sign the form to indicate completion. The student will either bring or send (by internal mail) the signed form to **Graduate Studies**, and submit an electronic file (as a pdf) of the finally approved thesis to MacSphere (see Section 6.4).

## APPENDIX 2

### PROCEDURES AND INSTRUCTIONS FOR THE EXAMINATION OF Ph.D. THESES

#### 1. Purpose of the Examination (or Thesis Defense)

The examination will be chaired by a senior professor or professor emeritus of the University who will be **confirmed** by **Graduate Studies**; the Chair's role is to ensure that the examination proceeds in a fair and orderly manner and is completed within a reasonable time (three hours maximum). The Chair will not question the candidate, will make no judgment on the candidate's performance and will have no vote.

It is the examiners' task to determine whether the student has met the University's thesis requirement, that each doctoral candidate present and successfully defend a thesis that embodies the results of original research and mature scholarship. The examiners represent Graduate Council and through it the Senate of the University, and are therefore responsible for the standard of the Ph.D. degree in this University.

The oral thesis defense at McMaster University is an examination of a Ph.D. candidate's ability to defend publicly their written work. Therefore, questions having to do with the detailed content or the general argument of the thesis are relevant, as are questions regarding the relationship between the content of the thesis and the body of knowledge to which it contributes. (The more general judgment of the candidate's proficiency in their discipline and particular area of specialization are presumed to have been made at the time of the comprehensive examination.)

The committee of examiners, both of the written thesis and of the oral defense, will not likely all be expert in the candidate's specialty, or even in his or her discipline. It is the particular responsibility of the external examiner(s) and the supervisory committee to ensure that the thesis does indeed present an original and significant contribution to knowledge. The examiners may reasonably be expected to exercise their judgment of the written thesis and the oral defense as members of the University faculty, keeping in mind the standards of excellence expected by the University of its Ph.D. graduates.

The examiners are expected to judge whether the student's thesis and defense are satisfactory or unsatisfactory. The examiners have previously read and reported on the written thesis and they must now give their final judgments on the oral defense of it and on the written thesis in light of the defense. Examiners are expected to exercise their judgments on both of these matters. Only in exceptional circumstances may they abstain.

#### 2. Ph.D. Oral Examination Procedure

(a) When the candidate arrives, the Chair will introduce those committee members not known by the candidate.

(b) The Chair should explain to those present the composition of the examining committee.

(c) The Chair will confer with the examination committee **in the absence of the student and audience members** to determine if anyone has misgivings or any doubt about the worth of the thesis, and to determine the order of questioning.

(d) When the Chair invites the candidate and audience members to return to the examination room, the Chair will ask the student to present an oral statement about his/her thesis of approximately 15 minutes duration (in no case more than 20 minutes). **The student should stress the main points of the contribution to knowledge and the principal technical difficulties either of an experimental or theoretical nature which he or she has overcome. A summary of the thesis is neither necessary nor desirable.** The Chair should remind the candidate that notes or other aids may be used **but the statement may not be read from a prepared script.**

(e) **Individual examiners will question the candidate according to the order established by the Chair. All members of the examining committee are expected to put questions to the candidate.** Issues that have been raised by members of the supervisory committee in the course of composition of the thesis may nevertheless be profitably brought up now, when the candidate will have to respond in the presence of others.

(f) If present, the external examiner should be given full opportunity to question the candidate. If the external examiner is not present, it is the Chair's responsibility to see that questions raised in the external examiner's report are put to the candidate by some member of the examining committee, preferably the supervisor.

**(g) Candidates who are unwilling or unable to respond to questions should be cautioned by the Chair that such an action may cause the examination to be adjourned, or in extreme cases, could lead to failure when the examination committee are asked to judge on the success or failure of the defense (see item (k) below).**

(h) When the examiners have completed their questions, the Chair will invite members of the audience to ask questions or make comments.

(i) When there are no further questions, the Chair should ask the candidate and audience members to withdraw from the room.

(j) In the event that the external examiner is not present, the Chair and committee will decide whether the examiner's report is to be read or summarized before the vote is taken.

(k) After a discussion of the examination, the Chair will ask for a judgment on each of the two questions, the acceptance or rejection of the written document and the success or failure of the defense. If there are two or more negative or abstaining votes on either question, with at least one of these votes being from a member of the supervisory committee, adjournment is mandatory and a reconvened oral defense must be held at a later date. The candidate should be told as clearly as possible what they must do to improve either or both the written thesis and their defense of it.

If the oral defense is reconvened, no new examining committee members will be added, except for necessary replacements, to expedite the timing of the reconvened examination. It is the duty of the examiners to attend the reconvened examination. The reconvened examination is the candidate's final opportunity to defend the thesis satisfactorily. No subsequent defense may be held, and there is no appeal of the final decision.

(l) In the event that the written thesis is approved conditionally, the Chair is responsible for ensuring that (1) the candidate is advised of the conditions in writing, (2) the candidate receives and understands the form, 'Final Thesis Submission Sheet', which will be used to confirm that the conditions have been met, and (3) the supervisor is also aware of this form.

(m) Following the committee's decision, the Chair will secure the initialed votes of each examiner and then will complete and sign the 'Examination Committee Report'.

(n) The Chair will then go to the candidate, inform them of the committee's decision(s), and bring them into the examination room for any congratulations or discussion appropriate to the examiner's decision. An unattributed copy of the external examiner's report will be given to the candidate. In cases where the external examiner is not present, a successful candidate may be informed of the identity of the external examiner, providing that the external examiner has permitted this identification to be made.

(o) It is the responsibility of the Chair to inform the candidate that the corrected electronic thesis (when finally approved by the supervisor) must be uploaded by the candidate as a pdf file to MacSphere, and to invite the candidate to sign the necessary forms to give the University permission to publish the thesis electronically (or to temporarily withhold as the case may be), and Library and Archives Canada permission to access the thesis for their archives. The Chair will then return the examination file containing the signed Examination Committee Report and permission forms to the Thesis Coordinator in the School of Graduate Studies.

(p) The examination then will be formally adjourned. Normally, examination of a PhD candidate will take about two hours and in no case should take more than three hours.

(q) If the student has failed or if the oral defense is to be reconvened, the Chair of the examining committee should discuss the situation as soon as possible with the **Vice-Provost** and Dean of Graduate Studies.



### Appendix 3

#### SUGGESTED FORM OF A PERMISSION REQUEST LETTER

[Department letterhead stationery (preferred) or return address] [Date] [Name and Address of copyright holder]

Dear ,

I am completing a [Ph.D. or M.Sc., or M.A., etc.] thesis at McMaster University entitled [.....]. I would like your permission to reprint in full the following journal article in my thesis:

[Complete citation of the article]

Please note that I am [a co-author/the author] of this work.

I am also requesting that you grant irrevocable, nonexclusive license to McMaster University [and to the National Library of Canada] to reproduce this material as a part of the thesis. Proper acknowledgement of your copyright of the reprinted material will be given in the thesis.

If these arrangements meet with your approval, please sign where indicated below and return this letter to me in the enclosed envelope. Thank you very much.

Sincerely,

[Name and Signature]

*(Licence to the National Library is to be requested only for Ph.D. theses)*

#### PERMISSION GRANTED FOR THE USE REQUESTED ABOVE

[Type Name of Company]

Authorized by: Title:

Date:

Signature:

## Graduate Awards to be approved at June 2018 Grad Council Meeting

**Name of Fund:** Molson C. Cain Graduate Award

**Fund Terms of Reference:**

Established in 2018 by the Estate of Molson C. Cain. To provide funding for a research grant for a MSc or PhD student in the Faculty of Science to be used for meetings, publications or equipment in support of their thesis. Funding to be available for the duration of the student's nominal degree.

**Name of Fund:** Drs. Elliott, Lee & Starkes Graduate Scholarship in Motor Learning and Behaviour

**Fund Terms of Reference:**

Established in 2017 by friends and colleagues to celebrate the careers and contributions of Professors Emeriti Digby Elliott, Timothy Lee and Janet Starkes. To be awarded annually to a graduate student in the Department of Kinesiology who, in the judgment of the selection committee, has demonstrated a research interest in the behavioural aspects of motor control and learning.

**Name of Fund:** The Sandra M. Stephens Memorial Award for Global Research Leaders

**Fund Terms of Reference:**

Established in 2018 in memory of Sandra Marie Stephens, who offered tremendous support for both local and international PhD students during her tenure at the DeGroot School of Business. To be awarded by the School of Graduate Studies based on the recommendation of the Associate Dean, Graduate Studies and Research, in consultation with the Ph.D. Advisory Committee, in the Faculty of Business, to a student who displays global interest through, but not limited to, collection of primary data from overseas and/ or collaboration with international co-authors.

**Name of Fund:** Michael Kiley Graduate Scholarship in Antibiotic Resistance

**Fund Terms of Reference:**

Established in 2017 by the family of Michael Kiley. To be awarded to a graduate student associated with the Michael G. DeGroot Institute for Infectious Disease Research who has made a significant contribution to antibiotic infection research through a presentation of their research at an annual trainee research symposium. To be awarded annually by the School of Graduate Studies on the recommendation of the Executive Committee of the Michael G. DeGroot Institute for Infectious Disease Research.



**School of Graduate Studies**

1280 Main Street West  
Hamilton, Ontario, Canada  
L8S 4L8

Phone 905.525.9140  
Ext. 23679  
<http://graduate.mcmaster.ca>

To : Graduate Council  
  
From : Christina Bryce  
Assistant Graduate Secretary

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Via e-ballot on May 17<sup>th</sup> the Faculty of Business Graduate Curriculum and Policy Committee approved the following recommendations.

Please note that these recommendations were approved at the May 24<sup>th</sup> meeting of the Faculty of Business.

**For Information of Graduate Council:**

- a. **M.B.A.**
  - i. **Change to Course Title and Description**
    - 1. O711 Risk Models in Operations Management



SCHOOL OF GRADUATE STUDIES

**RECOMMENDATION FOR CHANGE IN GRADUATE CURRICULUM - FOR CHANGE(S) INVOLVING COURSES**

**IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:**

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
2. An electronic version of this form (must be MS WORD not PDF) should be emailed to the Assistant Secretary, School of Graduate Studies.
3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

<b>DEPARTMENT/PROGRAM</b>		Operations Management-DeGroot School of Business/MBA		
<b>COURSE TITLE</b>		Risk Models in Operations Management		
<b>COURSE NUMBER</b>	BUS O711	<b>COURSE CREDIT</b>		
		<b>FULL COURSE ( )</b>	<b>HALF COURSE (x)</b>	<b>QUARTER (MODULE) ( )</b>
<b>INSTRUCTOR(S)</b>		Different faculty		
<b>PREREQUISITE(S)</b>		Q600		
<b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>				
<b>NEW COURSE</b>	<input type="checkbox"/>	<b>DATE TO BE OFFERED (FOR <u>NEW</u> COURSES ONLY):</b>	<b>WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL?</b>	
<p>WILL THE COURSE BE <u>CROSS-LISTED</u> WITH ANOTHER DEPARTMENT? <input checked="" type="checkbox"/> IF YES, PLEASE NOTE WHICH DEPARTMENT:</p> <p>ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S). <b>NOTE: CROSS-LISTING OF COURSES REQUIRES WRITTEN APPROVAL FROM EACH DEPARTMENT AND FACULTY CONCERNED. IF YOU WOULD LIKE TO REMOVE A CROSS-LISTING YOU MUST INCLUDE A WRITTEN EXPLANATION AGREED UPON BY BOTH DEPARTMENTS AFFECTED.</b></p> <p>*FOR ALL NEW CROSS-LISTINGS PLEASE NOTE WHICH DEPARTMENT OWNS THE COURSE:</p>				
<b>CHANGE IN COURSE TITLE</b>	<input checked="" type="checkbox"/>	PROVIDE THE <b><u>NEW</u></b> COURSE TITLE: PREDICTIVE MODELLING AND ANALYTICS		
<b>CHANGE IN COURSE DESCRIPTION</b>	<input checked="" type="checkbox"/>	<b>600-LEVEL COURSE (Undergraduate course for graduate credit) Please see #4 on page 2 of this form</b>		
<b>CHANGE TO FULL COURSE</b>	<input type="checkbox"/>	<b>CHANGE TO HALF COURSE</b>	<input type="checkbox"/>	<b>CHANGE TO QUARTER COURSE</b>

<b>COURSE CANCELLATION</b>		<b>PROVIDE THE REASON FOR COURSE CANCELLATION:</b>  <b>PLEASE NOTE: CROSS-LISTED COURSES CAN ONLY BE CANCELLED BY THE DEPARTMENT WHO OWNS THE COURSE.</b>
<b>OTHER CHANGES</b>		<b>EXPLAIN:</b>
<b>BRIEF DESCRIPTION FOR CALENDAR - Provide a brief description (<i>maximum 6 lines</i>) to be included in the Graduate Calendar.</b>  All levels of companies need to make predictions ranging from the mundane sales forecast to the more sophisticated cases that may have limited data such as predicting competitive responses. This course will cover both the art (modelling) and science of prediction. Topics will include exploratory data analysis techniques and visualization of data, multiple linear regression and model building, machine learning (with a focus on classification and clustering), probabilistic inference models, diagnostics and model validation. Practical applications of these topics as well as the use of up to date software tools will be emphasized.		
<b>CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used.</b>  The course is being overhauled to align with the recent developments in the area of business analytics.  <b>Topics will include:</b>  exploratory data analysis techniques and visualization of data, multiple linear regression and model building, machine learning (with a focus on classification and clustering), probabilistic inference models, diagnostics and model validation  There will be a coursepack that includes a selection of book chapters, articles and case studies.		

<b>1. STATEMENT OF PURPOSE (How does the course fit into the department's program?)</b>  The course fits within the school's digital transformation initiative under the strategic plan.
<b>2. EXPECTED ENROLMENT:</b>  25
<b>3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):</b>  Lectures, software demos and case studies.
<b>4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION (percentage breakdown, if possible): (For 600-level course, indicate the <u>Extra Work</u> to be required of graduate students, i.e., exams, essays, etc.)</b>  2 Assignments (30%)

Group Project (30%)

Take home final 40%:

**5. TO PREVENT OVERLAP, IS A COURSE IN THE SAME OR A RELATED AREA OFFERED IN ANOTHER DEPARTMENT?  
IF YES, PLEASE ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S).**

**6. IF THE COURSE IS INTENDED PRIMARILY FOR STUDENTS OUTSIDE YOUR DEPARTMENT, DO YOU HAVE THE  
SUPPORT OF THE DEPARTMENT/PROGRAM CONCERNED?**

**PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Elkafi Hassini

Email: hassini@mcmaster.ca

Extension: 27467

Date submitted: February 2, 2018

If you have any questions regarding this form, please contact the Assistant Secretary, School of Graduate Studies,  
cbryce@mcmaster.ca.

SGS /2013



School of Graduate Studies

1280 Main Street West  
Hamilton, Ontario, Canada  
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Phone 905.525.9140  
Ext. 23679  
<http://graduate.mcmaster.ca>

To : Graduate Council

From : Christina Bryce  
Assistant Graduate Secretary

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At its meeting on June 6th the Faculty of Health Sciences Graduate Policy and Curriculum Committee approved the following recommendations.

Please note that these recommendations were submitted for approval to the Executive Committee of the Faculty of Health Sciences.

**For Information of Graduate Council:**

- **Child Life and Pediatric Psychosocial Care**
  1. **Change to Course Evaluations**
    - 718 Child Life Clinical Skills Seminar 1
    - 715 Child Life Clinical Internship 1
  
- **Physiotherapy**
  1. **Course Cancellations**
    - 611 Fundamentals of Physiotherapy Practice/Problem-based I
    - 621 Fundamentals of Musculoskeletal Practice/Problem-based II
    - 631 Fundamentals of Cardiorespiratory and Neurological Practice/Problem-based III
    - 612 Fundamentals of Physiotherapy Practice/Clinical Laboratory I
    - 622 Fundamentals of Musculoskeletal Practice/Clinical Laboratory II
    - 632 Fundamentals of Cardiorespiratory and Neurological Practice/Clinical Laboratory III
    - 613 Foundational Knowledge for the Physiotherapy Practitioner
    - 624 Physiotherapy Clinical Practice I
    - 634 Physiotherapy Clinical Practice II



**SCHOOL OF GRADUATE STUDIES**

**☒ RECOMMENDATION FOR CHANGE IN GRADUATE CURRICULUM - FOR CHANGE(S) INVOLVING COURSES & MILESTONES**

**IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:**

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
2. An electronic version of this form (must be MS WORD not PDF) should be emailed to the Assistant Secretary, School of Graduate Studies (cbryce@mcmaster.ca).
3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

<b>DEPARTMENT</b>		Department of Pediatrics		
<b>COURSE TITLE</b>		Child Life Clinical Skills Seminar 1		
<b>COURSE NUMBER</b>	718	<b>COURSE CREDIT</b>		
		6 Unit Course ( )	3 Unit Course ( x )	1.5 Unit Course ( )
<b>INSTRUCTOR(S)</b>		Allison Sohanlal		
<b>REQUISITE(S)</b> (Pre/Co/Anti or program enrollment requirement)		Enrollment is restricted to Child Life and Pediatric Psychosocial Care students only.		
<b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>				
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input type="checkbox"/> No				
<b>NEW COURSE</b>		<b>DATE TO BE OFFERED (FOR NEW COURSES ONLY):</b> FALL 2017	<b>WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL?</b>  If Yes, Provide the Date:	
<p>WILL THE COURSE BE <u>CROSS-LISTED (COMBINED SECTIONS)</u> WITH ANOTHER DEPARTMENT? <b>NO</b> IF YES, PLEASE NOTE WHICH DEPARTMENT:</p> <p><b>ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S). NOTE: CROSS-LISTING OF COURSES REQUIRES WRITTEN APPROVAL FROM EACH DEPARTMENT AND FACULTY CONCERNED. IF YOU WOULD LIKE TO REMOVE A CROSS-LISTING YOU MUST INCLUDE A WRITTEN EXPLANATION AGREED UPON BY BOTH DEPARTMENTS AFFECTED.</b></p> <p>*FOR ALL NEW CROSS-LISTINGS PLEASE NOTE WHICH DEPARTMENT OWNS THE COURSE:</p>				



<b>CHANGE IN COURSE TITLE</b>		PROVIDE THE <b>NEW</b> COURSE TITLE:
<b>CHANGE IN COURSE DESCRIPTION</b>		<b>600-LEVEL COURSE</b> ( <i>Undergraduate course for graduate credit</i> ) <i>Please see #4 on page 2 of this form</i>
<b>COURSE CANCELLATION</b>		PROVIDE THE REASON FOR COURSE CANCELLATION:  PLEASE NOTE: CROSS-LISTED (COMBINED SECTIONS) COURSES CAN ONLY BE CANCELLED BY THE DEPARTMENT WHO OWNS THE COURSE.
<b>OTHER CHANGES</b>		<b>EXPLAIN:</b>
<b>BRIEF COURSE DESCRIPTION FOR CALENDAR - Provide a brief description (<i>maximum 6 lines</i>) to be included in the Graduate Calendar.</b>  This is a required course for Stream 1 learners, and runs during the Fall Term in conjunction with #715 Child Life Clinical Internship 1. The course will be delivered in a synchronous online classroom environment on a weekly basis. The seminar follows a set curriculum of foundational professional practice topics to further integrate child life clinical training. Topics covered will focus on three broad areas including foundations of practice, child life assessment and interventions. Learners will explore topics using research grounded in evidence based practice, knowledge and skills from their clinical internship placement and through scholarly discussion through faculty and student-led seminars.		
<b>CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used.</b>  Topics to be covered include: <ul style="list-style-type: none"> <li>• Foundations of Practice             <ul style="list-style-type: none"> <li>○ Patient and family centered care</li> <li>○ Communication</li> <li>○ Interprofessional education &amp; collaboration (IPE &amp; IPC) in practice</li> <li>○ Professional responsibility part 1 (e.g. documentation, )</li> </ul> </li> <li>• Child Life Assessment &amp; Intervention             <ul style="list-style-type: none"> <li>○ Play based assessment</li> <li>○ Developmental considerations in healthcare (developmental concepts of illness, changes in behaviour, siblings, school re-entry, , etc.)</li> <li>○ Creating child life care plans</li> <li>○ Principles of child life preparation</li> <li>○ Strategies to support coping skills &amp; techniques for youth and families</li> <li>○ Pediatric pain and non-pharmacological interventions part 1</li> </ul> </li> </ul> Learners are expected to prepare in advance for each class through critical analysis of pre-readings and materials provided in order to engage in class discussion and learning activities.		

