

## REPORT OF ACADEMIC STANDARDS COMMITTEE

Report #W2020–5; June 2020

In this report the Academic Standards Committee (ASC) brings to Senate its evaluation and recommendation on the following items:

- PERIODIC PROGRAM REVIEW – School of Retail Management, Ted Rogers School of Management
- TED ROGERS SCHOOL OF MANAGEMENT – Addition of ‘Honours’ designation to the Bachelor of Commerce – Retail Management degree
- FACULTY OF ENGINEERING AND ARCHITECTURAL SCIENCE– Universities of Canada-Egypt Curriculum Proposal
- FACULTY OF SCIENCE – Changes to co-operative education work term requirements
- *For Information:* Chang School Certificates – Revisions (March/April 2020)

### A. PERIODIC PROGRAM REVIEW – SCHOOL OF RETAIL MANAGEMENT, TED ROGERS SCHOOL OF MANAGEMENT

#### FINAL ASSESSMENT REPORT (FAR)

In accordance with the Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the undergraduate **Bachelor of Commerce - Retail Management** program. The report identifies the significant strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The Implementation Plan identifies who will be responsible for leading the implementation of the recommendations; who will be responsible for providing any resources entailed by those recommendations; and timelines for acting on and monitoring the implementation of the recommendations.

#### SUMMARY OF THE PERIODIC PROGRAM REVIEW OF THE RETAIL MANAGEMENT PROGRAM

The Retail Management program submitted a self-study report to the Vice-Provost Academic on April 8, 2020. The self-study presented the program description and learning outcomes, an analytical assessment of the program, and program data including the data collected from students, alumni and employers along with the standard University Planning data tables. Appended were the course outlines for all core required and elective courses in the program and the CVs for all RFA faculty members in the School of Retail Management and all other faculty who have recently taught core courses.

Two arm’s-length external reviewers, Dr. Patrali Chatterjee (Mukhopadhyay), Department of Marketing, Feliciano School of Business, Montclair State University, and Dr. Robert P. Jones, Department of Hospitality and Retail Management, Texas Tech University, were appointed by the Dean of TRSM from a set of proposed reviewers. They reviewed the self-study documentation and then conducted a site visit at Ryerson University from October 23 to 25, 2019.

The visit included meetings with the Provost and Vice-President Academic; Vice-Provost Academic; Dean, TRSM; Associate Dean, Faculty and Academic; Associate Dean, Research & Graduate Studies; and the Director, School of Retail Management. The PRT also met with several other members of the School of Retail Management including staff, students, and faculty members, as well as with alumni, members of the Advisory Council, and the Associate Chief Librarian. A general tour of the campus was provided, including a tour of the Business Building,

the Library and Jorgenson Hall.

In their report, dated November 25, 2019, the Peer Review Team (PRT) provided feedback that describes how the Retail Management program meets the IQAP evaluation criteria and is consistent with the University's mission and academic priorities.

The main areas of strength identified by the PRT include the industry experience of some of the faculty; a practical industry-focused curriculum; the mandatory paid internship or optional co-op requirement; industry participation in the classroom and in extracurricular programs; and, the School's location and facilities.

The PRT also identified areas for improvement, including addressing students' poor performance in Introductory Accounting and Economics courses in first year, which impact their GPA and prevent them from applying for internships and co-ops; and, a strain on the demands of faculty and staff.

The Chair of the Retail Management program submitted a response to the PRT Report on December 20, 2019. The response to both the PRT Report and the Program's Response was submitted by the Dean of TRSM on March 12, 2020.

The Academic Standards Committee completed its assessment of the Retail Management Program Review on May 7, 2020. The Committee indicated that a thorough, analytical and self-critical program review was conducted. The School integrated into the developmental plan feedback from students, alumni, employers and peer reviewers, and outlined a comprehensive plan for program enhancements moving forward.

The Academic Standards Committee recommends that the program continue, as well as provide a one-year follow-up report by June 30, 2021, as follows:

1. Report on the status of the initiatives outlined in the Implementation Plan with a focus on the transition of the degree program to 40 credits.

Presented to Senate for Approval: June 2, 2020

Start date of next Periodic Program Review: 2024-25

## **SUMMARY OF THE REVIEWERS' RECOMMENDATIONS WITH THE PROGRAM'S AND DEAN'S RESPONSES**

### **As proposed by the Reviewing Team:**

**RECOMMENDATION 1.** Improve the student mix in the RM program through targeted efforts to increase conversion rates for first and second choice applicants with high grades. Increasing awareness of scholarships, digital retail components of the program and industry initiatives, student placements six months after graduation, vignettes of successful alumni in outreach efforts to high school students, industry, community and government will raise the profile of the program, improve the student mix with the added benefit of a stronger pool of MscM students downstream.

**Department's Response:** We acknowledge that we will need to develop a strategic approach that entails outcome-oriented recruitment messages including placement rates and career stories from graduates, as you noted. In the past year, the program has started this effort by recording 12 videos of alumni speaking about their careers and adding several student and alumni profiles to the school website. These types of stories and successes will become the foundation for prospective students, and in particular, it may be targeted to increase conversion rates of those who have already applied to the Retail program as their 1st or 2nd choice.

**Dean's Response:** See response to recommendation 6, below.

**RECOMMENDATION 2.** Improve accessibility of international study tours: The international study tours piloted by Drs. Hong Yu and Frances Gunn provide an immersive experience, providing students first-hand knowledge of state-of-art retail practices at leading retailers and designers. Other faculty are expanding the initiative offering more students the opportunity, however financial constraints make it out of reach for many students. The RM Program recognizes this issue and offers subsidized retail trips to Canadian retailers in other provinces (e.g., Vancouver). We request the RM Program, the Council of Advisors, TRSM and Ryerson University explore options to reduce costs and offer scholarships to make these opportunities more inclusive keeping with Ryerson University's commitment to accessibility, so more students are able to participate at least once during their program.

**Department's Response:** The program's history in offering multiple retail travel study opportunities for students (e.g., China, Italy, Netherlands, etc.) has been a key component of the experiential education to which prospective students may look forward. However, accessibility through funding support has been inconsistent. Recent developments suggest that students may be able to access increased funding for such trips in the future through the Ryerson International office and the Dean's office. Going forward, the upcoming trip to London, England in 2020 as part of the RMG917 course will be one of the first to benefit.

**Dean's Response:** Not specifically addressed.

**RECOMMENDATION 3.** The annual one-day internal "Retail Research Colloquium" in the winter semester is an excellent initiative to spur research activity and knowledge sharing between faculty, MScM students and research-oriented undergraduate seniors. Faculty grant writing to provide research assistantships for international students serve dual purposes – student development towards research-based careers as well much-needed research support for faculty. We recommend faculty receive grant-writing assistance, research support and travel resources for co-published research and attendance at academic and professional conferences.