**1. STATEMENT OF PURPOSE (How does the course fit into the department's program and/or tie to existing Program Learning Outcomes from the program's IQAP cyclical review (if applicable)?)**

The core courses for Stream 1 of the Child Life and Pediatric Psychosocial Care program, of which this is one, have been developed to meet the core competencies for child life specialists and to meet certification eligibility

requirements as set out by the Association of Child Life Professionals (ACLP). All of the courses have been mapped to these competencies to prepare students for clinical practice.

**2. EXPECTED ENROLMENT:**

All ~~40~~ full-time Stream 1 students (10-15) are required to take this course.

**3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):**

This course will occur in a synchronous online environment on a weekly basis with the opportunity for continued discussion through Avenue to Learn. Course material will be presented through clinical sessions, live student presentations, discussion of case study-based scenarios, small group work, critical analysis of evidence based practice initiatives, guest speakers and lectures on clinical topics. The structure and method of delivery for course material will promote a collaborative, supportive learning environment allowing growth within the group and fostering knowledge and practice while the students are simultaneously involved in clinical internship and functioning as a part of the multi-disciplinary health care team. Topics are interwoven with the curriculum modules/learning portfolio the students will be completing as part of the Child Life Clinical Internship 1 course and the child life competencies underlying the professional certification exam with the ACLP.

**4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION (percentage breakdown, if possible): (For 600-level course, indicate the Extra Work to be required of graduate students, i.e., exams, essays, etc. Please also note if a lab or tutorial will be included.)**

Course evaluation methods include diverse methodologies to ensure students receive ongoing, formative and summative feedback for their individual and group work both written and oral. Methods of evaluation allow for students to lead sessions and develop facilitation skills and be participants in interactive sessions through engaging in discussion and critical analysis of child life practice topics.

Participation (~~2~~10%)

~~Child Life Care Plan Assignment (20%)~~

~~Small Group Case Study Facilitations (2 total) (10% each = 20%)~~

~~Student Led Clinical Presentation/Clinical Demonstration (20%) – demonstrate a psychological preparation approach or diagnosis specific education session for children and youth based on final paper topic~~

~~Peer Reviewed Journal Facilitation (15%) – choose a recent (within last 5 years) peer reviewed journal article on a child life topic of interest and facilitate a discussion based on the article with the class~~

Paper (~~25~~35%) – focused on a selected developmental age and relevant topic related to pediatric illness and/or hospitalization incorporating complexity of factors and proposed child life intervention. ~~Written in style of journal article.~~

**5. TO PREVENT OVERLAP, IS A COURSE IN THE SAME OR A RELATED AREA OFFERED IN ANOTHER DEPARTMENT? IF YES, PLEASE ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S).**

N/A

**6. IF THE COURSE IS INTENDED PRIMARILY FOR STUDENTS OUTSIDE YOUR DEPARTMENT, DO YOU HAVE THE SUPPORT OF THE DEPARTMENT/PROGRAM CONCERNED?**

N/A

**PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name:                      Email:                      Extension:                      Date submitted:

If you have any questions regarding this form, please contact the Assistant Secretary, School of Graduate Studies, [cbryce@mcmaster.ca](mailto:cbryce@mcmaster.ca).

SGS /2015



SCHOOL OF GRADUATE STUDIES

**RECOMMENDATION FOR CHANGE IN GRADUATE CURRICULUM - FOR CHANGE(S) INVOLVING COURSES & MILESTONES**

**IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:**

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
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3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

<b>DEPARTMENT</b>		Department of Pediatrics		
<b>COURSE TITLE</b>		Child Life Clinical Internship 1		
<b>COURSE NUMBER</b>	715	<b>COURSE CREDIT</b>		
		<b>6 Unit Course ( X )</b>	<b>3 Unit Course ( )</b>	<b>1.5 Unit Course ( )</b>
<b>INSTRUCTOR(S)</b>		Allison Sohanlal		
<b>REQUISITE(S)</b> <small>(Pre/Co/Anti or program enrollment requirement)</small>		Enrollment is restricted to Child Life and Pediatric Psychosocial Care students only.		
<b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>				
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input type="checkbox"/> No				
<b>NEW COURSE</b>	<b>DATE TO BE OFFERED (FOR NEW COURSES ONLY): FALL 2017</b>	<b>WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL?</b>		
WILL THE COURSE BE <u>CROSS-LISTED (COMBINED SECTIONS)</u> WITH ANOTHER DEPARTMENT? <b>No</b> If YES, PLEASE NOTE WHICH DEPARTMENT:				
ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S). <b>NOTE: CROSS-LISTING OF COURSES REQUIRES WRITTEN APPROVAL FROM EACH DEPARTMENT AND FACULTY CONCERNED. IF YOU WOULD LIKE TO REMOVE A CROSS-LISTING YOU MUST INCLUDE A WRITTEN EXPLANATION AGREED UPON BY BOTH DEPARTMENTS AFFECTED.</b>				
*FOR ALL NEW CROSS-LISTINGS PLEASE NOTE WHICH DEPARTMENT OWNS THE COURSE:				
<b>CHANGE IN COURSE TITLE</b>	PROVIDE THE <b>NEW</b> COURSE TITLE:			
<b>CHANGE IN COURSE DESCRIPTION</b>	600-LEVEL COURSE (Undergraduate course for graduate credit) Please see #4 on page 2 of this form			

<b>COURSE CANCELLATION</b>	<b>PROVIDE THE REASON FOR COURSE CANCELLATION:</b>  <b>PLEASE NOTE: CROSS-LISTED (COMBINED SECTIONS) COURSES CAN ONLY BE CANCELLED BY THE DEPARTMENT WHO OWNS THE COURSE.</b>
<b>OTHER CHANGES</b>	<b>EXPLAIN:</b>
<b>BRIEF COURSE DESCRIPTION FOR CALENDAR - Provide a brief description (<i>maximum 6 lines</i>) to be included in the Graduate Calendar.</b>  <p>This is a required course for Stream 1 learners in the Fall Term. This course will provide students with the opportunity to facilitate their knowledge and professional skill development within the scope of child life practice, accumulating 360 hours of supervised clinical experience within a hospital or community setting. This is the first of two internships with the purpose of providing the student with supervised clinical experience to introduce and reinforce clinical skills in accordance with the competencies outlined by the Association for Child Life Professionals.</p> <p>The course will run in conjunction with the course “Clinical Skills Seminar I”.</p>	
<b>CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used.</b>  <p>Topics to be covered include;</p> <ul style="list-style-type: none"> <li>• Developmentally-supportive play and social interactions with infants, children, youth and families, in individual and group settings</li> <li>• Collaboration with families regarding developmental issues and the impact of stressful events</li> <li>• Consideration of diversity and socioeconomic issues</li> <li>• Interaction and coordination with interdisciplinary team members, including participation in team meetings</li> <li>• Instruction and practice of documentation in institutional records</li> <li>• Supervision/coordination of volunteers and special events</li> <li>• Prioritization of daily workload in relation to patient and administrative responsibilities</li> <li>• Evaluating self (skill level, professionalism, personal coping styles, professional boundaries) and overall programming, implementing appropriate changes when needed</li> <li>• Developing knowledge regarding medical terminology, etiology, disease process, and medical procedures</li> <li>• Maintaining a therapeutic relationship with infants, children, youth and families</li> <li>• Incorporating family-centered care practices</li> <li>• Exhibiting an understanding of and adhering to departmental and organizational policies and procedures</li> </ul> <p>This course will <a href="#">require each student to create their own unique learning portfolio which will be added to throughout CLPPC 715 and CLPPC 716. utilize the Child Life Council Internship Curriculum Modules in addition to readings and assignments completed weekly and added to the students' learning portfolio.</a></p>	

**1. STATEMENT OF PURPOSE (How does the course fit into the department's program and/or tie to existing Program Learning Outcomes from the program's IQAP cyclical review (if applicable)?)**

The core courses for Stream 1 of the Child Life and Pediatric Psychosocial Care program, of which this is one, have been developed to meet the core competencies for child life specialists and to meet certification eligibility requirements as set out by the Child Life Council (North American). All of the courses have been mapped to these competencies to prepare students for clinical practice.

The clinical education component will link clinical experience to what students have learned in classes and facilitate the development and application of new knowledge, clinical reasoning and professional identity.

**2. EXPECTED ENROLMENT:**

~~All~~ ~~10-15~~ full-time Stream 1 students [\(10-15\)](#) are required to take this course.

**3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):**

Students will be placed at child life clinical internship sites across Canada with approved affiliation agreements. Communication with the instructor will be through Avenue to Learn, Zoom, email and in person visits when possible. Discussion boards will be used to share information and resources. The course includes the development of a learning portfolio (available online) where students can also provide their preceptor's access to their assignments for review and feedback.

**4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION (percentage breakdown, if possible): (For 600-level course, indicate the Extra Work to be required of graduate students, i.e., exams, essays, etc. Please also note if a lab or tutorial will be included.)**

Course evaluation methods include diverse methodologies to ensure students receive ongoing, formative and summative feedback for their performance in clinical internship.

~~Weekly Reflective Journals – 10%~~

~~Completion of Curriculum Modules – 5% for each (8) – 40%~~

~~Completion of Clinical Skills Competency Logs – 15% 5% for each (8) – 40%~~

~~Learning Portfolio – 20% Clinical Project – 10%~~

~~Child Life Care Plan Assignment - 10%~~

The clinical component makes up the remainder of the grade for this Pass/Fail course.

~~Two Completed Midterm Formative Clinical Skills Assessments~~ (reviewed at week 4 and week 8 ~~between weeks 4-6~~ with student, preceptor and instructor) with numeric ratings and narrative evaluation feedback.

~~Completed Final One Summative Clinical Skills Assessment~~ (reviewed between weeks ~~10-12-13~~ with student, preceptor and instructor) with numeric ratings and narrative evaluation feedback. A student must achieve a minimum of 75% of

ratings at a category 3 in each competency domain (assessment, intervention, professional responsibility) within the summative assessment.

~~This is a pass/fail course. A student must achieve a minimum of 75% of ratings at a category 3 in each competency domain (assessment, intervention, professional responsibility) within the summative assessment.~~

Students are to submit weekly reflective journals and medical charting/documentation samples to both his/her preceptor and the Clinical Education Coordinator. Clinical skills logs and documentation samples will be utilized in the regular 1-1 meetings held between the student and clinical education coordinator throughout the course.

A student must also achieve a minimum of a 70% average across all assignments (reviewed and graded by the instructor), and demonstrate consistent improvement and progression of clinical skills.

**5. TO PREVENT OVERLAP, IS A COURSE IN THE SAME OR A RELATED AREA OFFERED IN ANOTHER DEPARTMENT? IF YES, PLEASE ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S).**

N/A

**6. IF THE COURSE IS INTENDED PRIMARILY FOR STUDENTS OUTSIDE YOUR DEPARTMENT, DO YOU HAVE THE SUPPORT OF THE DEPARTMENT/PROGRAM CONCERNED?**

N/A

**PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name:                      Email:                      Extension:                      Date submitted:

If you have any questions regarding this form, please contact the Assistant Secretary, School of Graduate Studies, [cbryce@mcmaster.ca](mailto:cbryce@mcmaster.ca).

SGS /2015



SCHOOL OF GRADUATE STUDIES

**RECOMMENDATION FOR CHANGE IN GRADUATE CURRICULUM - FOR CHANGE(S) INVOLVING COURSES & MILESTONES**

**IMPORTANT: PLEASE READ THE FOLLOWING NOTES BEFORE COMPLETING THIS FORM:**

1. This form must be completed for ALL course changes. Sections of this form pertaining to your requested change must be completed.
2. An electronic version of this form (must be MS WORD not PDF) should be emailed to the Assistant Secretary, School of Graduate Studies (cbryce@mcmaster.ca).
3. A representative from the department/program is required to attend the Faculty Curriculum and Policy Committee meeting during which this recommendation for change in graduate curriculum will be discussed.

<b>DEPARTMENT</b>		Master of Science Physiotherapy Program, School of Rehabilitation Science		
<b>COURSE TITLE</b>		Problem-based Tutorial ( <b>PHYSIOTH*611, *621, 631</b> ); Clinical Laboratory ( <b>PHYSIOTH*612, 622, 632</b> ); Foundational Knowledge for the Physiotherapy Practitioner ( <b>PHYSIOTH*613</b> ); Physiotherapy Clinical Practice ( <b>PHYSIOTH*624, *634</b> )		
<b>COURSE NUMBER</b>	See above	<b>COURSE CREDIT</b>		
		6 Unit Course ( )	3 Unit Course ( )	1.5 Unit Course ( )
<b>INSTRUCTOR(S)</b>				
<b>REQUISITE(S)</b>  (Pre/Co/Anti or program enrollment requirement)		Courses are open to MSc (PT) Program students.		
<b>NATURE OF RECOMMENDATION (PLEASE CHECK APPROPRIATE BOX)</b>				
Is this change a result of an IQAP review? <input type="checkbox"/> Yes <input type="checkbox"/> No				
<b>NEW COURSE</b>		DATE TO BE OFFERED (FOR <u>NEW</u> COURSES ONLY):	WAS THE PROPOSED COURSE OFFERED ON DEAN'S APPROVAL? N/A	
WILL THE COURSE BE <u>CROSS-LISTED (COMBINED SECTIONS)</u> WITH ANOTHER DEPARTMENT? N/A IF YES, PLEASE NOTE WHICH DEPARTMENT:				
ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S). <b>NOTE:</b> CROSS-LISTING OF COURSES REQUIRES WRITTEN APPROVAL FROM <u>EACH</u> DEPARTMENT AND FACULTY CONCERNED. IF YOU WOULD LIKE TO REMOVE A CROSS-LISTING YOU MUST INCLUDE A WRITTEN EXPLANATION AGREED UPON BY BOTH DEPARTMENTS AFFECTED.				
*FOR ALL NEW CROSS-LISTINGS PLEASE NOTE WHICH DEPARTMENT OWNS THE COURSE:				
<b>CHANGE IN COURSE TITLE</b>		PROVIDE THE <u>NEW</u> COURSE TITLE:		



CHANGE IN COURSE DESCRIPTION		N/A	600-LEVEL COURSE ( <i>Undergraduate course for graduate credit</i> ) Please see #4 on page 2 of this form	N/A
COURSE CANCELLATION		X	PROVIDE THE REASON FOR COURSE CANCELLATION: The MSc (PT) Curriculum has undergone a re-organization of content. These Year 1 courses are not part of the re-organization, and will no longer be offered. PLEASE NOTE: CROSS-LISTED (COMBINED SECTIONS) COURSES CAN ONLY BE CANCELLED BY THE DEPARTMENT WHO	
OTHER CHANGES		EXPLAIN:		
BRIEF COURSE DESCRIPTION FOR CALENDAR - Provide a brief description ( <i>maximum 6 lines</i> ) to be included in the Graduate Calendar.				
CONTENT/RATIONALE - Provide a brief description, i.e., outline the topics or major sub-topics, and indicate the principal texts to be used.				

1. STATEMENT OF PURPOSE (How does the course fit into the department's program and/or tie to existing Program Learning Outcomes from the program's IQAP cyclical review (if applicable)?)
2. EXPECTED ENROLMENT:
3. DESCRIBE IN DETAIL THE METHOD OF PRESENTATION OF COURSE MATERIAL (i.e., lectures, seminars):
4. DESCRIBE IN DETAIL THE METHOD OF EVALUATION ( <u>percentage breakdown, if possible</u> ): (For 600-level course, indicate the <u>Extra Work</u> to be required of graduate students, i.e., exams, essays, etc. Please also note if a lab or tutorial will be included.)

**5. TO PREVENT OVERLAP, IS A COURSE IN THE SAME OR A RELATED AREA OFFERED IN ANOTHER DEPARTMENT?  
IF YES, PLEASE ATTACH TO THIS FORM ANY RELEVANT CORRESPONDENCE WITH THE OTHER DEPARTMENT(S).**

**6. IF THE COURSE IS INTENDED PRIMARILY FOR STUDENTS OUTSIDE YOUR DEPARTMENT, DO YOU HAVE THE  
SUPPORT OF THE DEPARTMENT/PROGRAM CONCERNED?**

**PLEASE PROVIDE THE CONTACT INFORMATION FOR THE RECOMMENDED CHANGE:**

Name: Vanina Dal Bello-Haas      Email: vdalbel@mcmaster.ca      Extension: 27822      Date submitted: May 30, 2018

If you have any questions regarding this form, please contact the Assistant Secretary, School of Graduate Studies,  
cbryce@mcmaster.ca.

SGS /2015



Dr. Michael R. Thompson  
**Associate Dean, Graduate  
Faculty of Engineering**  
Phone: (905) 525-9140 ext. 23213  
E-mail: mthomps@mcmaster.ca

1280 Main Street West  
Hamilton, Ontario, L8S 4L7  
Canada

## MEMO

**To:** Graduate Council

A handwritten signature in black ink, appearing to be "M. Thompson".

**From:** Dr. Michael Thompson  
Associate Dean of Graduate Studies, Engineering

**Date:** Friday June 1, 2018

**Re: Update on the Petition Review Ad hoc Committee**

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The attached document is an updated report to Graduate Council on progress made reviewing and updating the policies and procedures of the School related to the Petition for Special Consideration.

### INTRODUCTION

The Petition for Special Consideration has come to be used much more widely than was originally intended. A petition is meant for issues arising where the student acknowledges that the rules and regulations of the University have been applied fairly, but is requesting that an exception to the regulations be made because of special circumstances. As such, a decision on a petition cannot be appealed under the *Student Appeal Procedures*. Because of the ramifications of decisions made, the use of petitions should be limited to appropriate purposes. A newly created ad hoc committee of Graduate Council has been charged with reviewing and making recommendations concerning the use of petitions.

The committee has met three times now. The members of the committee are:

- Stephanie Baschiera
- Michelle Bennett
- Sean Corner
- Bhagwati Gupta
- Cathy Hayward
- Michael Thompson, Chair

### PROGRESS

We propose that use of the Petition for Special Consideration be limited to the following requests:

- Leave of Absence

- Change in supervisor
- Extension on annual supervisory meeting (by supervisor or student)
- Requesting that a decision be reconsidered based on compelling medical, personal or family reasons
- Adjustment in the timing of their re-entry into programs or to defend a thesis
- Retroactive drop/add

Other requests, for which petitions have been being used (inappropriately), are:

- Extension for time to completion
- Extension for time to complete the comprehensive examination
- Extensions for visiting scholars
- Extension of course requirements (e.g. an INC until a certain date)
- Transfer credit of courses
- Transfer from one program to another
- Auditing a course
- Changing a course from required to extra credit, or visa versa.
- Taking courses outside of one's program as a required course
- Permission for time away from campus

The committee recommends that two multi-purpose forms be created for these requests, so avoiding the need for a long list of forms, with a different form for each particular type of request. Rather, we propose one form for extensions and one for in-program course adjustments.

Students transferring from one program to another should no longer be formally withdrawn and then required to submit a completely new application. Rather, we propose that, with the exception of a few elements of the application that would need to be updated, the old application be used and that an internal process be employed to transfer the student between programs.

The committee recommends that the workflow for each of these forms, including the petition for special considerations, be studied by SGS over the summer with the goal of putting most of them on the GS website by September. Programs should expect to receive copies of the forms in late summer along with instructions about which form should be used for which student request.

Finally, it is the recommendation of the committee that Graduate Council consider a change in sessional dates. Consistent with changes recommended in the undergraduate programs, the drop course date for 3-unit courses should be moved to 9-10 weeks after the start of term. The current window, ~5 weeks into term, is too short for students to assess their courses properly. We could not, however, agree as a committee on whether the 'final date to submit results of incomplete grades' should be changed. The current regulation allows a course to stretch well beyond the end of a term and it is not clear, at least in many cases, whether there is a reasonable justification for this.



**Centre for  
Continuing Education**

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To: Members of the Certificates and Diplomas Committee of Undergraduate Council

From: Dr. Lorraine Carter, Director, Centre for Continuing Education

Re: Proposed amendments to the policy for Certificates and Diplomas (May 2017) involving recognition of credits earned through courses and programs offered by the Centre for Continuing Education

Date: April 3, 2018

Please accept this request to amend the revised Policy on Certificates and Diplomas (May 17, 2017) and to move this amendment forward immediately to Undergraduate Council and Senate. The request pertains to recognition of credits earned through courses and programs offered by McMaster University Centre for Continuing Education.

As discussed by the Certificates and Diplomas Committee and based on meetings including Dr. David Farrar (Provost); Dr. Susan Giroux (Vice-Provost, Faculty); Christi Garneau (University Secretary and Freedom of Information & Protection of Privacy Officer); Tamara Bates (Governance Advisor and Assistant University Secretary); and Linda Coslovi (Associate Vice-President, Finance and Planning, Academic), the language in the revised policy (May 2017) does not reflect what has been accepted practice for over a decade and what has been described in the University calendar during the same time period with regards to the recognition of credits earned through courses and programs offered by the Centre for Continuing Education (CCE).

Over the last number of years, the leadership and staff in the CCE have endeavoured to ensure that all courses and programs meet superior standards. As well, all courses, certificates, and diplomas offered by CCE have been assessed by a McMaster University faculty member and an Associate Dean and approved by the Certificates and Diplomas Committee, Undergraduate Council, and Senate. Accordingly, these courses are held to the same standards as others approved through governance. Approving this amendment will advance the mission of the CCE and contribute to the University's support of part-time and adult learners.

Below are the items requiring correction, with bolding used to indicate where a change is urgently needed:

4.1 Academic Program Requirements All McMaster Undergraduate Diplomas must include academic credit courses equivalent to at least 24 units of undergraduate study at McMaster. In addition to their academic content, Undergraduate Diploma programs may include courses and

other forms of learning which are not suitable for academic credit. **The maximum overlap with degree courses is 70% of the requirement for the diploma. For example, the maximum overlap for a diploma program consisting of 24 units is 15 units.**

6.1 Academic Course Requirements All McMaster Stand-Alone Undergraduate Certificates must include academic credit courses equivalent to at least 15 units (half a year) of undergraduate study at McMaster. In addition to their academic content, Stand-Alone Certificate programs may include courses and other forms of learning which are not suitable for academic credit. **The maximum overlap with degree courses is 60% of the requirement for the Stand-Alone Certificate. For example, the maximum overlap for a Stand-Alone Certificate program consisting of 15 units is 9 units.**

In order to amend the above two items, the bolded passage in each needs to be deleted and the following statement (already used in the policy at 3.1 Transfer between Credentials) needs to be inserted in its place. I would like to underscore that this “correction” reflects what has been actual practice for over a decade:

Up to 100% of the academic credit courses completed toward undergraduate diploma and certificate programs may be used for credit toward another credential at the discretion of and in accordance with the normal academic rules specified by academic unit offering the subsequent credential.

With the amendments, items 4.1 and 6.1 would read as follows:

Amended 4.1 (Spring 2018) Academic Program Requirements All McMaster Undergraduate Diplomas must include academic credit courses equivalent to at least 24 units of undergraduate study at McMaster. In addition to their academic content, Undergraduate Diploma programs may include courses and other forms of learning which are not suitable for academic credit. **Up to 100% of the academic credit courses completed toward undergraduate diploma and certificate programs may be used for credit toward another credential at the discretion of and in accordance with the normal academic rules specified by academic unit offering the subsequent credential.**

Amended 6.1 (Spring 2018) Academic Course Requirements All McMaster Stand-Alone Undergraduate Certificates must include academic credit courses equivalent to at least 15 units (half a year) of undergraduate study at McMaster. In addition to their academic content, Stand-Alone Certificate programs may include courses and other forms of learning which are not suitable for academic credit. **Up to 100% of the academic credit courses completed toward undergraduate diploma and certificate programs may be used for credit toward another credential at the discretion of and in accordance with the normal academic rules specified by academic unit offering the subsequent credential.**

Based on the above, I put forward the following motion for the Certificates and Diplomas Committee's consideration. If approved by Undergraduate Council, the amendments will be forwarded to Senate for final approval.

**That the Certificates and Diplomas Committee recommend to Undergraduate Council the revisions to sections 4.1 and 6.1 of the Policy on Certificates and Diplomas (revised May 2017) as described above.**

*Lorraine Carter*

<b>A. Department &amp; Program Information (Complete all fields):</b>	
Academic Designation:	Certificate, Certificate of Completion
Program Name:	Health & Social Services Programming <ul style="list-style-type: none"> <li>• Fundamentals of Addiction for Allied Health Professionals Certificate of Completion</li> <li>• Principles of Health Information Certificate of Completion</li> <li>• Evaluation and Data Analytics for the Health Sector Certificate of Completion</li> <li>• Workplace Wellness Management Certificate of Completion</li> <li>• Health &amp; Social Services Certificate of Completion</li> <li>• Health &amp; Social Services Certificate</li> </ul>
Name of Representative:	Nancy McQuigge, Program Manager
Proposed Date/Term of Program Start:	Fall 2018
Date of Submission:	April 3, 2018
<b>B. Faculty Statement (Required):</b>	
Refer to attached letters	
<b>C. Academic Merit (Complete all fields; write “not applicable” as needed):</b>	
i. Program Overview:	<p>Under the category of Health and Social Services, the Centre for Continuing Education proposes the creation of 6 new programs. The proposed offerings are designed to offer students a variety of short, timely programs within a specialized topic, such as Addiction, Health Information, and Workplace Health and Wellness. Upon successful completion of the selected course packages, the student will be awarded a McMaster Certificate of Completion or Certificate.</p> <p>Students may select courses based on their academic and professional backgrounds and future learning needs. In addition, students enrolled in health, social service or other post-secondary academic programs may be interested to add/apply these credentials to their current program of study.</p>



	<p>Program courses bridge theory and practical experience through a combination of experiential learning (i.e. case studies, projects, discussions, and presentations) and traditional teaching and learning methods. Emerging trends, theories and practices will be incorporated to coursework to ensure that program content is current and relevant.</p> <p>Development subject matter experts and program instructors will be practitioners in the fields of addictions, health care, health information management, health informatics, human resources management. Instructors are capable of emphasizing the knowledge and skills required for employment in a variety of health and social service sectors.</p> <p>The majority of courses will be offered online, while a few specific courses will be offered in both an online and in-class format. Any in-class courses will be delivered at the Centre for Continuing Education’s (CCE) location in Hamilton, with the option to schedule courses at a suitable satellite location (s) as deemed appropriate.</p> <p>An open enrolment format is recommended for the program, as students will select courses specific to their individual needs. Required and/or suggested pre-requisites will be posted to the course descriptions on CCE’s website, and it is the responsibility of the student to ensure his/her ability to meet course pre-requisites.</p> <p>The Health and Social Service proposed program credential options are (see Section F for course information):</p> <ul style="list-style-type: none"> <li>• Fundamentals of Addiction for Allied Health Professionals Certificate of Completion (9 units)</li> <li>• Principles of Health Information Certificate of Completion (9 units)</li> <li>• Evaluation and Data Analytics for the Health Sector Certificate of Completion (9 units)</li> <li>• Workplace Wellness Management Certificate of Completion (9 units)</li> <li>• Health &amp; Social Services Certificate of Completion (9 units)</li> <li>• Health &amp; Social Services Certificate (15 units)</li> </ul>
ii. Learning Objectives:	Each program within the Health and Social Service category will have

	<p>its own unique learning objectives to which courses will align with one, or multiple, objectives listed below.</p> <p>Upon completion of a specific program(s) within the Health and Social Service category, students may achieve the following outcomes:</p> <ul style="list-style-type: none"> <li>• Assess a broad spectrum of variables that lead to and influence addiction in order to support those living with and those affected by addiction from a strength-based perspective;</li> <li>• Recognize knowledge limitations and scope of professional practice, including awareness of when referrals to other professionals are required and the role of multidisciplinary care in relation to addiction;</li> <li>• Identify types of health information and analyze the information systems used to collect, store, assess, distribute, and protect health records and information;</li> <li>• Integrate policies, procedures and professional standards with the management of health information;</li> <li>• Analyze the relationships (interprofessional roles and responsibilities) between healthcare systems, health information management, and health informatics and their respective impacts on decision making</li> <li>• Apply data analytics strategies to different set of health care data</li> <li>• Plan the design, delivery, management, and evaluation of a workplace health promotion program utilizing models of best practice</li> <li>• Assess how future changes within the socio-economic environment might have an influence on workplace health promotion programs</li> </ul> <p>The following objectives will be threaded within each course: Students will be able to:</p> <ul style="list-style-type: none"> <li>• Demonstrate an awareness of ethical practices and professional standards applicable to the fields of health and social service;</li> <li>• Exemplify the skills, attitudes, and behaviours required to work and collaborate with people and develop personal management skills;</li> <li>• Employ effective communication practices</li> </ul>
<p>iii. Meeting Learning Objectives:</p>	<p>All programs in the Health and Social Service program category will use a series of courses to achieve specific program objectives. Individual course objectives are mapped to the overall program</p>

	objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning objectives.
iv. Program Admission Requirements:	<p>In compliance with the Certificates and Diploma, admission policy from Undergraduate Council, students who wish to enter the programs should meet the following requirements based on their education and work experience:</p> <ol style="list-style-type: none"> <li>1. Be a mature student as defined in the Undergraduate Calendar of McMaster University; or be deemed an exceptional case by the Centre for Continuing Education</li> <li>2. English Language Proficiency requirements: Completion of TOEFL exam with minimum acceptable score of IBT: 86 overall with a minimum score of 20 on each of the four components (Reading, Writing, Speaking, Listening), valid for 2 years</li> </ol>
v. Program Pre-requisites (if applicable):	<p>There are no specific program pre-requisites; programs are open enrolment; however, it is recommended students have the following knowledge and skills:</p> <ul style="list-style-type: none"> <li>• Experience with using word processing programs and tools</li> <li>• Basic computer skills such as using a web browser (search and navigation), send and receive emails, locate and upload files</li> </ul> <p>Some courses require pre-requisites for enrolment. This information will be posted to the course description and CCE's website.</p>
vi. Program Completion Requirements:	<p>To qualify for a Certificate of Completion, students must complete a minimum of 9 units of study.</p> <p>To qualify for a Certificate, students must complete a minimum of 15 units of study.</p>
viii. Program Delivery Format:	Program courses will be delivered in-class and online. Delivery formats will include instructor lectures and/or presentations, group discussions, and individual and/or small group practical application activities and assignments.
ix. Student Evaluations (Grading Process):	Each course will include several evaluation components. The evaluation will consist of assignments, case studies, presentations, application activities, individual or group projects, class participation, or a combination thereof. Where appropriate, evaluations will be structured to evaluate participants' level of

	competency in achieving overall learning objectives.
x. Course Evaluation:	For each course, students will complete an evaluation to assess content, delivery, materials, method of evaluation and instruction.
xi. Course Instruction:	Instructors for courses will be selected from a pool of qualified external professionals. In compliance with <i>McMaster's Senate and Undergraduate Council Guidelines for Certificates and Diplomas</i> , selection will be based on academic background and/or experience within the field. Instructors must have a Master's Degree (or equivalent) and significant professional experience and teaching within the field.
xii. Credit Towards Degree Programme Studies:	The academic credit courses included in the program may be used for credit towards undergraduate degree studies in accordance with the normal academic rules specified by the Faculty offering the degree.
xiii. Program Advanced Standing:	<p>Upon enrolment in the program, a student may receive up to a maximum of 6 units of advanced credit for the Certificate option. No transfer credits will be granted for the Certificate of Completion programs.</p> <p>The courses used for such credit must be equivalent to the McMaster courses that they replace; specifically,</p> <ul style="list-style-type: none"> <li>• Courses must have an 80% content/curricula overlap and a similar number of equivalent to classroom hours;</li> <li>• Courses must be listed on an official transcript from an accredited academic institution with a minimum grade of C- ;</li> <li>and,</li> <li>• Courses must be taken within the last 5 years</li> </ul>

**D. Statement of Financial Viability:**

I have reviewed the business case and financial projections which includes enrolment projections and costs. Sources of revenue for this program include tuition and supplementary fees (MAPS). Expenses are typical and include significant up front development and marketing costs, as well as typical ongoing delivery costs (such as payment of facilitators, honoraria for other guest facilitators, materials, advertising and administration).

*Lorraine Carter, Director, Centre for Continuing Education, March 2018*

**E. Statement of Administrative Responsibilities:**

The human and systems infrastructure to support the following functions exists within CCE. Costs will be fully covered by tuition, with the exception of the first year of the program, when the start-up will be subsidized by CCE.

Responsibilities for the programs are as follows:

- Budget development and monetary responsibilities
- Program and Course Development
- Course Registrations/Administration
- Supervision of Instructors to ensure University policies and practices are adhered to
- Courses taught according to program requirements and standards
- Marketing and Promotions

*McMaster Faculty of Health Sciences*

The Faculty of Health Sciences will act as academic liaison and is charged with the responsibility of on-going academic review and assessment of curriculum. In return for services rendered, the Faculty of Health Sciences will receive an annual stipend at the end of each fiscal year during which the program records a surplus.

**F. Listing of Courses by Program**

<p><b>Fundamentals of Addiction for Allied Health Professionals</b> Certificate of Completion (3 courses; 9 units)</p>	<p><b>Courses:</b> Note: Course codes are pending from the Office of the Registrar.</p> <ul style="list-style-type: none"> <li>• Introduction to Addiction             <ul style="list-style-type: none"> <li>- And two of the following courses:</li> </ul> </li> <li>• Assessment and Treatment Planning</li> <li>• Human Development in Context: Understanding the Person with Addiction Issues</li> <li>• Concurrent Disorders</li> </ul>
<p><b>Principles of Health Information</b> Certificate of Completion (3 courses; 9 units)</p>	<p><b>Courses:</b></p> <ul style="list-style-type: none"> <li>• HTH 101 Health Information Management I</li> <li>• HTH 104 Privacy, Confidentiality &amp; Security</li> <li>• HTH 115 Records Management</li> <li>• HTH 106 Managing Health Privacy &amp; Security</li> <li>• HTH 108 Information Analysis &amp; Data Analytics</li> </ul>
<p><b>Evaluation and Data Analytics for the Health Sector</b> Certificate of Completion (3 courses; 9 units)</p>	<p><b>Courses:</b></p> <ul style="list-style-type: none"> <li>• HTH 108 Information Analysis &amp; Data Analytics</li> <li>• HTH 110 Health Informatics &amp; Data Analysis</li> <li>• HTH 122 Quality and Performance Evaluation</li> </ul>

	<ul style="list-style-type: none"> <li>• Data Analytics for Health Care (pending course approval as part of the Health Information Management program)</li> </ul>
<b>Workplace Wellness Management</b> Certificate of Completion (3 courses; 9 units)	<b>Courses:</b> <ul style="list-style-type: none"> <li>• HRM 941 Wellness in the Workplace</li> <li>• HRM 901 Human Resources Management</li> <li>• HTH 107 Organizational Behaviour for the Health Sector, or HRM Organizational Behaviour</li> <li>• HRM 921 Occupational Health &amp; Safety</li> <li>• BUS 847 Principles &amp; Practices of Supervision</li> <li>• HRM 902 Training &amp; Development</li> </ul>
<b>Health &amp; Social Services</b> Certificate of Completion (3 courses; 9 units)	Complete any 9 units (3 courses) of study from the list of individual courses listed above
<b>Health &amp; Social Services</b> Certificate (5 courses; 15 units)	Complete any 15 units (5 courses) of study from the list of individual courses listed above.
<p><b>Course Descriptions (listed in alphabetical order):</b> All courses are 3 units of study.</p> <p><i>1. Assessment and Treatment Planning</i>  Using a bio-psycho-social-spiritual framework, this course provides students with the foundational skills needed to accurately screen and assess addiction and compulsive behavior issues. Students will develop an individualized treatment plan that considers a client’s strengths and unique needs. Students will learn to develop effective clinical documentation and report writing skills.</p> <p><i>2. Concurrent Disorders</i>  This course prepares students to understand the complexity of mental health disorders and substance use and the interactional relationships between them. Students will learn the prevalence of concurrent disorders, the importance of screening for both mental health and substance use, and the benefits of treating both concurrently.</p> <p><i>3. Data Analytics for Health Care</i>  The application of data analysis methods and tools can provide an organization with meaningful insights for improvement and strategic planning. This course will examine different types of health information data - how the data is collected, mined, analyzed and interpreted – for the purposes of quality, performance and utilization management. The use of data analysis tools and practices provides a practical approach for understanding the impact data analytics has within the health care system.</p> <p><i>4. Health Informatics Data Analysis</i>  The focus of this course involves the study of health data retrieval, analysis and presentation by the Health Informatics professional. Learners will critically examine the role of the Health Informatician to develop, maintain, and retrieve critical data from the information systems</p>	

commonly found in health care. Issues of the presentation of data, quality assurance, and research will be explored as the Health Informatics professional contributes to, and aids in the facilitation of, the decision-making process.