**Department's Response:** TRSM, at the faculty level, does offer assistance with grant-writing, travel funding for conferences and peer-group support. Notably, with the PhD program on the horizon, we acknowledge that increased access to resources dedicated to research may be necessary. Within the Retail program, this year's Retail Research Colloquium will be expanded to include a larger group of participants from the faculty and graduate students in other departments for shared learning and stimulating collaboration opportunities. Undergraduate students with an interest in future graduate studies are also invited to this event.

**Dean's Response:** See response to recommendation 9, below.

**RECOMMENDATION 4.** The establishment of a clear pathway from the undergraduate program to the MScM in Retail Research to potentially a new Ph.D. program needs to be formalized. Faculty teaching loads and commitments must be commensurate with the rigor required in the graduate retail program.

**Department's Response:** We will consider new ways to formalize potential pathways into the graduate programs.

**Dean's Response:** See response to recommendation 9, below.

**As proposed by the program in the self-study:**

**RECOMMENDATION 5.** To include the "Honours" designation in the degree title.

**Dean's Response:** I strongly support adding the "Honours" designation to the Retail B.Comm as a 4-year degree. Given the timing of this review completion, this recommendation should be targeted for the Fall 2020.

**RECOMMENDATION 6.** To focus marketing of the RM program that highlights opportunities for internships, co-op, retail as a career... & unique retail curriculum.

**Dean's Response:** While the TRSM Marketing Communication team will consider how future Retail specific campaigns align with the broader TRSM recruitment efforts, it is encouraging to see the ongoing efforts of dissemination. I recognize that these appear in the form of student and alumni-based testimonials that highlight their experiences within and beyond the program (e.g., internships, career, etc.). In this regard, I agree with the external review team's recommendations to further increase the outreach in attracting transfer students from other university programs while motivating current students through a concerted strategy of retention.

**RECOMMENDATION 7.** To Discontinue the Part-time degree program offering.

**Dean's Response:** Given the low interest, low enrolment, and subpar retention rates (25% after 4 years) of the part-time option within the Retail program, I agree with the recommendation to discontinue the part-time degree program. In lieu of displacing the part-time pathway, I encourage the program to further promote the minor option in Retail or standalone retail certificate pathways through the Chang School of Continuing Education. This provides a ready alternative for students who seek a part-time option that includes some of the core topics in retail studies. This recommendation should be targeted for Fall 2021 including submitting calendar changes for Fall 2020.

**RECOMMENDATION 8.** Explore opportunities to identify and offer relevant and evolving paths of study within the curriculum through innovative teaching methods.

**Dean's Response:** I agree that the program should identify clear paths within the curriculum and innovative teaching strategies that will serve a dual purpose in addressing the needs of current and prospective students. The creation of pathways (e.g. formal concentrations or informal study planning guides) related to specific topics of interest and career roles will complement the degree. It will help in developing clear marketing campaigns surrounding these pathways. This will enable current students to take increased ownership in directing their education to ensure that their study plans align with the individual goals and trends of the Retail industry. Moreover, the department can increase flexibility and student success by lowering the total number of courses required for degree completion to 40 (currently 45). This will better align with other TRSM schools that already have or will all be moving forward with 40 total courses in their curriculum. This may include exploring how to support student success in quantitative courses (as identified by the external reviewers) through discussions with the School of Accounting and Finance to see if their current ACC and FIN courses are suitable for retail students, or if sector-specific content, tutorials, and other supports may be developed in lieu of creating new retail-specific Accounting and Finance courses.

As retention strategies are of paramount importance, I recognize the need for greater support for the Retail students. With this in mind, TRSM have begun to explore a centralized advising model that oversees the wider student body of the faculty, while recognizing the need for retail-specific advising as per the recommendation put forth by the external reviewers. As we are in the process of integrating and shaping a faculty-wide centralized advising unit, we hope to seamlessly integrate the Retail group to better support our retail students.

**RECOMMENDATION 9.** Explore opportunities for funding to support and sustain the ongoing integration of retail undergraduate students in faculty research projects.

**Dean's Response:** I am excited by the progress of our PhD proposal and see the final recommendation of the self-study as further strengthening the research profile of TRSM and Ryerson. Retail's interest in supporting the integration of undergraduates in research is an encouraging sign that builds on past successes with supervising students in the MScM. While the dean's office cannot promise specific dedicated funding at this time, I look forward to a proposal and needs assessment to consider how to best support this initiative.

Lastly, I recognize the academic demands on the faculty that were raised by the external reviewers. As several hold cross-appointments and/or occupies higher-level administrative roles, I further look to support the growth of the Retail program in its faculty complement (e.g., new hires), pending resource availability and budgetary approvals.

## IMPLEMENTATION PLAN

<b>Recommendation #1:</b> To include the "Honours" designation in the degree title.
<b>Rationale:</b> As a four year B.Comm, the degree in Retail Management has been mapped to the OCAV table of UDLES for an Honours degree at the Bachelor's level.
<b>Objective:</b> The Honours designation typically helps to differentiate Bachelor's degree programs that incorporate a higher level of achievement through the completion of a 4-year academic program rather than non-honours degrees that may only require 3 years of study. While the B.Comm degree in Retail Management has always been a 4-year program, it has not included this designation. The addition of the honours designation will help position graduates from the RM program on equal footing to their peers who have completed 4-year degrees at other post secondary institutions and as a point of differentiation from shorter college diploma programs.
<b>Implementation Actions:</b> <ul style="list-style-type: none"><li>● Upon approval of this Program Review, the School will propose this change be made to the Ryerson Undergraduate Program Calendar for the 2021/2022 academic year.</li></ul>
<b>Timeline:</b> <ul style="list-style-type: none"><li>● Submission of proposal memo to Academic Standards Committee, May 2020</li><li>● Submission of calendar changes to the Registrar office by October 2020.</li></ul>
<b>Responsibility for leading initiative:</b> Program Director
<b>Responsibility for approving recommendation, providing resources and overall monitoring:</b> Office of the Registrar

<b>Recommendation #2:</b> To Discontinue the Part-time degree program offering.
<b>Rationale:</b> <ul style="list-style-type: none"><li>● Part-time program admissions have averaged less than 8 students annually over 7 years.</li><li>● Retention rates for this group are only 25% after 4 years in the program.</li><li>● It is sometimes viewed as a "back door" entry point for prospective students who were deemed underqualified for the full-time RM program.</li><li>● Timing and nature of several core courses, including 4th year capstone classes prove challenging for part-time students to attend in the day yet limited interest/ability to offer evening, online or tied sections through continuing education for these senior level courses.</li><li>● As a result of the above, the use of course substitutions for core retail courses had become a norm to assist part-time students complete their requirements for graduation.</li><li>● Students completing the more established part-time degree in Business Management now have access to the Minor in Retail Management that wasn't available prior to the previous PPR and these Retail courses are available as online offerings.</li></ul>

**Objective:**

- Having already suspended new registrations in the part-time degree in Retail Management as of Fall 2017 and pending the outcome of this review, the formal discontinuation of this offering for new students is proposed to take effect in Fall 2021. Current students will continue to be supported on an individual basis toward the successful completion of their degree as they have been to date.