#### *5. Health Information Management I*

The course covers fundamental theories and principles of health information management including data types, data acquisition, data standards, data quality and data uses and users. Learners will develop an appreciation of how data is collected, processed and used in healthcare settings and the role that data plays in decision-making (including an understanding of the complexities involved in transforming data into information and knowledge). The course will introduce learners to the roles and responsibilities of the HIM professional in the storage, use, retention and destruction of health records in both paper and electronic record systems and the central role of health information management in quality assurance and performance improvement, planning and management of resources, risk management, research and education.

#### *6. Human Development in Context: Understanding the Person with Addiction Issues*

This course examines the developmental changes across the human lifespan and the reciprocal relationships they have with addiction. There will be a review of personality theories and how the integration of these theoretical perspectives can provide a more holistic understanding of the person with addiction issues. Students will learn about treatment interventions specific to each theory. The assessment and treatment process is explored from a bio-psycho-social-spiritual lens.

#### *7. Human Resources Management*

Human Resources Management provides an overview of the fundamentals of HR Management and the importance and impact it has to an organization. The course will focus primarily on seven major areas: strategic human resource management, planning human resources, attracting and selecting human resources, placing, developing and evaluating human resources, rewarding and maintaining high performance and evaluating human resource strategies.

#### *8. Information Analysis & Data Analytics*

This course incorporates the analysis of information and the extraction of data within the health information sector. Examine the processes for the selection and presentation of data by health information management professionals based on the needs of various stakeholders. The course will present information for the selection and organization of data in terms of supporting decisions made at different levels of the healthcare sector, and how HIM and HI professionals assess and meet stakeholder demands. Apply statistical knowledge and applications to the analysis and reporting of health information. Finally, the role of the health information professional within research studies, and in support of research, will be discussed.

#### *9. Introduction to Addiction*

This course provides an overview of addiction from a holistic standpoint through the

examination of both theory and the continuum of helping interventions currently used in Canada. The course also explores the prevention and treatment continuum in Canada along with providing an introduction to ethical and legal issues an addiction professional will face.

#### *10. Managing Health Privacy & Security*

This course is a continuation of the Privacy, Confidentiality and Security course. Explore the various aspects of managing health privacy issues, confidentiality and access to health information. In particular, the course will examine the tools used to manage, control and disclose health information within organizations, taught within the framework of risk management. Engage in activities to highlight the collaborative nature of the roles, responsibilities and professional standards between Health Information Managers and Health Informaticians. Emphasis will be placed on the learner's ability to evaluate, analyze and apply concepts from this course, and the Privacy, Confidentiality and Security course, in order to promote their knowledge and skills at the local, organizational level as well as the overall health care system.

#### *11. Occupational Health & Safety*

The major objective of this course is to introduce Human Resources professionals to the broad and ever changing field of Occupational and Safety, an inherently technical subject area far broader than legislation only. The multiple dimensions of the various issues technical, legislative, political and personal safety at work or in your home are a required part of the training for a professional in this field or for someone who is involved with this kind of operation? How to deal with consultants in the workplace. Occupational Health (or Hygiene) cannot be separated from Occupational Safety because of the many overlapping requirements and because the well-being of the worker must be first and foremost. The course is designed to be very informative and fun with full class involvement.

#### *12. Organizational Behaviour*

This course provides an overview of the structure and function of human behaviour in organizations. Students will study the behavioural influences that affect productivity, organizational effectiveness, and efficiency. Topics to be discussed include personality, perception, motivation, decision-making, team dynamics, communication, organizational politics, conflict, leadership, organizational design, and change. Individual exercises, the analysis of case material, and the opportunity to share experiences through discussion with students from different backgrounds will enhance a practical understanding of theoretical concepts. Anti-requisite: Organizational Behaviour for the Health Sector

#### *13. Organizational Behaviour for the Health Sector*

This course provides an overview of the theories, structures and functions found within the various components of a healthcare organization. The course will examine the how business characteristics apply to the healthcare setting, specifically, the management functions of planning, leading, organizing and controlling. Topics to be discussed include planning and decision-making, strategic planning, developing high performance teams, managing operations, leadership, managing innovation and change, organization culture, motivating



and rewarding employees, and effective communication. Individual and group exercises and the analysis of case material relevant to the healthcare setting, and specific issues for HIM and HI professionals, will be used to enhance a practical understanding of theoretical concepts. Anti-requisite: Organizational Behaviour

#### *14. Principles & Practices of Supervision*

This course has been designed to develop and improve the supervisory skills necessary for achieving increased productivity by effectively managing allocated human resources. Topics include motivation, delegation, leadership style, implementing change, setting and achieving standards and performance management. The emphasis of this course is on practical skills – supported by academic theory and research. The assignments and exercises will also support the development of, monitoring, controlling and staff development skills.

#### *15. Privacy, Confidentiality & Security*

Examine the "concepts, principles and applications of the rights and obligations related to individual access, privacy and confidentiality of personal health information" (CHIMA, 2010, 21). This examination will involve health information data and records in both paper and electronic formats. The course will review legal regulations and legislations currently in place for the collection, use, storing and sharing of personal health information. Learners will study privacy requirements, responsibilities and risks associated with the life cycle of personal health information as Health Information Managers, Health Informaticians, and members of a health care organization. Various legal, ethical and professional standards as they relate to privacy and access will be presented, discussed and critically analyzed from the perspective of the consumer, organization and Health Information professional.

#### *16. Quality and Performance Evaluation*

This course will explore how the principles and practices of health informatics is an integral component of the healthcare system's quality improvement and performance management. An examination of tools and methodologies will be presented in terms of how to use health technologies to meet organizational goals.

#### *17. Records Management*

The course will examine the principles and practices of health records management as it pertains to the collection, maintenance, storage, retrieval, retention and destruction of records. Records management practices are presented in relation to the legal and regulatory requirements. Policy development processes for various technological systems are explored and analyzed as a function of the HIM professional.

#### *18. Training & Development*

The primary objective of this course is to examine the functional roles of training and development within the organization as well as analyzing and understanding the critical importance of planning within an ISD (instructional systems design) model. Topics to be discussed include: the training and development process, the psychology of learning and motivation, needs assessment and analysis; training design; cost and benefits of training;

transfer of training and evaluation; training trends and best practices.

*19. Wellness in the Workplace*

This course will focus on health promotion concepts, program management strategies, interventions and perspectives of health promotions in the workplace. We will examine why health promotions make sense as a return on investment for employers and provide insight into the process of designing, managing, and evaluating a program. We will explore strategies that impact health promotions and identify the types of programs used to operationalize a health promotions program.

DATE: March 14, 2018  
TO: Dr Alan Neville, Associate Dean, Health Professional Education, Faculty of Health Sciences  
FROM: Dr Lynn Martin, Assistant Professor & Teaching Professor, School of Nursing  
SUBJECT: Recommendation for the Health & Social Services Programs Proposed by the Centre for Continuing Education

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I have reviewed the proposal for the following programs to be offered through the Centre for Continuing Education (CCE):

1. Fundamentals of Addiction for Allied Health Professionals Certificate of Completion
2. Principles of Health Information Certificate of Completion
3. Evaluation and Data Analytics for the Health Sector Certificate of Completion
4. Workplace Wellness Management Certificate of Completion
5. Health & Social Services Certificate of Completion
6. Health & Social Services Certificate

I have examined the programs' structure and the course descriptions. It is my finding that the programs' requirements meet the standards necessary to be an academic program with courses of 3 units of advanced credit value as indicated in the academic submission document.

My examination of the overall Health and Social Services learning outcomes, course descriptions, and the teaching and testing methods, corresponds with the intellectual rigor and standards comparable to that found in undergraduate degree courses. The academic submission indicates that the courses will be taught by qualified individuals (possessing a master's degree or equivalency), as defined by Undergraduate Council Certificate and Diploma requirements. The students taking the program will meet the minimum requirements set out in the Policy on Certificates and Diplomas for Undergraduate Council.

Since the program meets all these criteria as set out in the Policy on Certificates and Diplomas for Undergraduate Council, I have arrived at the conclusion stated above.

Sincerely,



Lynn Martin, BScN, MScN, EdD

Cc: Nancy McQuigge (Program Manager)



**Dr. Alan J. Neville**  
Associate Dean  
Health Professional Education  
Faculty of Health Sciences

1280 Main Street West  
Health Sciences Centre - 2E18  
Hamilton, ON L8S 4K1

Tel: 905.525.9140 Ext. 22506  
Fax: 905.528.4727  
Email: [neville@mcmaster.ca](mailto:neville@mcmaster.ca)  
<http://www.fhs.mcmaster.ca>

To: Certificate and Diploma Committee, Undergraduate Council and Senate  
From: Dr Alan Neville, Associate Dean,  
Health Professional Education, Faculty of Health Sciences  
Date: March 27, 2018  
RE: Proposal for Health & Social Services Programs Proposed by the Centre  
for Continuing Education

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I have reviewed the Health & Social Service program submission document presented by the Centre for Continuing Education. I have determined that it meets all the criteria set out by the Undergraduate Council in its guidelines for certificates and certificates of completion and we, therefore, endorse this submission with the support of the Faculty of Health Sciences.

I have had the proposal reviewed by Dr Lynn Martin, Assistant Professor & Teaching Professor, School of Nursing. Her conclusion is that the objectives of the proposed program are viable, that the courses included in it will fulfill the stated objectives and meet Undergraduate Council's criteria for the designation of "Certificate" and "Certificate of Completion". I concur with this assessment.

The Faculty of Health Sciences is pleased to have a quality program options as included in the Health & Social Service submission document to meet the needs of potential students. We support this CCE program as their academic affiliates, providing both the initial submission review and overview of ongoing curriculum issues. Additionally, we have provided CCE with the guidelines needed by their students for possible use of the advanced standing rules for students entering our degree programs using credit from completion of this program.

Sincerely,

A handwritten signature in cursive script that reads "Alan J. Neville".

Dr Alan Neville, BMedBiol, MBChB, Med, FRCP, FRCPC  
Associate Dean, Health Professional Education, Faculty of Health Sciences

Cc: Lorraine Carter, Director, CCE  
Dan Piedra, Assistant Director, CCE

<b>A. Department &amp; Program Information (Complete all fields):</b>	
Department:	Centre for Continuing Education
Program Name:	Health Information Management Diploma Health Information Management Plus Diploma
Name of Representative:	Nancy McQuigge
Nature of Submission:	New course
Effective Date:	September 1, 2018
Submission Date:	April 3, 2018
<b>B. Course Details (Complete all fields):</b>	
Course Title:	Data Analytics in Health Care
Is this course currently offered? No	
Course Unit Value:	3 units
List Course Pre-requisites (if applicable):	
<ul style="list-style-type: none"> <li>• HTH 101 Health Information Management I</li> <li>• HTH 102 Health Information Management II</li> <li>• HTH 108 Information Analysis &amp; Data Analytics</li> </ul>	
<b>C. New Course Information (Complete all fields):</b>	
<b>Course Description:</b>	
<p>The application of data analysis methods and tools can provide an organization with meaningful insights for improvement and strategic planning. This course will examine different types of health information data - how the data is collected, mined, analyzed and interpreted – for the purposes of quality, performance and utilization management. The use of data analysis tools and practices provides a practical approach for understanding the impact data analytics has within the health care system.</p>	
<b>Course Outcomes:</b>	
<p>Upon completion of the course, students will be able to:</p> <ul style="list-style-type: none"> <li>• Define data analytics</li> <li>• Identify types of health care data and collection processes</li> </ul>	

## Undergraduate Certificate & Diploma Committee Course Submission

- Describe the role of data analysis for planning and decision making processes
- Apply the tools and techniques used for data analytics in health care organizations
- Analyze patterns and trends in data sets/systems
- Create data reporting and visualization objects (effectively communicate data analysis insights)
- Develop an analytic strategy to frame a health care issue and solution
- Apply analytics to various contexts of quality and performance improvement

### **Course Content/Rationale:**

This course is required for the program in order to meet professional association learning outcomes for a health information management program. Course topics by module are listed below.

- Module One: Introduction to Data Analysis
- Module Two: Health Information Data
  - Part A: Sources of Data
  - Part B: Decision Support & Analysis
- Module Three: Data Organization, Analysis and Visualization
- Module Four: Analytical Variables
  - Part A: Analyzing Categorical Variables
  - Part 2: Analyzing Continuous Variables
  - Part 3: Analyzing the Relationship between Two Variables
- Module Five: Data Analytics in Research
- Module Six: Data Analytics and Quality Improvement
- Module Seven: Data Analytics and Performance Management
- Module Eight: Data Analytics - Trends, Predictive Analytics and Big Data

### **Statement of Purpose:**

The course aligns with the programs courses on types of health information, data collection, storage and analysis. The HTH 108 Information Analysis & Data Analytics focuses on specific data analytics related to health care and hospital statistics. This course is a progression from this in terms of using data analytics to health system and organizational questions, problems and issues.

### **Course Delivery:**

This course will be delivered online in a similar format as existing courses in the program. Material will be presented in McMaster's Learning Management System and course activities will be based on instructor presentation of material, required and supplemental readings, videos, web-based resources, practical application of analytical tools and software, group discussions, and individual and group based projects.

**Method of Evaluation:**

Evaluation methods will include the following items:

- Online discussion/participation
- Quizzes
- Lab activities
- Projects based on case study

The subject matter expert will identify specific case studies and practical lab applications during the course development period.

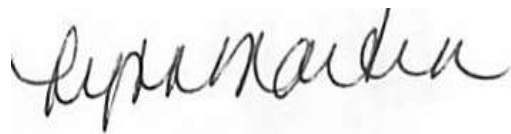
**F. Statement from Faculty**

I have reviewed the proposal for the addition of the new course, *Data Analytics in Health Care*, for the specified programs offered through the Centre for Continuing Education (CCE). I have examined the submission document and it is my finding that the course addition is appropriate for the programs, and the changes meet the standards necessary for an academic program with courses of 3 units.

My examination of content covered in the new course, as well as the teaching and testing methods, concurs that the proposed course is of the intellectual rigor comparable to that found in undergraduate degree courses. The academic submission indicates that the course will be taught by qualified individuals (possessing a master's degree or equivalency), as defined by Undergraduate Council Certificate and Diploma requirements. The students taking the course will meet the minimum requirements set out in the Policy on Certificates and Diplomas for Undergraduate Council.

In conclusion, I support the proposed changes to the diploma programs of Health Information Management, Health Information Management Plus as well as the Evaluation and Data Analytics for the Health Sector, Certificate of Completion.

Sincerely,



Dr Lynn Martin, BScN, MScN, EdD  
Assistant Professor & Teaching Professor, School of Nursing  
McMaster University

A. Department & Program Information (Complete all fields):	
Program Name:	Certificate/Diploma in Advanced Accounting & Finance
Name of Representative:	Anne Dwyer
Effective Date:	February 15, 2018
Date of Submission:	Tuesday, April 3, 2018 (Cert/Diploma)
B. Faculty Statement (Required):	
Refer to attached letters	
C. Academic Merit (Complete all fields; write "not applicable" as needed):	
i. Program Overview:	<p>Developed to align with the Chartered Professional Accountants' (CPA) Advanced Certificate in Accounting and Finance program, The Certificate/Diploma in Advanced Accounting and Finance (CPA ACAF Equivalents) program enhances your technical and applied skills, while helping you develop professional competencies and soft skills required for mid-level positions in accounting and finance.</p> <p>The Certificate/Diploma in Advanced Accounting and Finance, designed in consultation with the Chartered Professional Accountants Ontario, will prepare you to write the CPA ACAF Final National Exam.</p> <p>Learners will have the option of completing either a Diploma in Advanced Accounting and Finance or a Certificate in Advanced Accounting and Finance.</p>
ii. Learning Objectives:	<p>Graduates will be able to:</p> <ul style="list-style-type: none"> <li>• Prepare financial information to support management decision-making</li> <li>• Prepare financial statements and related disclosures for organizations with low to medium levels of complexity and a low level of uncertainty</li> </ul>



	<ul style="list-style-type: none"> <li>• Help prepare more complex financial statements</li> <li>• Support the development and maintenance of the organization’s management control and risk management systems</li> <li>• Calculate and report on financial and non-financial performance measures</li> <li>• Monitor and recommend improvements to accounting procedures, accounting information systems and internal controls</li> <li>• Monitor cash flow and cash flow requirements</li> <li>• Prepare budgets and forecasts for review by senior management</li> <li>• Prepare information for external auditors</li> <li>• Support auditors in planning and executing audits</li> <li>• Help prepare tax filings, provisions, reports and disclosures, and comply with remittance requirements</li> <li>• Write the CPA ACAF Final National Exam.</li> </ul>
<p>iii. Meeting Learning Objectives:</p>	<p>The Certificate/Diploma in Advanced Accounting &amp; Finance uses a series of academic courses to achieve the stated program objectives. Individual course objectives are mapped to the overall program objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning objectives.</p>
<p>iv. Program Admission Requirements:</p>	<p>The Certificate/Diploma in Advanced Accounting &amp; Finance will be an open enrolment program. Potential learners will not be required to apply to the program for admission; however, the program will be open only to those learners with post-secondary education, who have satisfied the program prerequisites (refer to program prerequisites below).</p> <p>In addition, in order to ensure that students have the basic capabilities necessary to be successful in the program’s academic</p>

	<p>courses, learners are required to have the following prerequisite knowledge and/or skills:</p> <ul style="list-style-type: none"> <li>• Able to use Microsoft Excel to: <ul style="list-style-type: none"> <li>○ format spreadsheets and blocks of cells</li> <li>○ enter and edit formulas, values and text using relative and absolute referencing</li> <li>○ copy, move and protect cells</li> <li>○ insert and delete columns and rows</li> <li>○ use basic financial, statistical and mathematical functions</li> <li>○ create and print charts and graphs, and create data tables</li> </ul> </li> </ul> <p>All students, whose first language is not English, must meet McMaster University's English Language Proficiency requirements: Completion of TOEFL exam with minimum acceptable score of <b>IBT: 86 overall</b> with a minimum score of 20 on each of the four components (Reading, Writing, Speaking, Listening), valid for 2 years.</p>
<p>v. Program Pre-requisites (if applicable):</p>	<p>The direct pre-requisites for those entering either the Certificate or the Diploma in Advanced Accounting and Finance are as follows:</p> <p>All five core courses offered under CCE's Diploma in Accounting, ACC 925, 926, 927, 928 &amp; 929 or equivalents, plus BUS 436 Business Law or equivalent. NOTE: In some instances, students who have not yet completed intermediate management accounting or business law, may be admitted to the program but will be required to complete ACC 929 and BUS 436 before taking any applied courses.</p> <p>In addition to the core course program prerequisites, students entering the Certificate in Advanced Accounting and Finance must also have completed all seven specialist courses offered under CCE's Diploma in Accounting as follows: ACC 930, ACC 931, ACC 932, ACC 933, ACC 934, ACC 937 &amp; ACC 938 or equivalents prior to starting the Certificate.</p>
<p>vi. Program Completion Requirements:</p>	<p>Students pursuing the Diploma in Advanced Accounting and Finance must complete 12 courses (7 specialist and 5 applied courses - 36 units) in order to qualify for the Diploma in Advanced Accounting and Finance.</p> <p>Students pursuing the Certificate in Advanced Accounting and Finance must complete 5 applied courses (3 required and 2 electives - 15 units) in order to qualify for the Certificate in Advanced Accounting and Finance.</p>

<p>viii. Program Delivery Format:</p>	<p>All program courses will be available in both in-class and online self-study formats. The exception being Accounting Software Application which is completed directly through Sage University and may be applied into the program as a transfer credit.</p> <p>In-class offerings will include a mixture of lecture and experiential learning activities, such as case studies, presentations, individual and group work.</p> <p>Online self-study delivery will use primarily asynchronous activities designed to present the fundamental concepts and theories in accounting and promote the application to the workplace and professional practice. Course activities will include instructor video lecture/presentations, discussion board topics, web-based learning activities, as well as, experiential learning activities (i.e. case studies, group discussions, projects).</p>
<p>ix. Student Evaluations (Grading Process):</p>	<p>Each course will include an evaluation component. The evaluation will consist of assignments, case studies, presentations, individual or group projects, participation, mid-term and a final examination or a combination thereof. Where appropriate, evaluations will be structured to evaluate students' level of competency in achieving overall learning objectives.</p>
<p>x. Course Evaluation:</p>	<p>For each course, students will complete an evaluation that explores content, delivery, materials, method of evaluation and instruction.</p>
<p>xi. Course Instruction:</p>	<p>Instructors for courses will be selected from a pool of qualified applicants. In compliance with McMaster's Senate and Undergraduate Council Guidelines for Certificates and Diplomas, selection will be based on academic background and/or experience within the field. Instructors will have the equivalency of a Master's Degree or significant professional and teaching experience within the field. Instructors for specialist and applied courses are required to be CPAs.</p>
<p>xii. Credit Towards Degree Programme Studies:</p>	<p>The academic credit courses included in the diploma program can be used for credit towards degree program studies in accordance with the normal academic rules specified by the Faculty offering the degree.</p>
<p>xiii. Program Advanced Standing:</p>	<p>Learners pursuing the Diploma in Advanced Accounting and Finance, who have completed equivalent coursework at either university or college (applied degree) may be eligible to apply for a maximum of three (3) transfer credits (9 units).</p>

	<p>Approved transfer credit will be approved by the Program Manager based on the following criteria:</p> <ul style="list-style-type: none"> <li>• courses must have an 80% overlap in content/curricula and a similar number of classroom or contact hours;</li> <li>• courses must have been taken within the last five years;</li> <li>• courses must have been taken from an accredited academic institution and listed on an official transcript with a grade of “B-“or better.</li> </ul> <p>In addition, all students pursuing the Diploma in Advanced Accounting and Finance may be eligible to apply <i>Accounting Software Application (Sage 50)</i>, completed through Sage University.</p> <p>Learners pursuing the Certificate in Advanced Accounting and Finance, may be eligible to apply <i>Accounting Software Application (Sage 50)</i>, completed through Sage University</p>
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**D. Statement of Financial Viability:**

I have reviewed the business case and financial projections which includes enrolment projections and costs. Sources of revenue for this program include tuition and supplementary fees (MAPS). Expenses are typical and include significant up front development and marketing costs, as well as typical ongoing delivery costs (such as payment of facilitators, honoraria for other guest facilitators, materials, advertising and administration).

*Lorraine Carter, Director, Centre for Continuing Education, February 15, 2018*

**E. Statement of Administrative Responsibilities:**

Statement of Faculty Alignment (if applicable):  
 The human and systems infrastructure to support the following functions already exists within CCE. Costs will be fully covered by tuition, with the exception of the first year of the program, when the start- up will be subsidized by CCE.

Responsibilities for the programs are as follows:

- Budget development and monetary responsibilities
- Program and Course Development
- Course Registrations/Administration
- Supervision of Instructors to ensure University policies and practices are adhered to; course are taught according to program requirements and standards
- Marketing and Promotions

*DeGroot School of Business*

The DeGroot School of Business will act as academic liaison and is charged with the

responsibility of on-going academic review and assessment of curriculum.

F. Listing of Courses (complete the chart to provide suggested course title, required/elective, number of academic units, proposed hours, and estimated term offering):

<u>Course Name</u>	<u>Required/Elective</u>	<u>Academic Units</u>	<u>Scheduled Term</u>
Ethics & Workplace Skills	Required (Dipl & Cert)	3.0	Fall 2018
Business Applications	Required (Dipl & Cert)	3.0	Winter 2019
Accounting Software Application	Required (Dipl & Cert)	0.0	Completed directly through Sage University
Applied External Audit	Elective (Dipl/Cert)	3.0	Fall 2019
Applied Personal and Corporate Taxation	Elective (Dipl/Cert)	3.0	Spring 2019
Public Sector Financial Management Practices	Elective (Dipl/Cert)	3.0	Fall 2018
Not-for-Profit Accounting and Related Topics	Elective (Dipl/Cert)	3.0	Winter 2019
ACC 930 Advanced Management	Required (Diploma)	3.0 units	Currently available

Accounting			
ACC 931 Auditing	Required (Diploma)	3.0 units	Currently available
ACC 932 Management Information Systems	Required (Diploma)	3.0 units	Currently available
ACC 933 Financial Management	Required (Diploma)	3.0 units	Currently available
ACC 934 Advanced Financial Accounting	Required (Diploma)	3.0 units	Currently available
ACC 937 Taxation I	Required (Diploma)	3.0 units	Currently available
ACC 938 Taxation II	Required (Diploma)	3.0 units	Currently Available

### **Course Descriptions:**

#### **Ethics and Workplace Skills**

Ethics and Workplace Skills is a mandatory course that focuses on business ethics and communication. In this course, you will learn that ethics and communication are central to the credibility of those who analyze financial information for employers, clients and other financial users. You will also be introduced to the ACAF Method, which is a road map that you can use to navigate accounting and finance problems. (Prerequisites: All entry and technical courses must have been completed before taking Ethics and Workplace Skills.)

#### **Applied External Audit**

Applied External Audit is an elective course that builds on the technical components from previous auditing courses, focusing on external audit issues. Applied External Audit assumes that you are familiar with the material related to the first two stages of an audit: acceptance/continuance and audit planning. In Applied External Audit, the focus will be on the last two stages: execution and reporting. (Prerequisites: All entry and technical courses must have been completed before taking this course. Ethics and Workplace Skills should have been completed, but may be taken concurrently.)

### **Applied Personal and Corporate Taxation**

Applied Personal and Corporate Taxation builds on the technical personal and corporate taxation courses, covering the selected topics in more depth. The topics are integrated to facilitate tax planning for corporations and individuals. The purpose of this course is to provide you with tax skills appropriate for environments of low- to mid-level complexity with low levels of uncertainty. The content will focus on applied knowledge, using authentic business scenarios that require you to demonstrate the application of technical knowledge. (Prerequisites: All entry and technical courses must have been completed before taking this course. Ethics and Workplace Skills should have been completed, but may be taken concurrently.)

### **Public Sector Financial Management Practices**

Public Sector Financial Management Practice focuses on how public sector entities of various kinds make the best use of the vast resources entrusted to them in creating public value. Public sector accounting is a core body of knowledge supporting financial management. The purpose of this course is to provide you with public sector financial management skills necessary to function in public sector environments of low to medium complexity and low uncertainty. Topics addressed include governance and decision-making processes, government budgeting and planning, government financial reporting, financial analysis of government and not-for-profit programs, and public sector auditing. (Prerequisites: All entry and technical courses must have been completed before taking this course. Ethics and Workplace Skills should have been completed, but may be taken concurrently.)

### **Not-For-Profit Accounting and Related Topics**

Not-For-Profit Accounting and Related Topics is a foundation course in accounting for not-for-profit organizations, with an emphasis on the application of accounting concepts encountered in the not-for-profit and charities sector. It also includes an overview of government (public sector) financial reporting standards. The purpose of this course is to produce a mid-level accountant with skills in the not-for-profit sector able to function in environments of low to mid-level complexity with low levels of uncertainty. This course will focus on applied knowledge, using authentic not-for-profit scenarios that require you to demonstrate the application of technical knowledge. Accounting software is integrated throughout the course to help you develop the skills needed in the marketplace. In addition, this course will help you develop other skills such as communication, managing and analyzing information, solving routine problems and effectively promoting personal management and teamwork. (Prerequisites: All entry and technical courses, as well as accounting software application, must have been completed before taking this course. Students must also have completed the Ethics and Workplace Skills course or be taking it concurrently.)

### **Business Applications**

Business Applications is a required course in the Certificate/Diploma in Advanced Accounting and Finance program. You will work through a scenario that deals with financial accounting, management accounting, finance, ethics, communication, taxation, audit and information systems issues, providing practice in these technical areas through the application of the ACAF Method. Working both individually and in groups, you will incorporate material from prerequisite courses and continue to refine your workplace skills relating to communication, management and analysis of information, routine problem solving, personal management and teamwork, and ethics. (Prerequisites: All entry and technical courses,

as well as Accounting Software Application, must have been completed before taking this course. Students must also have completed the Ethics and Workplace Skills course or be taking it concurrently.)

### **Accounting Software Application**

Accounting Software Application is a required non-credit course. This course is a series of self-study courses that cover the features of Sage 50 - Canadian Edition product from setup to usage of AP/AR to job costing and inventory. This material will prepare students with the knowledge to challenge the Application Specialist assessment and will require 12-15 hours of total study time.

The Accounting Software Application provides students with the opportunity to attempt the Application Specialist assessment. The course, the Sage 50 – Canadian Edition software and the assessment are offered directly through SAGE.

**NOTE: The following courses are currently available under existing CCE programs.**

### **ACC 930 Advanced Management Accounting**

This is an advanced course in Managerial Accounting. It builds on the concepts and tools already learned in the Introductory and Intermediate Financial and Management Accounting Courses. The focus is mainly on the application of cost management, financial management and accounting concepts towards corporate and organizational business decisions.

Advanced Managerial Accounting (AMA) focuses on the design and execution of effective Planning & Control Systems linking short and long-term goals and objectives of organizations – both profit and non-profit. The thrust is on effective Corporate Governance and Execution.

This course is designed to understand the concepts behind the “Current Best Practices” and their relevance in the managerial decision process. Topics include Planning for Operational Profits based on current Pricing models, Transfer Pricing and performance evaluation techniques in Decentralized Operations, Capital Budgeting for long-term Sustainability and Growth. It also introduces the current best practices in the industry using “Balanced Scorecard” towards corporate governance in both profit and non-profit organizations. ACC 925 Introductory Financial Accounting & ACC 929 Intermediate Management Accounting or equivalents

### **ACC 931 Auditing**

This course is an introduction to the field of auditing, which is broadly defined as a systematic process of objective accumulation and evaluation of evidence regarding written assertions about economic actions and events in order to determine the degree of correspondence between those assertions and established criteria (Applicable Financial Reporting Framework which is GAAP. The Canadian Auditing Standards (CAS) apply to all audits of financial statements.

As this is an introductory auditing course, the focus will be on the identification of key terminology and concepts as well as an overview of auditing in the context of a general business environment. A secondary focus will be on a rudimentary examination of the audit process and identification of the various roles that auditors can assume. ACC 927 Intermediate Financial Accounting II, ACC 928 Introductory Management Accounting & ACC 932 Management Information Systems or equivalents



**ACC 932 Management Information Systems**

This course will introduce students to the concepts of system analysis, design and implementations, with reference to the relationship between system management and organizational development. Topics to be covered include: the technology, analysis, systems evaluation and applications of an accounting system (AIS), AIS and organizational decision-making, systems design, development, documentation, implementation and monitoring, relational databases, control types and risk analysis of an AIS and marketing/purchasing applications.

**ACC 933 Financial Management**

This course in Corporate Finance is one of the core areas for participants majoring in Finance, Accounting and Business Administration programs. This course introduces current financial concepts and tools towards money management in organizations participating in the local and global economies.

The course covers the current best practices in financial analysis and planning through the application of financial concepts. These include financial performance ratios, time value of money, financial markets and institutions, securities and valuation of firms, cost of capital, risks and return, long-term financial budgeting and working capital management.

In addition, the course also introduces topics on lease financing, hybrid securities and derivatives, trust funds, mergers and acquisitions and international corporate finance. ACC 927 Intermediate Financial Accounting II and ACC 929 Intermediate Management Accounting (or equivalents)

**ACC 934 Advanced Financial Accounting**

This course deals with more advanced topics in financial accounting and reporting with an emphasis on business combinations and foreign currency transactions and translation. Specific aspects of business combinations that are covered include:

- Recording and reporting procedures at the time of acquisition;
- Recording and reporting procedures subsequent to acquisition;
- Consolidation and equity basis reporting for wholly and non-wholly owned subsidiaries.

Accounting for nonprofit sector organizations will also be examined with emphasis on financial reporting issues and Outcomes, financial statement disclosures and fund accounting. ACC 926 Intermediate Financial Accounting 1 or equivalent

**ACC 937 Taxation I**

This introductory course examines the theory and application of the Income Tax Act as it relates to both individuals and corporations. ACC 927 Intermediate Financial Accounting II or equivalent.

**ACC 938 Taxation II**

This course continues the examination of the theory and application of the Income Tax Act particularly as it relates to corporations. ACC 937 Taxation I



DATE: March 28, 2018

TO: Susan McCracken, Associate Dean, Academic

FROM: Emad Mohammad, Chair, Accounting and Financial Management Services

SUBJECT: Evaluation of Certificate and Diploma in Advanced Accounting and Finance Program Proposals for the Centre for Continuing Education (CCE)

Upon your request, I have reviewed the proposal for the **Certificate and the Diploma in Advanced Accounting and Finance** Programs to be offered through the Centre for Continuing Education (CCE). I have examined the programs' structure and the course descriptions. It is my finding that the program requirements meet the standards necessary to be an academic program with courses of 36 units (Diploma in Advanced Accounting and Finance) and 15 units (Certificate in Advanced Accounting and Finance) of advanced credit value as indicated in the academic submission document.

My examination of course descriptions, proposed topics, learning outcomes and the teaching and testing methods, concurs that the proposed courses are of the intellectual rigor comparable to that found in undergraduate degree courses. The academic submission indicates that the courses will be taught by qualified individuals (possessing a master's degree or equivalency), as defined by Undergraduate Council Certificate and Diploma requirements. The students taking either of the programs will meet the minimum requirements set out in the Policy on Certificates and Diplomas for Undergraduate Council.

Since the programs meet all these criteria as set out in the Policy on Certificates and Diplomas for Undergraduate Council, I have arrived at the conclusion stated above.

Sincerely,

Emad Mohammad

Cc: Anne Dwyer, Program Manager, CCE



DATE: March 28, 2018

To: Certificate and Diploma Committee, Undergraduate Council and Senate

From: Susan McCracken, Associate Dean, Academic, DeGroot School of Business

RE: Proposal for a Certificate and a Diploma in Advanced Accounting and Finance

I have reviewed the Certificate and the Diploma in Advanced Accounting and Finance program submissions presented by the Centre for Continuing Education. I have determined that the programs meet all the criteria set out by the Undergraduate Council in its guidelines for certificates and diplomas and we, therefore, endorse this submission with the support of the DeGroot School of Business.

I have had the proposal reviewed by Emad Mohammad. His conclusion is that the objectives of the proposed program are viable, that the courses included in it will fulfill the stated objectives and meet Undergraduate Council's criteria for the designation of "Certificate" and "Diploma". I concur with this assessment.

The DeGroot School of Business is pleased to have a high quality program such as the [program name] to meet the needs of people wanting to work in these fields. We support this CCE program as their academic affiliates, providing both the initial submission review and overview of ongoing curriculum issues. Additionally, we have provided CCE with the guidelines needed by their students for possible use of the advanced standing rules for students entering our degree programs using credit from completion of this program.