**Actions:**

- Approval of proposal to discontinue Part-Time degree offering in Summer 2020.
- Amendment to Ryerson Undergraduate Course Calendar to be submitted by October 2020 to become effective in Fall 2021.
- Update all online (Ryerson, TRSM, Chang School) references to the Part-Time degree with directions to the Part-time degree in business management and minor in retail.

**Timeline:**

- Approval of proposal in Summer 2020; commences Fall 2021

**Responsibility for leading initiative:** Program Director

**Responsibility for approving recommendation, providing resources and overall monitoring:** Faculty Dean

**Recommendation #3:** To focus RM program marketing messages on opportunities for internships, co-op, retail as a career (leveraging alumni, category management and sales professional certifications, advisory council, location, etc.) in relation to the RM curriculum.

**Rationale:**

- Student feedback suggests that internship/co-op opportunities and the unique nature of a degree specialized in retail are the most important factors for prospective applicants.
- While more active promotion of program scholarships was recommended in the previous program review, opportunities for financial aid appear to be a secondary concern for prospective students in attempting to identify the right program and may be more effectively highlighted later in the process of converting applicants to enrollments.

**Objective:**

- Overcoming misperceptions about retail careers have proven challenging for the industry as a whole and thus remains a priority for the RM degree program.
- The relevance of the degree and interest in specific retail careers once individuals are made aware of the opportunities (e.g., buying and merchandising, digital retailing, etc.) is illustrated in part through a high percentage of students who enroll in the RM program via direct entry (transfers from college programs) or working for a short period following high school.
- By developing consistent messaging that highlights the diversity of career possibilities and skills required for innovative retail initiatives, the school may better position the RM degree to improve conversion rates among new applicants and those considering a transfer from other university programs while also strengthening internal retention.

**Actions:**

- Develop a plan to highlight new retail alumni each year that match the interests stated by students and employer partners in annual surveys.
- Include focus on unique paths within the retail curriculum (i.e., buying, digital) and certifications (e.g., Professional Category Manager, Sales Professional).
- Explore the value of targeted marketing of a degree in retail beyond Ontario and opportunity to reach students considering a change in universities / programs.
- Increase focus on college diploma graduates for “direct entry” paths to the degree.
- Measure popularity of specific career roles/employer brands on social media/website.
- Survey students about top reasons for selecting the RM program and top forms of engagement they experienced prior to accepting their admission offer.

**Timeline:**

- Develop an initial plan in Summer 2020
- Content creation in July/August
- Begin activating content through online / print channels September through March
- Conduct new student and employer surveys in October
- Review annually in April the effectiveness of all content and plan for new examples to highlight in the following year.

**Responsibility for leading initiative:** Manager, Program Design.

**Responsibility for approving recommendation, providing resources and overall monitoring:** Program Director

**Recommendation #4:** Propose curriculum change from 45 to 40 credits while presenting suggested paths of study that align with career fields, special topics, or future graduate studies.

**Rationale:**

- Updating the curriculum to 40 total credits will better align with requirements by other programs in TRSM, increasing flexibility and choice for RM students.
- Informal pathways that may be mapped to the curriculum (examples include Buying & Merchandising, Digital Retail, and Sales Leadership as identified by students and employers).
  - a) Many prospective students consider the RM program due to career aspirations in buying;
  - b) Digital innovation is an area that may be of interest yet often overlooked by prospective students as being part of a retail degree;
  - c) Sales leadership is a growing area within TRSM, and can be a great way to enhance interdisciplinary orientation within this field.
- Within an ever-changing industry, retail job functions, titles and terminology evolve and must be monitored to ensure currency and alignment with curriculum.
- Current students may benefit from clearer suggestions about how courses relate to each other and to prospective career paths or Masters programs.
- The potential to explore and identify one formal area of concentration (e.g., digital retail, sales leadership) that complements the school’s reputation for buying and merchandising may better serve prospective, current and graduating students alike.

**Objective:**

- Propose a revised curriculum plan that reduces total credits from 45 to 40.
- Outline paths through the RM curriculum that relate to specific career interests. This may include special notation in the Undergraduate Course Calendar to show clusters of courses (e.g. RMG302, RMG400, RMG452, RMG806, RMG909, RMG916 for Buyers and Merchants)
- Explore the opportunity to develop pathways in a field of retail with growing student interest and employer demand.

**Actions:**

- Submit curriculum change proposal to TRSM Undergraduate Curriculum Committee.
- Review curriculum clusters and alignment to career paths during faculty meeting.
- Conduct iterative research with students, alumni, employers about these paths.
- Actively monitor course enrolments, student interests, and industry needs.
- In addition to the informal paths, identify the potential for one specific area of concentration within the retail degree.

**Timeline:**

- Review curriculum with Faculty in Spring 2020
- Present revised curriculum plan to UCC in Summer then TRSM Faculty Council in Fall 2020
- Prepare proposal for course calendar submission in October that includes informal paths.
- Further explore potential for one formal concentration in Winter 2021
- Present follow up report to ASC by June 30, 2021.

**Responsibility for leading initiative:** Program Director & Manager, Program Design & Academic Advisor

**Responsibility for approving recommendation, providing any resources made necessary by the recommendation, and overall monitoring of the implementation of the recommendation:** Faculty Dean

**Recommendation #5:** Explore opportunities for funding to support and sustain the ongoing integration of retail undergraduate students in faculty research projects on an annual basis.

**Rationale:**

- Faculty in the RM program have proven adept at guiding MScM students to successful completion of a research-based degree.
- The RM Academic Plan and NSSE survey suggests opportunities for integrating more undergraduate students in the research process.
- With select examples of grants being used to hire retail research assistants, this could be expanded if more consistent funding were available.

**Objective:**

- To identify internal funding within the RM program to support the ongoing integration of undergraduate students in research projects.
- Support Faculty in their pursuit for grants to open opportunities for Undergraduate-based research assistants.

<p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>● Conduct needs assessment among faculty of the type of research support that is most needed.</li> <li>● Align needs with potential for undergraduate students to provide relevant support.</li> <li>● Explore potential for internal funding of student research positions.</li> <li>● Develop process for faculty to apply / implement retail research projects.</li> <li>● Identify or create space/process for student researchers and research assistants to work on an on-going basis.</li> <li>● Invite select undergraduate students to the annual Retail Research Colloquium.</li> </ul>
<p><b>Timeline:</b></p> <ul style="list-style-type: none"> <li>● Needs assessment in faculty meetings Fall 2020.</li> <li>● Review internal accounts, potential sources of funding – Fall 2020.</li> <li>● Develop pilot project &amp; process for undergraduate research initiatives.</li> </ul>
<p><b>Responsibility for leading initiative:</b> Program Director</p>
<p><b>Responsibility for approving recommendation, providing resources and overall monitoring:</b> Faculty Dean</p>

**Recommendation**

Having satisfied itself of the merit of this periodic program review, the Academic Standards Committee recommends: *That Senate approve the Periodic Program Review for the School of Retail Management, Bachelor of Commerce Degree Program – Ted Rogers School of Management.*

**B. TED ROGERS SCHOOL OF RETAIL MANAGEMENT – Addition of ‘Honours’ to the Bachelor of Commerce – Retail Management Degree**

Upon completion of the recent Periodic Program Review for the Ted Rogers School of Retail Management, the School proposes to formally add the “Honours” designation to the degree awarded for a Bachelor of Commerce in Retail Management with corresponding updates to the Ryerson Undergraduate Program Calendar in the 2021/2022 academic year.

**Rationale:** The Honours designation typically helps to differentiate Bachelor’s degree programs that incorporate a higher level of achievement through the completion of a 4-year academic program rather than degrees that only require 3 years of study. While the Bachelor of Commerce in Retail Management has always been a 4-year program, it has previously not included this designation.

Based on information from the recent PPR self-study (i.e., mapping of LOs to courses/UDLES) each of the required Program Learning Outcomes has been mapped to appropriate Ontario Council of Academic Vice Presidents (OCAV) Undergraduate Degree Level Expectations for an Honours Bachelor's degree. This mapping was noted by the PPR External Review Team as follows:

“The program requirements and learning outcomes are clear, appropriate and align with the TRSM and Ontario Council of Academic Vice Presidents (OCAV) Undergraduate Degree Level Expectations for an Honours Bachelor's degree.”

- Dr. Patrali Chatterjee (Montclair State University) & Dr. Robert P. Jones (Texas Tech University)

The addition of the honours designation will help to better position graduates from the Retail Management program on equal footing to their peers who have completed 4-year degrees at other post-secondary institutions and as a point of differentiation from shorter college diploma programs.

## **Recommendation**

Having satisfied itself of the merit of this proposal, the Academic Standards Committee recommends: *That Senate approve the addition of “Honours” to the Bachelor of Commerce – Retail Management degree designation – Ted Rogers School of Management.*

## **C. FACULTY OF ENGINEERING AND ARCHITECTURAL SCIENCE – Universities of Canada-Egypt Curriculum proposal**

**Background** - Anticipating Ryerson’s forthcoming 2020-2025 Academic Plan, the Faculty of Engineering and Architectural Science (FEAS) has embarked on an ambitious opportunity to immediately demonstrate Ryerson’s Global Leadership and the goal of expanded Internationalization. Working with respected and trusted partners within the Middle East and North African (MENA) region, FEAS is proposing a bold initiative that would firmly establish Ryerson and FEAS experientially learning-based academic programming in engineering which is in high demand in the MENA educational market. As an anchor partner within the Universities of Canada in Egypt (UCE) campus, in the new administrative capital in New Cairo, FEAS has been invited to provide a unique experiential learning educational experience.

In 2018, the Egyptian Government ratified a new educational model that allows universities such as UCE to host key Canadian partner universities, with each Institution providing its own unique area of expertise. UCE provides the campus facilities and infrastructure, marketing and student recruitment, health, wellbeing, and student services under the guidance and direction of Canadian norms and standards, while the University partners themselves maintain total academic control of their respective program offerings, policies, and norms. Essentially allowing MENA students to work towards the completion and awarding of a Canadian degree within Egypt.

The University of Prince Edward Island has been the first Canadian partner to establish itself on the UCE campus, offering undergraduate degrees in Business, Computer Science, Sustainable Engineering and a Master’s in Business Administration. Entering into UCE’s second year of operation, student enrollment already exceeds 1,000 undergraduate and graduate students. The addition of Ryerson’s Faculty of Communication and Design (FCAD), which was approved by Senate in April 2020, and FEAS, as outlined in this proposal, will allow for unique suite programming for Egyptian and MENA students. As such, student enrollment is targeted to quadruple in the next several years.

Accordingly, FEAS proposes to pursue a formal partnership with UCE in order to offer the following programs commencing in the Fall 2021 term, both of which have been identified as immediate growth areas within the MENA and specifically Egyptian educational market:

- (1) FEAS, Department of Civil Engineering, BEng in Civil Engineering,
  - (2) FEAS, Department of Electrical, Computer and Biomedical Engineering, BEng in Electrical Engineering
- Subsequent exploration of the possibility of programs offered through the Department of Mechanical and Industrial Engineering, again based on current student interest and need, would be conducted once the first two programs are established.

There are no proposed changes to the structure or the mode of delivery of the curriculum of the selected programs. This proposal only requests that the same program offerings be allowed to be offered in partnership with UCE and their logistical infrastructure, in Egypt. Faculty members hired in Cairo will build course material within the defined course sequence and structure, following Ryerson Engineering course outlines and Canadian Engineering Accreditation Board (CEAB) materials.

Delivery of programs and courses will run 13 weeks per semester, with new academic cohorts starting in September of every year. Semesters will include Fall, Winter and Spring/Summer. Start dates and holidays will vary from the Canadian calendar due to variance in Egyptian secular and religious holidays. However, all efforts will be made to closely align Canadian and Egyptian student and operational calendars.

In the combined FEAS @ UCE first year cohort, it is anticipated that Civil and Electrical Engineering will each have 50 students (100 students).

Academic governance, including applicable Senate Policies (see Appendix E), will remain vested to Ryerson through existing decanal structures. This will include establishing and empowering localized committees lead by the FEAS @ UCE Associate Dean/Executive Director as well as Civil and Electrical Engineering Program Directors to form when required and under the guidance of Ryerson FEAS's relevant program Chairs and Dean. Further, committees would liaise with pertinent Ryerson offices (e.g. the Office of Academic Integrity) to ensure a fully harmonized application of policies for Cairo-based students. All efforts will be made to ensure a fair, open and equitable process within Egypt, designed to mirror student experiences at Ryerson in Canada. After the proposal is approved and implemented, opportunities to engage students and student groups between the two campuses will be identified and implemented.