Sincerely,

Susan McCracken

Cc: Lorraine Carter, Director, CCE  
Suzanne Brown, Assistant Director, CCE

<b>A. Department &amp; Program Information (Complete all fields):</b>	
Academic Designation:	Certificate, Certificate of Completion
Program Name:	Foundations of Analytics: Business Intelligence, Data Analytics and Data Science
Name of Representative:	Nancy McQuigge, Program Manager
Proposed Date/Term of Program Start:	Fall 2018 (Courses will launch throughout the 2018/19 academic year)
Date of Submission:	April 3, 2018
<b>B. Faculty Statement (Required):</b>	
Refer to attached letters	
<b>C. Academic Merit (Complete all fields; write “not applicable” as needed):</b>	
i. Program Overview:	<p>The Foundations of Analytics program presents a foundational level of content in the areas of business intelligence, data analytics and data science. The purpose of the program is to offer courses for students with no or limited, academic and work experience in these three areas of analytics.</p> <p>Students may select courses based on their academic and professional backgrounds and future learning needs. In addition, students interested in enrolling in the Big Data Analytics Certificate program but lack the pre-requisite knowledge in statistics, computer programming and basic analytics, may be referred to this program as a means to fill skill gaps.</p> <p>Each course will bridge theory and practical experience through a combination of experiential learning (i.e. case studies, data laboratory activities, discussions, and presentations) and traditional teaching methods. Emerging trends, theories and practices will be incorporated to coursework to ensure that program content is current and relevant.</p>

	<p>Development subject matter experts and program instructors will be practitioners in the fields of data analytics, business intelligence and data science, and they will emphasize the knowledge and skills required for employment in the analytics sectors.</p> <p>The program will be delivered primarily as face-to-face format. Two courses will be offered online. CCE will determine when other courses will be developed in an online or blended format. The in-class courses will be delivered at the Centre for Continuing Education's (CCE) location in Hamilton, with the option to schedule courses at a suitable satellite location (s) as deemed appropriate.</p> <p>An open enrolment format is recommended for the program, as students will select courses specific to their individual needs. Required and/or suggested pre-requisites will be posted to the course descriptions on CCE's website, and it is the responsibility of the student to ensure his/her ability to meet course pre-requisites.</p> <p>Program credential options (see Section F for course information)</p> <ol style="list-style-type: none"> <li>1) Certificate of Completion: Foundations of Analytics: Business Intelligence</li> <li>2) Certificate of Completion: Foundations of Analytics: Data Analytics</li> <li>3) Certificate of Completion: Foundations of Analytics: Data Science</li> <li>4) Certificate in Foundations of Analytics: Business Intelligence, Data Analytics and Data Science</li> </ol>
<p>ii. Learning Objectives:</p>	<p>The Foundations of Analytics program provides an opportunity for individuals seeking to enter into the field of data analytics, business intelligence, data science and, potentially big data analytics.</p> <p>Upon completion of the program, students will:</p> <ul style="list-style-type: none"> <li>• Apply statistical methods for the analysis of data sets</li> <li>• Collect, analyze, interpret, and share data;</li> <li>• Identify relationships in data;</li> <li>• Select and employ problem solving techniques and source standard and web-based tools to test analytical solutions;</li> <li>• Demonstrate fundamental skills for using Information Visualization techniques and tools;</li> </ul>

	<ul style="list-style-type: none"> <li>• Define the principles and potential uses of artificial intelligence in various industries</li> <li>• Employ data models in business intelligence and data analysis case studies</li> </ul> <p>The following objectives will be threaded within each course: Students will be able to:</p> <ul style="list-style-type: none"> <li>• Demonstrate an awareness of ethical practices and professional standards applicable to the field of data analytics;</li> <li>• Exemplify the skills, attitudes and behaviours required to work and collaborate with people and develop personal management skills;</li> <li>• Employ effective communication practices</li> </ul>
iii. Meeting Learning Objectives:	<p>The Foundations of Analytics program will use a series of courses to achieve the stated program objectives. Individual course objectives are mapped to the overall program objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning objectives.</p>
iv. Program Admission Requirements:	<p>In compliance with the Certificates and Diploma, admission policy from Undergraduate Council, students who wish to enter the Foundations of Analytics program should meet the following requirements based on their education and work experience:</p> <ol style="list-style-type: none"> <li>1) Be a mature student as defined in the Undergraduate Calendar of McMaster University; or be deemed an exceptional case by the Centre for Continuing Education</li> <li>2) Strong mathematical literacy achieved through university, college or high school courses in mathematics and/or science</li> <li>3) Proficiency with computer program applications, such as Excel and Access</li> <li>4) English Language Proficiency requirements: Completion of TOEFL exam with minimum acceptable score of IBT: 86 overall with a minimum score of 20 on each of the four components (Reading, Writing, Speaking, Listening), valid for 2 years</li> </ol>
v. Program Pre-requisites (if applicable):	<p>Prior to the start of the first course, students will be required to attend class with the requisite laptop computer and software programs. Technology specifications will be provided to students</p>

	upon course enrolment and will be posted to CCE's program webpages.
vi. Program Completion Requirements:	To qualify for a Certificate of Completion, students must complete a minimum of 9 units of study. To qualify for a Certificate, students must complete a minimum of 15 units of study.
viii. Program Delivery Format:	Program courses will be delivered in-class and online. All formats will include instructor lecture and/or presentations, group discussions, and practical application activities. Lab activities will be completed using a cloud-based environment specifically built for the analytics program.
ix. Student Evaluations (Grading Process):	Each course will include several evaluation components. The evaluations will consist of assignments, case studies, presentations, laboratory application activities, individual or group projects, class participation, or a combination thereof. Where appropriate, evaluations will be structured to evaluate participants' level of competency in achieving overall learning objectives.
x. Course Evaluation:	For each course, students will complete an evaluation to assess content, delivery, materials, method of evaluation and instruction.
xi. Course Instruction:	Instructors for courses will be selected from a pool of qualified external professionals. In compliance with <i>McMaster's Senate and Undergraduate Council Guidelines for Certificates and Diplomas</i> , selection will be based on academic background and/or experience within the field. Instructors must have a Master's Degree (or equivalent) and significant professional experience and teaching within the field.
xii. Credit Towards Degree Programme Studies:	The academic credit courses included in a the program may be used for credit towards undergraduate degree studies in accordance with the normal academic rules specified by the Faculty offering the degree.
xiii. Program Advanced Standing:	Upon enrolment to the program, a student may receive up to a maximum of 6 units of advanced credit for the Certificate option.  Upon enrolment to the program, a student may receive up to a maximum of 3 units of advanced credit for the Certificate of Completion.  The courses used for such credit must be equivalent to the

	<p>McMaster courses that they replace; specifically,</p> <ul style="list-style-type: none"> <li>• Courses must have an 80% content/curricula overlap and a similar number of equivalent to classroom hours;</li> <li>• Courses must be listed on an official transcript from an accredited academic institution with a grade; and,</li> <li>• Courses must be taken within the last 3 years</li> </ul>
<p><b>D. Statement of Financial Viability:</b></p>	
<p>I have reviewed the business case and financial projections which includes enrolment projections and costs. Sources of revenue for this program include tuition and supplementary fees (MAPS). Expenses are typical and include significant up front development and marketing costs, as well as typical ongoing delivery costs (such as payment of facilitators, honoraria for other guest facilitators, materials, advertising and administration). <i>Lorraine Carter, Director, Centre for Continuing Education, March 2018</i></p>	
<p><b>E. Statement of Administrative Responsibilities:</b></p>	
<p>The human and systems infrastructure to support the following functions exists within CCE. Costs will be fully covered by tuition, with the exception of the first year of the program, when the start-up will be subsidized by CCE.</p> <p>Responsibilities for the programs are as follows:</p> <ul style="list-style-type: none"> <li>• Budget development and monetary responsibilities</li> <li>• Program and Course Development</li> <li>• Course Registrations/Administration</li> <li>• Supervision of Instructors to ensure University policies and practices are adhered to</li> <li>• Courses taught according to program requirements and standards</li> <li>• Marketing and Promotions</li> </ul> <p><i>McMaster's DeGroot School of Business</i></p> <p>The DeGroot School of Business will act as academic liaison and is charged with the responsibility of on-going academic review and assessment of curriculum. In return for services rendered, the DeGroot School of Business will receive an annual stipend at the end of each fiscal year during which the program records a surplus.</p>	
<p><b>F. Listing of Courses by Program</b></p>	
<p>Certificate of Completion: Foundations of Analytics: Business Intelligence (Minimum of 9 units required)</p>	<p><b>Courses:</b></p> <ul style="list-style-type: none"> <li>• Working with Databases (3 units)</li> <li>• Business Intelligence &amp; Data Analytics (3 units)</li> <li>• Data Analysis and Visualization (3 units)</li> <li>• Statistical Analysis for Data Analysis (3 units)</li> </ul>



<p>Certificate of Completion: Foundations of Analytics: Data Analytics (Minimum of 9 units required)</p>	<p><b>Courses:</b></p> <ul style="list-style-type: none"> <li>• Foundations of Computer Programming (3 units)</li> <li>• Working with Databases (3 units)</li> <li>• Statistical Analysis for Data Analysis (3 units)</li> <li>• Data Analysis and Visualization (3 units)</li> <li>• Data Analytics &amp; Modelling (3 units)</li> </ul>
<p>Certificate of Completion: Foundations of Analytics: Data Science (Minimum of 9 units required)</p>	<p><b>Courses:</b></p> <ul style="list-style-type: none"> <li>• Statistical Analysis for Data Science (3 units)</li> <li>• Data &amp; Web Technologies for Data Analysis (3 units)</li> <li>• Introduction to Artificial Intelligence (3 units)</li> </ul>
<p>Certificate in Foundations of Analytics: Business Intelligence, Data Analytics and Data Science (students must take a minimum of one course from each topic area) (Minimum 15 units required)</p>	<p><b>Business Intelligence:</b></p> <ul style="list-style-type: none"> <li>• Business Intelligence &amp; Data Analytics (3 units)</li> <li>• Working with Databases (3 units)</li> <li>• Data Analysis and Visualization (3 units)</li> <li>• Statistical Analysis for Data Analysis (3 units)</li> </ul> <p><b>Data Analysis:</b></p> <ul style="list-style-type: none"> <li>• Foundations of Computer Programming (3 units)</li> <li>• Working with Databases (3 units)</li> <li>• Statistical Analysis for Data Analysis (3 units)</li> <li>• Data Analysis and Visualization Analysis (3 units)</li> </ul> <p><b>Data Science:</b></p> <ul style="list-style-type: none"> <li>• Statistical Analysis for Data Science (3 units)</li> <li>• Data &amp; Web Technologies for Data Analysis (3 units)</li> <li>• Introduction to Artificial Intelligence (3 units)</li> <li>• Data Analytics &amp; Modelling (3 units)</li> </ul>
<p><b>Course Descriptions (listed in alphabetical order):</b>  <i>Course One: Business Intelligence &amp; Data Analytics</i> (36 hours; 3 units)  Learn to apply data analytics skills to the area of business intelligence (BI). Focus is placed on</p>	

the components of business intelligence project lifecycle such as project planning, BI tool selection, data modelling, ETL design, BI application design and deployment and reporting. This course is designed for individuals interested in BI practices and analysis without a detailed focus on statistical analysis and computer programming. Pre-requisites: Programming experience is not required; however, proficiency with computer operating systems is required.

Suggested topics/themes:

- What is Business intelligence and the BI Analyst (distinguishing between Data Analyst and Data Scientist)
- The business intelligence project life cycle (applied through case studies)
- Concepts of data modelling, data warehouse, BI architecture
- BI tools

*Course Two: Data & Web Technologies for Data Analysis (36 hours; 3 units)*

This course introduces students to the identification and use of, essential web technologies for data science. Students will discover how to access, collect, and analyze data from various sources with a focus on integrating robust technologies to a data project. This course is designed for individuals with previous study in statistics, information technology.

Pre-requisites: University or college course in Statistics; or Statistical Analysis for Data Science, AND Foundations of Computer Programming, Working with Databases (SQL)

Suggested topics/themes:

- Fundamentals of using relational databases and SQL
- Processing data in blocks.
- Introduction to text mining and natural language processing
- Data visualization using web-based technologies
- Future trends and technologies

*Course Three: Data Analytics & Modelling (36 hours; 3 units)*

This course offers an introduction to data science and machine learning paving the way for students to learn big data principles. In particular, this course begins with a brief history of data science, followed by regression analysis, regression and classification trees, and ends with introductions to K-means clustering, principal component analysis (PCA). Each lecture has associated with it a practical lab session which students will put "theory into practice" offering students a hands-on approach to learning the material.

Pre-requisites: This course is the first course in the Big Data Analytics program and is offered for students who have completed the Statistical Analysis for Data Analysis and/or Statistical Analysis for Data Science with a minimum grade of 65% ("C" letter grade). Knowledge and experience working with R and Python required.

Suggested topics/themes:

- What is Big Data?

- Analytics Examples, Modeling for Analytics
- Basic Stats I & II
- Review of Linear Algebra and Matrix Computations I & II
- Introduction to Linear Regression
- Introduction to Nonlinear Regression
- Visualizations
- Optimization Modeling, Random Forest Classifier and Decision Trees

*Course Four: Data Analysis & Visualization (36 hours; 3 units)*

This course will examine the exploration of data in order to discover meaningful information to solve problems. The course will present the analytics life cycle in context of planning to solve a business problem. Emphasis will be placed on framing the problem, proposing an analytics solution, communicating with stakeholders, and establishing an analytics focused project plan. Common data visualization tools and techniques will be explored and used as students learn best practices for the presentation and communication of analytical solutions and insights. Pre-requisite: University or college introductory course in Statistics; Statistics for Data Analytics

Suggested Topics/themes:

- Obtain or receive problem statement and usability requirements
- Identify stakeholders
- Determine whether the problem is amenable to an analytics solution
- Refine the problem statement and delineate constraints
- Identify data analysis strategy
- Present the data in a meaningful way to stakeholders

*Course Five: Foundations of Computer Programming (36 hours; 3 units)*

This course introduces students to the fundamentals of structured programming and problem solving using C. The C programming language will be used to introduce problem analysis, algorithm design, and program implementation. Understanding and using C provides students with the foundation for other programming languages such as C++. Programming experience is not required; however, proficiency with computer operating systems is required.

Suggested topics/themes:

- Introduction to Computer Programming
- Problem Solving and Flow Charts
- Variables
- Flow Control
- Modular Programming and Introduction to Object Oriented Programming
- Error Handling using Exceptions
- Data Structures: Strings, Tuples and Lists
- Data Structures: Mappings and Dictionaries

- Data Structures: Sets and Iterators
- File Handling
- Libraries
- Introduction to R

*Course Six: Introduction to Artificial Intelligence (360 hours; 3 units)*

This course presents the basics of artificial intelligence (AI) through an examination of its history and evolution. A review of the applications of AI in various industries will serve as the focus on inquiry for the course. Current uses and trends in AI will be discussed and students will be encouraged to consider the potential of AI to solve complex problems.

Pre-requisites: Introductory level computer programming and statistics. This course is an inquiry/exploratory course into artificial intelligence; it is not a programming or technical course in AI.

Suggested topics/themes:

- What is AI?
- The evolution of AI
- Technologies of AI
- Exploring Industry and AI

*Unlocking the Potential of AI Course Three: Statistics for Data Analysis (36 hours; 3 units)*

This course introduces descriptive statistics, basic inferential statistics, linear regression, and probability concepts and calculations. Practical application activities in the course focus on how statistical methods are used in the analysis of data. Common statistical tools will be introduced and employed in order to demonstrate how significant and insightful information is collected, used and applied to problem-solving processes. This course is designed for individuals with no, or limited, study in Statistics.

Pre-requisite: Grade 11/12 Mathematics (College/University prep), Anti-requisite: Statistical Analysis for Data Science

Suggested topics/themes:

- exploratory data analysis
- visualizing data graphically
- reading and transforming data in complex formats
- performing simulations

*Course Seven: Statistical Analysis for Data Science (36 hours; 3 units)*

This course provides a foundation of exploring data through computing and statistical analysis. Focus is placed on the structure and applications of probability, statistics, computer simulation and data analysis for students exploring the field of data science. This course builds upon introductory statistics courses and is designed for students with experience/study in programming, calculus and algebra. Programming in R will be used throughout the course.

Pre-requisite: Grade 12 U level Mathematics (Advanced Function, or Calculus and Vectors, or

Mathematics for Data Management, or Mathematics for College Technology); University or college introductory course in Statistics; Statistics for Data Analytics

Suggested topics/themes:

- Introduction to programming with R
- Descriptive statistical summaries
- Introduction to probability
- Sampling distributions
- Introduction to statistical inference
- Concepts of linear regression and correlation

*Course Eight: Working with Databases (36 hours; 3 units)*

This course introduces the students to database management concepts using a practical approach. The course will begin with an introduction to data modeling and how these models are implemented through the use of the Structure Query Language (SQL). The remainder of the course explores how SQL can be used to query and manipulate data. Proficiency with computer operating systems is required.

Suggested topics/themes:

- Introduction to databases
- Entity Relationship Diagrams
- Relations and Normalizing Data
- SQL – Data Definition Language
- SQL – INSERT and SELECT
- SQL – UPDATE and DELETE
- SQL – Aggregate Functions
- SQL – Using JOIN in SELECT statements
- Indexes
- Database Maintenance
- Using Databases in other programs
- What is NoSQL?

Undergraduate Certificate & Diploma Committee  
Course Submission

<b>A. Department &amp; Program Information (Complete all fields):</b>	
Department:	Centre for Continuing Education
Program Name:	Applied Clinical Research
Name of Representative:	Nathalie Vallée, Program Manager
Nature of Submission:	Course revision
Effective Date:	As soon as approved
Submission Date:	April 3 <sup>rd</sup> , 2018
<b>B. First Program Revision – Change in Pre-requisites:</b>	
Course Titles:	Prerequisites
ACR 101: Principles of Clinical Research	None
ACR 102: Research Ethics	Completed ACR 101
ACR 103: Clinical Trial Design	Completed ACR 102
ACR 104: Clinical Trials Management	Completed ACR 103
ACR 105: Clinical Research Capstone	ACR 104 as Co-requisite
<p>Rationale for Revision:</p> <p>Upon development of the courses with the Subject Matter Experts, it became apparent that some previous knowledge was required in order to complete the next course and successfully complete assignments. This needed to be revised based on what was submitted to the Certificate &amp; Diploma Committee in March 2017 which indicated that there were no pre-requisites for ACR 101, 102, 103 or 104.</p>	
<b>C. Second Course Revision: Change in course description</b>	
Course Title:	Clinical Trial Design
<p>Is this course currently offered? No</p> <p>Existing Course Code: ACR 103 (was previously submitted under ACR 102)</p>	

Undergraduate Certificate & Diploma Committee  
Course Submission

Course Unit Value:	3 units
List Course Pre-requisites (if applicable): ACR 102: Clinical Trial Design	
Revised Course Description:	Scientific and statistical concepts related to the design and analysis of clinical trials will be examined, as well as the regulatory framework and guidelines that govern clinical trials. Emphasis will be placed on the concepts in the design of a clinical trial including the process of protocol development and effective use of Case Report forms.
Rationale for Revision: Upon development of the course with the Subject Matter Expert, the course description needed to be revised based on what was submitted to the Certificate & Diploma Committee in March 2017.	
<b>D. Third Course Revision – Change in course title and description</b>	
Old Course Title:	Clinical Research Practicum
New Course Title:	Clinical Research Capstone
Is this course currently offered? No Existing Course Code: ACR 105	
Course Unit Value:	3 units
List Course Pre-requisites (if applicable): Co-requisite : ACR 104: Clinical Trials Management	
Revised Course Description:	This course is intended to simulate a real-world experience that offers an applied synthesis of learning in the areas of clinical research protocols, and study and site management principles. Participants will also be expected to demonstrate a solid grasp of competencies in leadership, and communication skills that are also needed to ensure a successful clinical trial.