All classes will be taught in English and as per UCE Admissions policy, all students will require an overall IELTS Score of 6.5, or a TOEFL Score of 80+ which mirrors Ryerson's own English Proficiency requirements. Any adjustments to Ryerson's admission criteria/thresholds in Canada would be simultaneously adjusted for admission to study in Cairo.

**Effect on the Undergraduate Degree Level Expectations (UDLEs) and program learning outcomes** - There are no anticipated effects on UDLEs or program learning outcomes.

**Changes that are the result of a previous periodic program review** - The proposed changes were not generated through previous periodic program review (PPR) exercises. For future periodic program reviews, the Cairo offered programs will incorporate all program adjustments articulated through the Toronto-led PPR process, and these adjustments will be governed by the established processes and governance of the Toronto programs.

**Additional resources needed** - The partnership agreement will entrench clear obligations on the part of UCE in their campus development to ensure the requisite physical plant and equipment infrastructure. These expected resources include Civil and Electrical Engineering labs and information technology infrastructure. Additional support systems will include library resources (both physical and digital as well as staffing), student services, cafeteria and student government, which will be shared among the UCE Canadian University partners, such as FCAD and UPEI. The requisite partnership agreement would also outline the requirements for ongoing investment in the maintenance, updating and evolution of infrastructural support required to align with study conditions at Ryerson in Toronto.

With respect to faculty and staff required for managing programming on the UCE campus, all faculty and staff will be recruited at the discretion of hiring committees as designated under the authority of the pertinent Ryerson Dean and actioned by local and Toronto based Departmental Hiring Committees (see Appendix D). Ryerson will retain full control of both the faculty and staff profiles sought and will have authority for all hiring decisions. As per UCE hiring policy, all faculty and staff will be employed on a contract basis under Egyptian Law. There are no tenure-stream or tenured positions.

An Associate Dean/Executive Director (ED), with support from the FEAS Facilities Manager (FM), will manage the daily academic and operational needs of the programs, facilities, and partnerships (see Appendix C). The Associate Dean/ED will report directly to the Dean of FEAS in Canada and the Chairs of Civil Engineering and Electrical, Computer and Biomedical Engineering will provide consultative support to the Associate Dean/ED with respect to academic and operational management of their program offerings at FEAS @ UCE. Program Directors will coordinate the Teaching Faculty and Teaching Assistants and will also coordinate with the Chairs of Civil Engineering as well as Electrical, Computer and Biomedical Engineering, alongside the Associate Dean/ED, on the delivery of the academic programming. The facility, workshop/lab, IT Network, and administrative staff will be managed by the FEAS Facilities Manager.

As requested by our partners, a desired level of 50% or more of the faculty and staff are to be Canadian Citizens. Initial projected faculty and staff will be a complement of 15-20 Canadians, with additional increases as required. A faculty to student ratio will be negotiated with UCE as part of the future partnership agreement.

Recruitment of highly qualified educators and professionals for placement within Egypt will require specific targeting of PhD degree holding and Canadian PEng designated instructors. As with any potential international teaching assignment, these candidates will need to possess a desire to work internationally, seeking the challenges and rewards of being within a culture with which they may not be familiar.

There is no intent to acquire Lecturers from existing RFA Faculty, or Staff from existing full time Ryerson staffing positions, however if RFA or Staff express a desire to partake in short-term or limited roles within FEAS @ UCE, FEAS will address those opportunities on a case-by-case basis and within the Ryerson HR policy and procedures that allow for leave of absence or RFA member sabbaticals.

**Comparison of the existing curriculum with the curriculum of the proposed program** - There will be no changes to the core curriculum or program sequencing. However, the intent is to provide an abbreviated roster of offerings in the list of current popular liberal studies electives regularly taken by FEAS students (see, by example, Appendix A). If the partnership were to proceed an element of the planning will be to coordinate with the University Planning Office (UPO) on the balance of electives to be offered to optimize student experience with the efficiency of implementation.

**Rationale for changes to electives, including availability of electives** - Pending the outcome of this process, FEAS would design a streamlined suite of Ryerson liberal studies electives from selected Table A/B courses. Each of the programs under consideration of this proposal require a total of four liberal studies courses to be completed (in each case two Table A and two Table B).

As part of the detailed planning process, FEAS, working with FCAD, would seek consultation with additional Faculties (most notably the Faculty of Arts) in order to identify liberal studies offerings that could be included for consideration in Egypt. This would be guided by the observed top enrolments of current FEAS students at Ryerson. For example, a list of potential courses which are consistently taken by FEAS students is provided in Appendix A. This list of Table A/B liberal studies electives reflects courses typically taken by FEAS students. Where additional course offerings are identified that would involve an additional Ryerson Faculty, the associated DHC structure would adjust to include representation by the pertinent Faculty (which would be negotiated by the relevant Deans if and when agreement on course offerings would be determined). It is worthwhile to mention that FCAD currently houses 11 liberal studies courses.

Additionally, there is an opportunity in the future to share electives between other partner institutions at the UCE Campus, such as UPEI. In such a case, a bilateral credit transfer agreement would be established between Ryerson and the partner institution with course equivalencies assessed by the pertinent School.

\*Please note that in the first year of program offerings at FEAS @UCE, Civil and Electrical Engineering require only one lower level liberal studies elective.\*

**Description of each new or amended course, in calendar format** - There are no new or amended course requirements. All courses offered at FEAS @UCE will mirror exactly those courses offered at Ryerson in Canada.

**Program balance** - The program balance between core, open electives and liberal studies would remain the same as they are currently offered.

**Timing, implementation and the strategy for communicating to students** - No changes will be experienced by students already enrolled, save for the possibility of future optional global learning experiences.

Should this partnership model be approved, the opportunity for applying to earn a Ryerson degree in Egypt would be communicated to prospective students pre-application such that all details would be understood prior to enrollment (i.e. students offered admission to a putative Egypt-based offering would have applied with comprehensive detail as to the nature of this program relative to the Toronto-based offering).