Undergraduate Certificate & Diploma Committee  
Course Submission

	<p>This course is designed to offer students the opportunity to apply the theoretical knowledge and skills gained from the Applied Clinical Research program to a capstone project.</p>
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Rationale for Revision:

Upon development of the course with the Subject Matter Expert, it was agreed that it was not feasible to offer a practicum course for students. This was changed to a capstone project. The course title and course description need to be revised compared to what was submitted to the Certificate & Diploma Committee in March 2017.





DATE: March 20th, 2018

TO: Certificate and Diploma Committee, Undergraduate Council and Senate

FROM: Delsworth Harnish, Associate Dean, Undergraduate Education, Faculty of Health Sciences

SUBJECT: Evaluation of Revisions Made to the Applied Clinical Research Program Proposal for the Centre for Continuing Education (CCE)

I have reviewed the proposal for the review of the Applied Clinical Research program to be offered through the Centre for Continuing Education (CCE). I have examined the proposed revisions for the courses descriptions, names and the rationale for their changes. My examination of the revisions concurs that the proposed courses are still of the intellectual rigour comparable to that found in undergraduate degree courses. The students taking the courses will continue to meet the minimum requirements set out in the Policy on Certificates and Diplomas for Undergraduate Council.

Since the courses meet all these criteria as set out in the Policy on Certificates and Diplomas for Undergraduate Council, I support the submission of these revisions to the Committees for approval.

Sincerely,

A handwritten signature in cursive script, appearing to read 'D. Harnish'.

Delsworth Harnish  
3M Fellow  
Associate Dean  
Undergraduate Education  
Faculty of Health Sciences  
Tel: 905-525-9140 ext 22312  
harnishd@mcmaster.ca

**Undergraduate Certificate & Diploma Committee**  
**Course Submission**

<b>A. Department &amp; Program Information (Complete all fields):</b>	
Department:	Centre for Continuing Education
Program Name:	Big Data Analytics, Certificate
Name of Representative:	Nancy McQuigge
Nature of Submission:	Course revision
Effective Date:	May 1, 2018
Submission Date:	April 3, 2018
<b>B. Course Details (Complete all fields):</b>	
Course Title:	<ol style="list-style-type: none"> <li>1. Data Analytics and Modelling</li> <li>2. Data Management</li> <li>3. Predictive Modelling and Data Mining</li> </ol>
Is this course currently offered? Yes Existing Course Code: <ol style="list-style-type: none"> <li>1. BDA 101</li> <li>2. BDA 103</li> <li>3. BDA 104</li> </ol>	
Course Unit Value:	3 units
List Course Pre-requisites (if applicable): <ol style="list-style-type: none"> <li>1. Admission to the program</li> <li>2. Completion of BDA 101</li> <li>3. Completion of BDA 101</li> </ol>	
<b>C. Course Revisions:</b>	
Revised Course Description – <i>BDA 101 Data Analytics and Modelling</i>  This course offers an introduction to data science and machine learning paving the way for students to learn big data principles. In particular, this course begins with a brief history of data science, followed by topics such as: regression analysis, regression and classification trees, and ends with introductions	

## Undergraduate Certificate & Diploma Committee Course Submission

to K-means clustering, and principal component analysis (PCA) and their related models and algorithms. Each lecture has associated with it a practical lab session in which students will put "theory into practice" offering students a hands-on approach to learning the material.

### Revised Course Description – *BDA 103 Data Management*

Big Data problems require new tools/technologies to store and manage the data to realize the business benefit. This course explores the importance of managing data as an enterprise asset and the data management components required in terms of the acquisition, storage, sharing, validation and accessibility of data for addressing business problems. An examination of Database Management Systems, database architectures, the differences between OLTP (Online transaction processing) OLAP (online analytical processing) and the administrative processes that guide the data life cycle will be among the main topics covered by the course.

### Revised Course Description – *BDA 104 Predictive Modelling and Data Mining*

This course builds upon the knowledge and skills acquired in BDA 101 Data Analytics and Modelling. The course expands upon predictive modeling techniques as well as related statistical and visualization tools for data mining and analysis. The course will cover common machine learning and data mining techniques that are focused on predictive outcomes and clustering. Students will learn how to clean, process and prepare a raw dataset to implement various machine learning and data mining algorithms and models. They also learn how to evaluate the performance of the models and how to improve them.

### **Rationale for Revision:**

It was determined by course developers and program instructors that the original course descriptions did not specify specific content covered in each of the courses in order for students to have a clear, and accurate statement of the courses' intent.

Instructors who have developed and taught the content for each course have collaborated to write the revised course descriptions.

### **D. Statement from Faculty**

## Undergraduate Certificate & Diploma Committee Course Submission

I have reviewed the proposal for the revision of course descriptions for three courses in the Big Data Analytics program offered by the Centre for Continuing Education (CCE). I have examined the revised course descriptions and the rationale for the change. My examination of the revisions concurs with the assessment completed by the content developers and instructors, and the courses will continue to be at the level of intellectual rigour found in undergraduate degree courses.

The students taking the courses will continue to meet the minimum requirements set out in the Policy on Certificates and Diplomas for Undergraduate Council. Since the courses meet all these criteria as set out in the Policy on Certificates and Diplomas for Undergraduate Council, I have arrived at the conclusion stated above.

Sincerely,



Dr Elkafi Hassini,  
Professor, DeGroote School of Business

# McMaster University



## NEW PROGRAM PROPOSAL

**Carbon Mitigation**

*Certificate of Completion*

(courses + project)

**Florent Lefevre-Schlick**

**March 21, 2018**

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# **1 PROGRAM**

## **1.1 PROGRAM DESCRIPTION**

Greenhouse gas emissions is a problem that affects all sectors of our society and for that reason effective solutions must develop from a collaborative approach. With this in mind, it is important that any program aimed at training current and future leaders to address the problem of CO2 emissions, is designed by and for a diverse range of key stakeholders. In that regard, the current team is uniquely placed to deliver such a program. The partnership brings together, the largest industrial emitter in Canada (ArcelorMittal Dofasco), the automotive sector who will have a key role in any long term solution, a municipality whose planning and regulation over the next several decades must find a way to balance strong economic growth with sustained greenhouse gas reduction, and a university educator with a track record of partnering in industry focused programs. By leveraging the skills, experience and perspectives of all partners in both developing and running the program, we will create a program that will be relevant to industrial and political leaders today, and will evolve to meet future needs.

McMaster Engineering has a track record over several decades of practice based education delivered in collaboration with industry, from the Steel Certificate program, first offered in the nineteen fifties and still popular today, to the ADMI (manufacturing), UNENE(nuclear engineering) programs, to the suite of programs offered by the W. Booth School, culminating today in a new range of micro credentials, aimed at pressing societal needs. McMaster Engineering's success in industry focused programming is grounded in a deep seated belief that the best education is developed and delivered in partnership with the learner and stake holder groups. This record and the underlying ethos are exactly what is needed to develop the proposed program.

ArcelorMittal Dofasco and the wider ArcelorMittal organization are a leader in their field, including developing advanced high strength steels for vehicle light-weighting and process developments to reduce CO2 emissions. Dofasco is deeply immersed in the very real problem of reducing CO2 emissions and will be able to offer real industrial context and real world problems for experiential learning. There is no partner who better understands the needs of the processing industry in meeting the challenge of reducing CO2 emissions. The City of Hamilton is a large industrial city and has all of the emission problems one would expect in such a city. However, they are forward looking and recognize that to develop as a "smart city" they must take on the challenge of greenhouse gases. Again the City of Hamilton brings their own unique perspective to the problem and further enriches the leadership and experiential learning opportunities.

The primary target of this program is future thought leaders in industry and municipal government, but it will also offer opportunities for McMaster students at the graduate and

undergraduate level, to leverage their strong technical education. Participation in class work with industry practitioners while also working on projects related to real world problems from these practitioners organizations, will greatly enrich the educational experience for students. This benefit will be a “two-way street” exposing industry leaders to graduate students who will be working on leading edge research on CO2 reduction. McMaster Engineering has a 40 year plus track record programing that combines a technical education in Engineering with a strong value added non-technical component. The best example of this is the high demand program in Engineering and Management.

In summary, this proposal brings together a diverse user community, who have a real need to educate future leaders and a deep expertise in their respective fields, with an internationally renowned educator with a record of success in partnering with industry. We believe we have the capability to build an enduring program in carbon mitigation.

### **Background: a perspective on a low-carbon Canadian economy**

The present proposal is by design very succinct. Indeed, the topic of Carbon mitigation, although urgently talked about, knows no easy answers and solutions. Nor are the fundamental issues to be addressed well known.

Summarizing the various findings and proposed solutions for the future of energy management and greenhouse gas reduction, is not the purpose of this proposal. Rather the curious reader is encouraged to review some key literature which has been used to create the training background of the proposed certificate of completion.

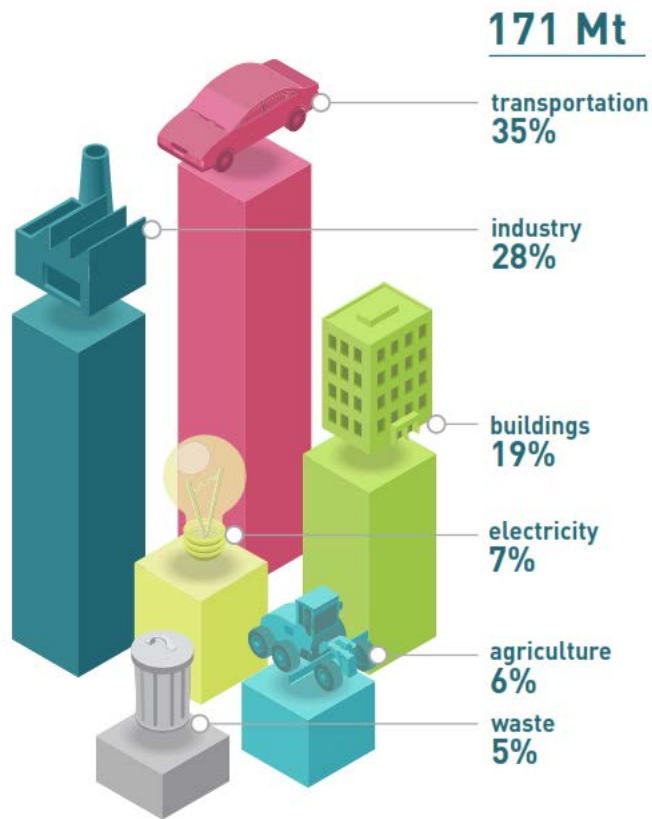
Key references used are:

- Sustainable Energy – without the hot air by David J.C. MacKay
- Analyse des rapports DOE et pertinence pour la France/Analysis of the reports from the US Department of Energy and applicability for France by Yves Brechet Haut-Commissaire a l'énergie Atomique
- Ontario's five year climate change action plan 2016-2020
- Cap and trade in Ontario documentation
- Ontario report on “Building the workforce for tomorrow”
- Various discussions with people involved in sustainable design
- Consulting with key industrial partners
- Supported by funding from The Skills Catalyst Fund of Ontario for the period 2018-2019



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## Emissions by Sector, 2013



Ontario's greenhouse gas emissions by sector

### 1.2 PROPOSAL PREPARATION AND CONSULTATION PROCESS

Not applicable.

### 1.3 CONSISTENCY WITH MCMASTER'S MISSION AND ACADEMIC PLAN

i. **McMaster's Strategic Mandate Agreement:**

This Certificate of Completion will strengthen the relationship between McMaster and local industry.

ii. **McMaster's current priorities**

The goal of the proposed certificate is engage and enable leadership activities in the domain of policy making for carbon mitigation to the local community of businesses. The primary learning mode will be experiential learning, particularly during the workshops in which hands-on role play type activities will give the students the time and opportunity to practice in a safe environment what they have learned during the classes.

### 1.4 PROGRAM LEARNING OUTCOMES

Upon completion of the Certificate the student will have acquired the knowledge and practical skills to:

PLO #1. Develop a fundamental and strong understanding of Carbon mitigation, its challenges and opportunities.

PLO #2. Develop a deep understanding of policy making, carbon economics, and alternate solutions as part of a larger ecosystem.

PLO #3. Become an agent of change and lead initiatives of Carbon management programs within their organizations.

PLO #4. Identify and quantify opportunities for developing and implementing policies and programs around Carbon management.

PLO #5. Communicate clearly and in simple terms the current practices in Carbon management.

## **1.5 CONSISTENCY WITH DEGREE LEVEL EXPECTATIONS**

Not applicable.

## **1.6 DEMAND FOR THE PROGRAM**

### **EVIDENCE OF SOCIETAL/LABOUR MARKET NEED**

Of particular importance for this certificate of completion, is the Ontario's five year climate change action plan 2016-2020. It outlines guidelines by sector on the various requirements for changes that sectors need to follow in order to drive a carbon free economy. Points such as the ones outlined below are all relevant to reduce greenhouse gas emissions while bettering the Canadian economy.

- Creating a Just Transition
- Set Tax and Regulatory Policies that Encourage Innovations
- Helping businesses transition in a carbon priced economy
- Reducing emissions through cap and trade
- New approach to technology deployment: a low-carbon service provider and financing entity
- Becoming a North American leader in low-carbon and zeroemission transportation
- Becoming a North American leader in energy efficient buildings and homes
- Help industries adopt low-carbon technologies
- Support innovation and commercialization of new low-carbon technologies
- Move toward a carbon neutral public service

Traditionally, a lot of focus is given to the development of new technologies. However, although relevant, this strategy is rather discrete by nature, and does not have a significant impact without extraordinary efforts. Indeed, it requires both a cultural change from our industrial partners, along with access to expertise and funding in order for them to invest in these new technologies.

The strategy for the present program is quite different. It is thought that by derisking a culture change and the adoption of innovation via the development of a policy deployment curriculum, the program can have a greater and wider impact on developing a carbon free economy. Indeed, like any major paradigm shift which occurred in society over the ages, Canadians need to be engaged and enabled in the right way in order for them to promote that change.

As a practical example, for every garbage can that a Canadian recycles, the supply chain manufacturing of goods that we use, produces 70 garbage cans in average. Needless to say, that the direct impact of Canadians is minor in the great scheme of things.

However, our impact can be significant if we develop and implement the right policies which will encourage industries to become carbon free. As well these policies can be either general in nature or sector/firms specific.

As mentioned earlier, there is currently no program that we could find that specifically tackles issues around policy making from a practical perspective. In addition, this program applies to many professionals from all sectors.

## **1.7 DEGREE NOMENCLATURE**

Not applicable.

## **2 ADMISSION & ENROLMENT**

### **2.1 ADMISSION REQUIREMENTS**

Applicants with a 4 year undergraduate degree in engineering or science, as well as applicants with an advanced 3-year college diploma will be admitted to the Certificate. A letter of support from the applicant's employer will also be required.

### **2.2 ENROLMENT PLANNING AND ALLOCATIONS**

Not applicable.

### **2.3 ALTERNATIVE REQUIREMENTS**

Not applicable.

### 3 STRUCTURE

#### 3.1 ADMINISTRATIVE, GOVERNANCE AND COMMUNICATION

The proposed program resides within the W Booth School of Engineering Practice and Technology; a School within the Faculty of Engineering. The School is led by a Director who reports to the Dean of Engineering. The Director of the School serves a 5-year term and is appointed by the Senate. The program will be lead and administered by a program leader reporting to the director of the school.

#### 3.2 STRUCTURE AND REGULATION

##### Program Structure

The proposed certificate will provide participants with technical and professional capabilities. In order to successfully complete the Program, the students must complete 8 - ¼ courses, plus a ½ course project. The content of the Certificate is equivalent to 5 – ½ courses.

It is a 12 month program.

##### Modes of Delivery

The coursework for this Certificate will be offered as three to four modules based on a theme, via a blend of on-line, in-class, and a final 3 days in laboratory delivery at the end of each 3 months period. The program is articulated around 3 themes which have both been identified as key enablers to ensure the success of Canadian industries, namely:

- a. Module 1: Sensitization to climate change and carbon management
- b. Module 2: Policy making and carbon management programs
- c. Module 3: Promotion and introduction of carbon friendly technologies and alternate solutions
- d. A fourth module can be used for tailored type training or activities in order to address the specifics of some industries.

The courses will be scheduled in ‘blocks’ of time which are intended to make the Certificate more appealing and accessible to working professionals (see calendar below).

Period	Q3		Q4		Q1		Q2	
Module 1	Course	Lab						
Module 2			Course	Lab				
Module 3					Course	Lab		
Module 4 specific							Course	Lab

### **3.3 GRADUATE PROGRAMS - PROGRAM LENGTH**

Not applicable.

## **4 CURRICULUM AND TEACHING**

### **4.1 PROGRAM CONTENT**

The Carbon Mitigation Certificate of completion is focused on engaging and enabling its graduates to acquire and practice the professional, ethical, and technical behaviors and competencies required to lead and manage the development and implementation of Carbon Mitigation related policies within their company or industrial sector.

The current states and emerging trends in Carbon Mitigation, greenhouse gas emission, energy management, and policy making, will be the subject of the program. Term workshops and practical activities in this program will facilitate in-depth and practical exploration of specific topics as well as a survey of the broad system aspects by the students.

The latest industry-applicable methods and standards will be addressed in the corresponding courses. Relevant infrastructure standards from different parts of the globe will be presented as needed and their impact on Carbon Mitigation policies will be discussed.

### **4.2 PROGRAM INNOVATION**

The program is structured and delivered in an innovative way more suitable for training of professionals working in industry. Each one of the 8 courses will be delivered in steps as part of 3-4 modules. This will promote the multidisciplinary aspects of policy making for carbon mitigation and allow students to integrate aspects of each course into learning activities which will culminate at the end of each quarter during the workshops.

The 8 courses are:

- Science and source of GHG
- Politics and policy of GHG (2 parts)
- Carbon measurement and accounting (2 parts)
- Building a carbon reduction plan
- Understanding Carbon markets
- Understanding alternate solutions

The core architecture of the courses delivery and knowledge acquisition is as follow:

- Practical knowledge based on simple tools and techniques which focus on the fundamentals of policy making and deployment.

- Experiential learning: students will be asked to bring forward real issues they are facing or best practices. These scenarios will be used during the workshops by applying what they have learned in class.
- Problem solving: The purpose of the curriculum is to guide the students so that they build confidence in tackling and solving problems or initiating improvements.
- Role playing: multiple activities are planned as part of the learning curve of the students. This is a known method particularly to teach LEAN manufacturing.
- Team based activities are planned as well, not only as part of the learning experience, but also as part of networking practice. The intent is for the team to stay in contact professionally.
- Industrial speakers will be invited as well, to share their own experience with the students.

### **4.3 MODE(S) OF DELIVERY**

The program is delivered in a blended learning environment including online lectures, forums, self-directed learning and hands-on applications.

### **4.4 EXPERIENTIAL LEARNING**

The program is uniquely defined through a strong experiential learning component. Each course is specifically oriented towards problem-solving, the intensive workshops provide a hands-on learning experience and courses emphasize a “learn-by-doing” approach. Work on industry or civic oriented problems will provide further opportunities for experiential learning by solving problems encountered in real industry situations.

### **4.5 ACCESSIBILITY**

The program supports an environment in which race, age and gender are irrelevant. The program is focused on helping students to attain the level of capabilities corresponding to their role and function irrespective of their abilities or disabilities.

### **4.6 RESEARCH REQUIREMENTS (IF APPLICABLE)**

Not applicable

## 5 ASSESSMENT OF LEARNING

### 5.1 METHODS FOR ASSESSING STUDENTS

Student assessment during the course of the Program will be based on demonstrated learning outcomes in each course. Assessments in the courses will be based on

- Assignments
- Demonstrated learning during workshop
- Questionnaire

### 5.2 CURRICULUM MAP

Program Learning Outcome	Expectations	Teaching activities & learning opportunities	Assessments & evidence
By the end of the program, students will			
PLO #1. Develop a fundamental and strong understanding of Carbon mitigation, its challenges and opportunities.	Understanding of laws and regulations Current status of carbon mitigation programs Roles & responsibilities	Each module will have a blend of online lectures, scenario assignments, and inspirational videos or texts. A final 3 day workshop will give the students hands-on experience in applying the fundamental concepts reviewed during the module.	Assignments, questionnaires, and activity during the workshops.
PLO #2. Develop a deep understanding of policy making, carbon economics, and alternate solutions as part of a larger ecosystem.	Basic financials Budgeting Sustainable economics		
PLO #3. Become an agent of change and lead initiatives of Carbon management programs within their organizations.	Leadership Entrepreneurship & Intrapreneurship Communication Initiative		
PLO #4. Identify and quantify opportunities for developing and implementing policies and programs around Carbon management.	Continuous improvement Problem solving		
PLO #5. Communicate clearly and in simple terms the current practices in Carbon management.	Communication Active listening Project management Leadership		

### 5.3 DEMONSTRATING STUDENT ACHIEVEMENT

The assessment tasks will be designed to measure the achievement of program and course level learning outcomes throughout the program and will be embedded into each course.

The following assessment tools will be used to measure student achievements: assignments, and questionnaires. These will be graded using the McMaster University grading system.

The data collected from each of these activities will be analysed using a variety of methods that are currently used in the department.

We will be conducting a survey of students asking them to reflect on their learning experiences. A similar survey of faculty and the students' respective organizations will also be conducted to assess the achievement of learning outcomes by the students and their efforts to provide activities for assessment of the learning outcomes, levels of achievement, and any associated challenges.

## **6 RESOURCES**

### *ADMINISTRATIVE, PHYSICAL AND FINANCIAL RESOURCES*

The Program will be hosted by the W.Booth School of Engineering Practice. The School has administrative staff experienced in the operation of graduate, undergraduate and industry oriented programs. The Director of the School is responsible for the programs offered by the School. Day to day operation of the programs will be managed by a Program Leader who will assume the responsibility for the management of the new program.

The program will be funded from the courses fees. Immediately after the program is approved, the School will start implementing a marketing program which will be prepared in advance in cooperation with the marketing group in the Faculty of Engineering.

At the time of processing applications for the first cohort (expected in 2018/2019) of approximately 20 accepted students, it is anticipated the Program Leader will be responsible for the administrative tasks related to this Certificate. The need for admin support will be assessed in future years of the program.

The delivery of the program will use sessional lecturers with very specific and relevant industry experience. This will likely include the Program Leader which will also be a contract position.

SEPT physical space in ETB building will be used to provide a working and teaching space for the students and instructors.

### *LIBRARY, TECHNOLOGY, AND LABORATORY RESOURCES*

Library facilities in the traditional sense (books and journals on the shelves and space to sit and read them in the library) are not needed by the Program. On-line availability of the journal and books will provide the students with access to the material required for their course work.



## *FACULTY*

The proposed program has been budgeted using sessional lecturers. However, several current SEPT Faculty members may fill teaching roles within the Certificate as appropriate.

Table 1 Faculty Members for W. Booth School of Engineering Practice and Technology who may teach courses with the Certificate Program

<b>Name</b>	<b>Rank</b>	<b>M/F</b>	<b>Dept.</b>
Mo Elbestawi	Professor	M	SEPT
Lofty Bekhir	Professor	M	SEPT
Fleising, Robert	Associate Professor	M	SEPT
David Potter	Associate Professor	M	SEPT
Dan Centea	Assistant Professor	M	SEPT
Gao, Zhen	Assistant Professor	M	SEPT
Jeff Fortuna	Assistant Professor	M	SEPT
Mehrtash, Moein	Assistant Professor	M	SEPT
Tom Wanyama	Assistant Professor	M	SEPT
Yuam, Timber	Assistant Professor	M	SEPT
Long, Jennifer	Lecturer	F	SEPT
Singh, Ishwar	Adjunct Professor	M	SEPT
Mikhail Hanna	Adjunct Professor	M	SEPT

## *STUDENT FINANCIAL SUPPORT*

The program will not offer financial support to the students.

***FACULTY RESEARCH FUNDING – NOT APPLICABLE; THIS IS NOT A RESEACH PROGRAM***

## **7 QUALITY AND OTHER INDICATORS**

### **7.1 ACADEMIC QUALITY OF THE PROGRAM**

This certificate will be added to the school's IQAP process.

### **7.2 INTELLECTUAL QUALITY OF THE STUDENT EXPERIENCE**

The fundamental nature of the program based on problem solving of real issues the students are facing, improvement of their work area, and interaction with peers from other sectors should encourage 'crosspollination' of knowledge and experience.

SEPT Faculty have been recognized as having one of the highest student ratings in the Faculty of Engineering, which is a clear indication of their ability to engage students and create an engaging working environment.

In addition to the classes, the students will be able to participate in the social activities in SEPT. Remotely located students will be able to interact with their colleagues via social media platforms (e.g. Facebook group for each class is a tradition at SEPT).

## Centre for Continuing Education Certificate of Completion

<b>A. Department &amp; Program Information (Complete all fields):</b>	
Program Name:	Cybersecurity Certificate of Completion
Name of Representative:	Anne Dwyer
Effective Date:	March 27, 2018
Date of Submission:	April 3, 2018
<b>B. Faculty Statement (Required):</b>	
n/a	
<b>C. Academic Merit (Complete all fields; write “not applicable” as needed):</b>	
i. Program Overview:	<p>Cybersecurity Foundations is designed as a professional development course for cybersecurity professionals, including security analysts, intel analysts, policy analysts, security operations personnel, network administrators, system integrators, VARS, and security consultants</p> <p>In this cybersecurity course, you will gain a global perspective of the challenges of designing a secure system, touching on all the cyber roles needed to provide a cohesive security solution. You will learn about current threat trends across the Internet and their impact on organizational security. You will review standard cybersecurity terminology and compliance requirements, examine sample exploits, and gain hands-on experience mitigating controls. In a contained lab environment, you will work with live viruses, including botnets, worms, and Trojans.</p>
ii. Learning Objectives:	<p>After completing this course, you will be able to:</p> <ul style="list-style-type: none"> <li>• Increase your awareness of security</li> <li>• Interpret and analyze tool output for network mapping and footprinting</li> <li>• Reduce the attack surface of systems</li> <li>• Review networking as it applies to security controls</li> <li>• Explore different data protection principles</li> </ul>

	<ul style="list-style-type: none"> <li>• Examine the role of PKI and certificates in building trusted relationships between devices in a network</li> <li>• Implement login security and other identity management solutions</li> <li>• Reduce the attack surface of network devices</li> <li>• Explore malware threats and anti-malware solutions</li> <li>• Explore social engineering threats, methods, and techniques</li> <li>• Examine software vulnerabilities and security solutions for reducing the risk of exploitation</li> <li>• Explain monitoring capabilities and requirements and how those may raise privacy concerns</li> <li>• Identify physical security controls and the relationship between physical and IT security</li> <li>• Explain incident response capabilities</li> <li>• Identify legal considerations and investigative techniques when it comes to cybersecurity</li> <li>• Research trends in cybersecurity</li> </ul>
<p>iii. Meeting Learning Objectives:</p>	<p>Cybersecurity Foundations uses a series of modules (topics) to achieve the stated program objectives. Individual module objectives are mapped to the overall program objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning objectives.</p>
<p>iv. Program Admission Requirements:</p>	<p>n/a</p>
<p>v. Program Pre-requisites (if applicable):</p>	<p>TCP/IP Networking or equivalent knowledge</p>
<p>vi. Program Completion Requirements:</p>	<p>Students must complete all 16 modules in order to qualify for the Cybersecurity Foundations Certificate of Completion.</p>
<p>viii. Program Delivery Format:</p>	<p>Working in collaboration with Global Knowledge, a worldwide leader in IT and business skills training, Cybersecurity Foundations Certificate of Completion will be available in both online and in-class formats.</p> <p>The online format will be completed directly through Global Knowledge and will use a combination of synchronous and asynchronous activities designed to present the fundamental concepts and theories in cybersecurity and</p>

	<p>promote the application to the workplace. Course activities may include instructor video lecture/presentations, discussion board topics, web-based learning activities, as well as, experiential learning activities (i.e. lab work, case studies, group discussions, projects).</p> <p>The In-class format will be offered at McMaster University's One James North Campus and will include a mixture of lecture and experiential learning activities, such as labs, individual and group work.</p>
ix. Student Evaluations (Grading Process):	Each module will include an evaluation component. The evaluation may consist of discussion, case scenarios and lab assignments.
x. Course Evaluation:	For each course, students will complete an evaluation that explores content, delivery, materials, method of evaluation and instruction.
xi. Course Instruction:	Instructors for Cybersecurity Foundations will be selected from a pool of qualified applicants. In compliance with McMaster's Senate and Undergraduate Council Guidelines for Certificates and Diplomas, selection will be based on academic background and/or experience within the field. Instructors will have the equivalency of a Master's Degree or significant professional and teaching experience within the field. Instructors will be required to hold a professional certification - Certified Information Systems Security Professional (CISSP) or equivalent industry certification.
xii. Credit Towards Degree Programme Studies:	n/a
xiii. Program Advanced Standing:	n/a
<b>D. Statement of Financial Viability:</b>	
<p>I have reviewed the business case and financial projections which includes enrolment projections and costs. Sources of revenue for this program include tuition. Expenses are typical that may include marketing costs (although bulk of marketing will be done by Global Knowledge), as well as typical ongoing delivery costs (such as payment of facilitators, honoraria for other guest facilitators, materials, advertising and administration).</p> <p><i>Lorraine Carter, Director, Centre for Continuing Education, <b>March 27, 2018</b></i></p>	

### E. Statement of Administrative Responsibilities:

The human and systems infrastructure to support the following functions already exists within CCE and Global Knowledge. Costs will be fully covered by tuition.

Responsibilities for the program are as follows:

- Budget development and monetary responsibilities
- Program and Course Development
- Course Registrations/Administration
- Supervision of Instructors to ensure University policies and practices are adhered to; course are taught according to program requirements and standards
- Marketing and Promotions

### F. Listing of Courses (complete the chart to provide suggested course title, required/elective, number of academic units, proposed hours, and estimated term offering):

<u>Course Name</u>	<u>Required/Elective</u>	<u>Academic Units/hours</u>	<u>Scheduled Term</u>
Cybersecurity Foundations	Required	0.0 units/35 hours	Fall 2018

Course Descriptions (Provide a one-paragraph course description; indicate course prerequisite (if applicable) and a bullet list of key topics to be covered in the course):

#### **Cybersecurity Foundations**

(Prerequisite: TCP/IP Networking or equivalent knowledge)

#### **Description**

In this cybersecurity course, you will gain a global perspective of the challenges of designing a secure system, touching on all the cyber roles needed to provide a cohesive security solution. You will learn about current threat trends across the Internet and their impact on organizational security. You will review standard cybersecurity terminology and compliance requirements, examine sample exploits, and gain hands-on experience mitigating controls. In a contained lab environment, you will work with live viruses, including botnets, worms, and Trojans.

#### **Topics:**

- 1. Cybersecurity Awareness**
- 2. Network Discovery**
- 3. Systems Hardening**
- 4. Security Architecture**
- 5. Data Security**
- 6. Public Key Infrastructure**
- 7. Identity Management**
- 8. Network Hardening**
- 9. Malware**
- 10. Social Engineering**
- 11. Software Security**
- 12. Environment Monitoring**
- 13. Physical Security**
- 14. Incident Response**
- 15. Legal Considerations**
- 16. Trends in Cybersecurity**

<b>A. Department &amp; Program Information (Complete all fields):</b>	
Academic Designation:	Certificate of Completion, not for credit
Program Name:	Family Engagement in Research
Name of Representative:	Lorraine Carter in collaboration with the Faculty of Rehabilitation Sciences
Proposed Date/Term of Program Start:	Fall 2018
Date of Submission:	April 3, 2018
<b>B. Faculty Statement (Required):</b>	
NA	
<b>C. Academic Merit (Complete all fields; write “not applicable” as needed):</b>	
i. Program Overview:	<p>This proposal is to establish a not for credit Certificate of Completion in Family Engagement in Research. Participants will include caregivers of children with disabilities and research trainees. The participants will learn from each other and discover what family engagement in research involves and the various practices that support the development of an integrated research team.</p> <p><i>Areas to be explored include:</i></p> <ul style="list-style-type: none"> <li>• Family engagement in research: What do we really mean?</li> <li>• Family engagement in research: Why is it important?</li> <li>• Building an integrated research team: How can we find each other?</li> <li>• Building an integrated research team: How can we work together?</li> <li>• Roles and responsibilities of families and researchers</li> <li>• Ethics of family engagement in research</li> <li>• Barriers and Facilitators to Family Engagement</li> <li>• Family Engagement Tools &amp; Resources</li> <li>• Evaluation of Family Engagement Activities</li> </ul>



	Upon successful completion of the course, students will receive the McMaster University Certificate of Completion in Family Engagement in Research. The course will be delivered online.
ii. Learning Objectives:	<p>Specifically, participants will:</p> <ul style="list-style-type: none"> <li>• Define and describe the benefits of family engagement in research</li> <li>• Identify family/research partners and understand how to engage families throughout each step of the research process</li> <li>• Discuss the roles/responsibilities of researchers and families on integrated teams</li> <li>• Understand the ethics surrounding family engagement in research as well as the rights and responsibilities of research ‘participants’ versus a research ‘partners’</li> <li>• Recognize the barriers and facilitators to family engagement and identify strategies to support family engagement in research (at the family, researcher, and system levels).</li> <li>• Understand and utilize tools and resources available for the implementation and evaluation of family engagement activities</li> <li>• Communicate ideas related to family engagement verbally and in writing</li> </ul>
iii. Meeting Learning Objectives:	The delivery formats and teaching methods are structured to have a maximum effect on achievement of the learning objectives. A variety of approaches will be used to support learning and meet objectives.
iv. Program Admission Requirements:	While the Family Engagement in Research Certificate of Completion has no specific academic pre-requisites, there will be an application process to ensure that prospective participants have a good understanding of the program and are suitable learners for it. A class size of approximately 20 will also be managed through the application process. The application process will be facilitated by McMaster’s School of Rehabilitation Science.
v. Program Pre-requisites (if applicable):	NA
vi. Program Completion	Students must complete all requirements in order to qualify for the

Requirements:	Certificate in Completion.
viii. Program Delivery Format:	Online delivery activities will include instructor presentations, group discussions, online resources (articles and videos), and practical application activities. Course content will be delivered over 10 weeks. On average, each week will include three hours of content.  The course will be facilitated by an instructor from the School of Rehabilitation Science.
ix. Student Evaluations (Grading Process):	The course will include several evaluation components. Evaluation strategies will include participation in synchronous and asynchronous discussions, case studies, group assignments, and presentations. Where appropriate, evaluations will be structured to evaluate participants' level of competency in achieving overall learning objectives.
x. Evaluation:	Students will complete an evaluation to assess content, delivery, materials, method of evaluation, and instruction.
xi Instruction:	Instructors will be identified by the School of Rehabilitation Science.
xii. Credit Towards Degree Programme Studies:	NA
xix. Program Advanced Standing:	NA

**D. Statement of Financial Viability:**

I have reviewed the business case and financial projections with the School of Rehabilitation Science. Areas considered include enrolment projections and costs. Expenses are typical and within scope.

*Lorraine Carter, Director, Centre for Continuing Education, April 2018*

**E. Statement of Administrative Responsibilities:**

The human and systems infrastructure to support the following functions exists within CCE.

Responsibilities for the program is as follows:

- Budgetary and monetary responsibilities
- Course registrations/administration
- Technical support for students during start-up and delivery of the course
- Support for instructor
- Collaboration with the School of Rehabilitation Science to ensure that University policies and practices are adhered to; course is taught according to program requirements and standards

## **F. Listing of Course(s)**

**Course Title:** Family Engagement in Research

**Course Description:**

This course is designed for research trainees and families who have an interest in neurodevelopmental research and researcher-family partnerships. This course is unique in that it will bring trainees and families together in a fully integrated online course. Learners will learn about family engagement in research (including why it is important, how to engage families throughout the research process, barriers/facilitators to engagement, ethics surrounding engagement, and tools and resources to support and evaluate engagement activities). Learners will build skills in engagement through participating in online (synchronous and asynchronous) discussions and working on integrated team projects. By the end of the certificate, learners will have an advanced understanding of family engagement, and will be ready to partner on integrated research teams.

**Course Goals:**

*Create a cohort of family members who are:*

- Invested in contributing to and ready to engage in neurodevelopmental research
- Knowledgeable about the research process and can make informed decisions with regards to partnering on a research project
- Capable and confident to engage with researchers at various levels of the research process and recognize the impact they can have on the research community

*Create a cohort of research trainees who are:*

- Invested in contributing to neurodevelopmental research
- Knowledgeable about family engagement in research
- Capable and confident in engaging with families and other stakeholders in various stages of the research process