**Implications for external recognition and/or professional accreditation** - Civil and Electrical Engineering programs are accredited by the Canadian Engineering Accreditation Board (CEAB). CEAB's accreditation criteria are grouped in five main areas:

- (1) Graduate Attributes (Learning Outcomes): There are no proposed changes to the curriculum and delivery of the selected programs. Therefore, there are no changes to the curriculum maps, indicators, and assessment tools of the selected programs. The organization and engagement processes will mirror that of the Toronto campus.
- (2) Continual Improvement: The continual improvement and engagement processes will mirror that of the Toronto campus.
- (3) Students: The admission, promotion, and graduation processes are the same as that of Toronto campus. Academic advising will mirror that of the Toronto campus.
- (4) Curriculum Content: There are no proposed changes to the curriculum and delivery.
- (5) Program Environment: The partners are committed to provide a program environment which mirrors that of the Toronto campus, including faculty and staff resources, professional (PEng) status of faculty members, laboratories, library, information technology infrastructure, and student counselling and guidance.

**View of the Program Advisory Council** - There are no new or amended course requirements. As such, this proposal has yet to be tabled at a meeting of the Program Advisory Councils (PAC) for the proposed Egypt offerings. If this committee recommends proceeding with the partnership discussion, the opportunity will be raised with the PACs for consideration at the next scheduled meeting of the Department of Civil Engineering and Department of Electrical, Computer and Biomedical Engineering respectively.

**Other programs affected by the changes** - Civil and Electrical Engineering programs have a number of core courses (mathematics, physics, chemistry, and computer science) offered by the Faculty of Science (FOS), one core course (engineering economics) by the Faculty of Arts (FOA), and one core course (professional communication) by FCAD. No other programs will be affected by this request. With regards to the core courses offered by FOS, FOA, and FCAD, and similar to our approach with liberal studies elective offerings, FEAS would

work with FOS, FOA, and FCAD to strike an adaptive DHC locally to support the offering of these required courses. Locally recruited faculty members would report to the FEAS leadership in place. A process for quality control and management of the courses will be developed jointly by FEAS and FOS, FOA, and FCAD. Pending approval and successful implementation of programs detailed in this proposal, Ryerson may consider future programs also being submitted to this committee for consideration.

**Appendix A:**

Sample list of popular table A/B courses taken by Engineering students in Fall 2018 and Winter 2019, intended as a guide in determining which potential electives to offer in Egypt when moving forward.

<b>Table A – Lower Level Liberal Studies Courses</b>	<b>Table B – Upper Level Liberal Studies Courses</b>
CRM 101 Understanding Crime in Canadian Society	ECN 722 The Economics of Sports
ECN 110 The Economy and Society	ENG 503 Science Fiction*
GEO 106 Geography of Everyday Life	GEO 702 Technology and the Contemporary Environment*
GEO 110 The Physical Environment	GEO 793 The Geography of Toronto
PHL 214 Critical Thinking I	HST 701 Scientific Technology and Modern Society*
POL 128 Politics and Film	PHL 709 Region, Science and Philosophy*
POL 203 Politics of the Environment	POL 507 Power, Change and Technology*
PSY 105 Perspectives in Psychology	SOC 808 Sociology of Food and Eating
SOC 103 How Society Works	*Impact of technology and/or engineering on society electives
SOC 202 Popular Culture	

**Sample list of Faculty of Communication and Design (FCAD) Table A/B courses available**

**FCAD Table A Lower Level Liberal Studies Courses**

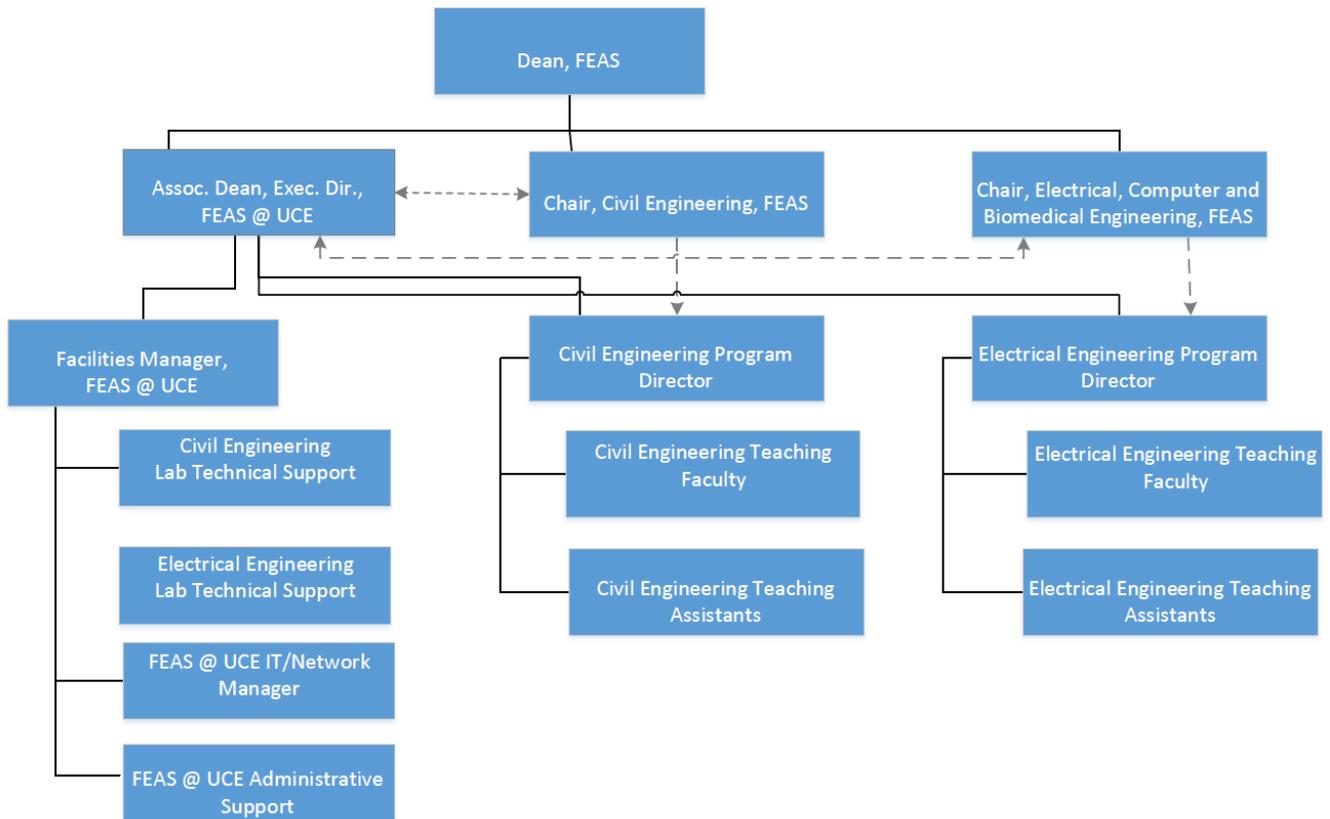
- IRL 100 Intro to World Art I: Pictorial Arts
- IRL 200 Introduction to World Textile History
- NPF 188 From Page to Screen
- RTA 180 Music and Film
- RTA 406 Chinese Instrumental Music
- RTA 441 Music of India
- RTA 474 Gospel Music: Songs for the Spirit
- RTA 484 Music of the African Diaspora
- THL 100 Theatre and the Canadian Identity

**FCAD Table B Upper Level Liberal Studies Courses**

- IRL 500 Modern and Contemporary Art, Design
- RTA 530 Chinese Music

**Appendix B:**

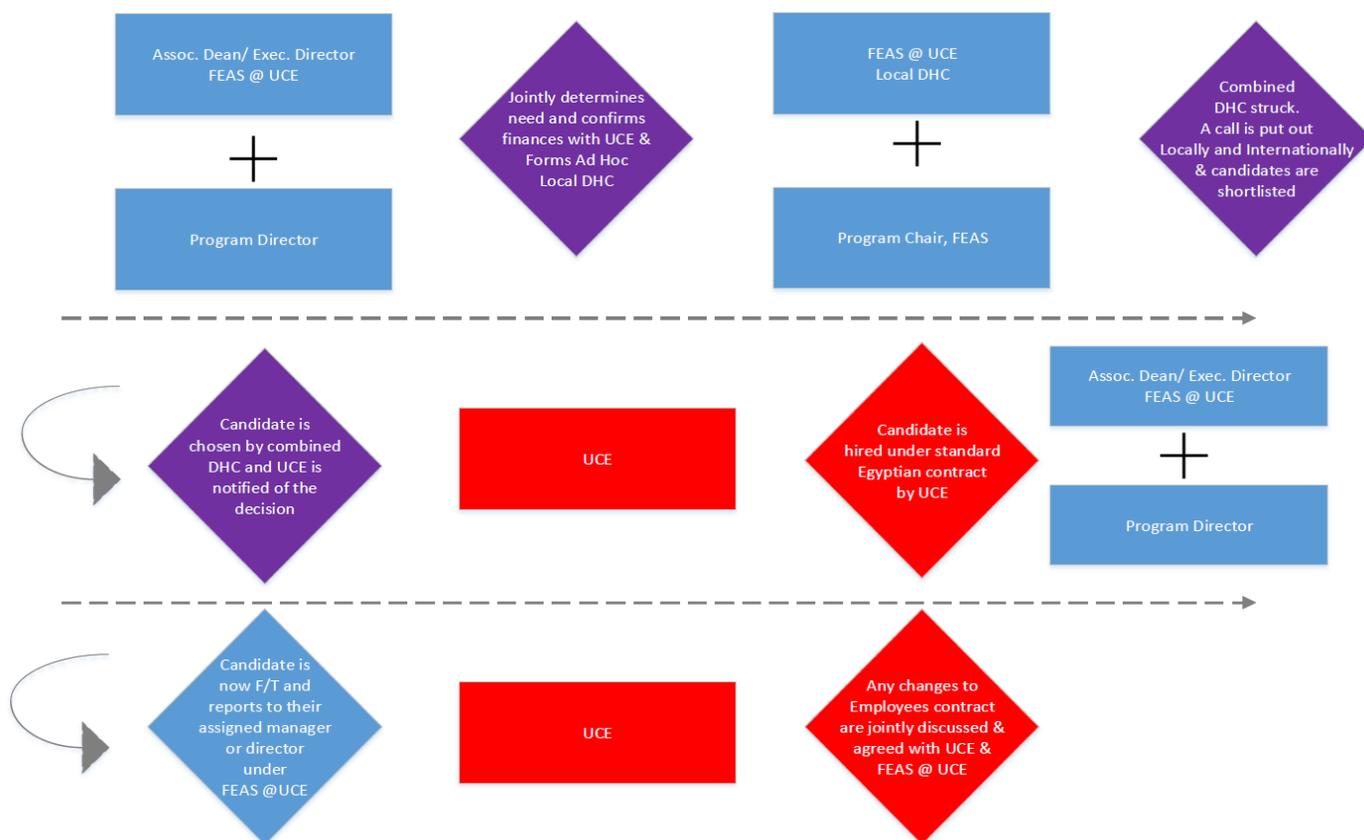
## Proposed Operational Reporting Structure for FEAS @ UCE



- Operational direction at the local level will fall under the direction of the Associate Dean/Executive Director in accordance with Ryerson Senate Policies, the direction of the Dean of FEAS with guidance from Ryerson University FEAS Program Chairs.
- All academic programmatic authority still resides with the Ryerson University FEAS Program Chairs whose programs are being offered at FEAS @ UCE and the Dean of FEAS in accordance with Ryerson Senate Policies.
- For each program offered, a Program Director will coordinate daily operational and academic needs for the Teaching Faculty and Teaching Assistants.
- The Facilities Manager will manage staff associated with the operational coordination of the facilities, specialized labs, IT networks and administration.

### Appendix C:

## Proposed Faculty & Specialized Staff Hiring Process for FEAS @ UCE



- There is a direct UCE request that more than 50% of the staff and faculty are Canadian Citizens.
- Please note that faculty hired for FEAS @ UCE will be non-tenured, teaching stream, contract employees.
- Ryerson FEAS and associated programs will have full control over candidate selection.
- All candidates and their selection and hiring processes will be subject to Ryerson’s hiring policies and procedures.
- Ad hoc joint local and Ryerson DHCs will be formed when required to review and select candidates. When a candidate is selected, they will be put forward, along with a suggested hiring remuneration level, to UCE for final contract negotiations. When there is a contract agreement, the employee will then be managed operationally by FEAS @ UCE.
- All employees will be subject to local cultural norms and values as well as Egyptian Employment Law.

### Appendix D:

Ryerson Policies Applicable to UCE Egypt Partnership		
Policy #	Title	Notes
1	<u>Admission to Undergraduate Programs</u>	Egyptian students would fall under Section 3.0
45	<u>Governance Councils</u>	Department/School Councils (D/SCs) and Undergraduate Program Councils (UPCs) will be based on local norms. Chairs of FEAS @ UCE local councils will sit as members within D/SCs and UPCs of FEAS proper in Toronto.
46	<u>Policy on Undergraduate Grading, Promotion, and Academic Standing ("GPA Policy")</u>	Policy would remain the same

48	<u>Undergraduate Academic Term</u>	Policy in principle would remain the same. However local norms would change specifically around holiday/start times.
60	<u>Academic Integrity</u>	The Associate Dean/Executive Director will take on the role of Dean and the Program Director that of Chair locally. If no resolution is found then the situation is moved to the requisite FEAS Chair, then Dean, then Senate.
61	<u>Student Code of Non-academic Conduct</u>	The Associate Dean/Executive Director will take on the role of Dean and the Program Director that of Chair locally. If no resolution is found then the situation is moved to the requisite FEAS Chair, then Dean, then Senate.
96	<u>Approval of Candidates for Degrees, Diplomas and Certificates</u>	Policy would remain the same.
110, 112, 126, 127	IQAP Policy – Institutional Quality Assurance Process; Development of New Graduate and Undergraduate Programs; Periodic Program Review of Graduate and Undergraduate Programs; and Curriculum Modifications: Graduate and Undergraduate Programs	Policies would remain the same. Upcoming program reviews would include the program at the UCE campus.
134	<u>Undergraduate Academic Consideration and Appeals</u>	The Associate Dean/Executive Director will take on the role of Dean and the Program Director that of Chair locally. If no resolution is found then the situation is moved to the requisite FEAS Chair, then Dean, then Senate.
135	<u>Final Examinations</u>	Policy would remain the same.
150	<u>Accommodation of Student Religious, Aboriginal and Spiritual Observance</u>	The Associate Dean/Executive Director will take on the role of Dean and the Program Director that of Chair locally. If no resolution is found then the situation is moved to the requisite FEAS Chair, then Dean, then Senate.
159	<u>Academic Accommodation of Students with Disabilities</u>	A member of the FEAS @ UCE staff will receive proper training from the Academic Accommodation Support Department in order to provide localized accommodation approvals. Local norms will dictate that AODA requirements when not represented within Egyptian policy/law will then be adopted to support similar consideration with students in Ontario.
162	<u>Grade Reassessment and Grade Recalculation Policy</u>	The Associate Dean/Executive Director will take on the role of Dean and the Program Director that of Chair locally. If no resolution is found then the situation is moved to the requisite FEAS Chair, then Dean, then Senate.
166	<u>Course Management Policy</u>	Policy would remain the same

- In all cases, the policies as stated, with exception to local cultural norms and customs dealt with on a case-by-case basis, would remain and be exercised in the same manner as they would in Canada. An example of local cultural norms is the display of affection between non-family members within the public, such as hand holding or kissing. No matter your sexual orientation, religious denomination, or even your marriage status, outward signs of affection are considered taboo.
- The Dean of FEAS would assign the FEAS @ UCE Associate Dean/Executive Director as their proxy for all policy issues in Egypt with the exception of Senate Appeal Committee (SAC) specific cases.
- The FEAS Program Chairs would assign the FEAS Program Directors as their proxy for all policy issues in Egypt with the exception of escalation of specific cases.
- For Senate Policy 159, an FEAS @ UCE staff member(s) will require training and certification from the Ryerson Academic Accommodations Support Department to perform these services locally. However all existing Ryerson systems will be used by FEAS @ UCE students.

### Recommendation

Having satisfied itself of the merit of this proposal, the Academic Standards Committee recommends: *That Senate approve the Universities of Canada-Egypt Curriculum proposal – Faculty of Engineering and Architectural Science.*

### D. FACULTY OF SCIENCE – Changes to co-operative education work term requirements

**Introduction and Rationale:** The Faculty of Science wishes to reduce the work term (WKT) requirements across its Biology, Biomedical Science, Financial Mathematics, Mathematicss & Its Applications and Medical Physics programs, effective Fall 2021. The change would bring the programs in line with both Chemistry, and

comparator programs across the province. The proposed reduction will not impact curriculum or timetables, as students will continue to have 5 options within the course calendar in which to take a Co-op WKT.

Prompted by an average of 30% of student withdrawals from Co-op in 18/19, the WKT reduction is expected to encourage more students to consider Co-op as a valuable option, and will enable the impacted programs to continue to grow the Co-op programs, make the Co-op experience more inclusive for future students, and heighten the ability to attract the best students in comparison to other Ontario universities with Co-op programs in the Sciences.

This proposal brings its Faculty of Science counterparts in line with Chemistry's present Co-op framework, with the exception of Computer Science. In Computer Science, the industry has a common preference for offering Co-op placements which run for 12 to 16 months, in contrast to other FoS programs, where 4 to 8 month placements are the norm. Changing the requirement from 4 to 3 work terms, would both negatively impact the quantity and calibre of Co-op placements offered, as well as students' abilities to accept these roles. Due to a combination of student and labour market demand in the sector, it is advisable for Computer Science students to continue on a 4 WKT requirement.

Chemistry moved seven years ago from a 4 WKT requirement to 3 WKT, having identified all of the reasons listed below as acting as a detriment to student completion. Today, Chemistry has felt no negative impact on its employer relationships as a result of the reduction in WKT offerings, and maintains a consistent graduation rate among its Co-op cohort.

A shorter length to graduation will improve the accessibility of Co-op across the Faculty, encouraging more students in the Faculty, many of whom are first generation and / or new to Canada, to utilize Co-op to get their foot in the employment door ahead of graduation, earning a salary while doing so.

With the Faculty expected to increase substantially its international student population over the coming three to five years, reducing the WKT requirement will also make the program more appealing to international students, many of whom wish to continue in Canada beyond their degree and are in critical need of Canadian work experience.

A reduced WKT requirement is expected to assist in reducing program attrition levels. Data from 18/19 Co-op program withdrawals, revealed that 80% of students leaving the program were doing so either because they wanted to graduate in a closer timeline to peers, or had lost interest in pursuing a Co-op offering, due to the perceived lengthy completion time.

The proposed WKT reduction means no change to any program's course calendar, as options to complete a fourth, or even fifth WKT remain. Chemistry retained its fourth and fifth WKT options, thereby ensuring further access to students. Retaining these options, enables students to still be on track, should unforeseen circumstances prevent them from completing a WKT at the first calendar opportunity. Further, students are able to pursue more than the minimum three WKT, should they wish to do so. All Departments confirm that students able to complete 3 WKT early in their program, will be able to complete their academic program in a timely manner by taking classes during the extra work term semesters.

With the largest proportion of students pursuing a graduate degree of any Faculty (Graduate Destinations Survey, Class of 2018, 2019), reducing the number of WKT to complete Co-op, acknowledges that many students are choosing further study ahead of moving into the labour market, and therefore, can still be encouraged to gain industry exposure to inform their graduate path, in a more digestible format.

Moving to a 3 WKT model is in line with CEWIL, the national Co-operative education body’s guidelines, which mandate a minimum of 3 WKT’s be completed in order for Co-op to appear on a student’s transcript and diploma.

**Program Description Summary:** Ryerson’s Faculty of Science is the only one in the country to offer Co-op across all programs. Moving to a 3 WKT format, will give the Faculty a further advantage in attracting prospective students to make the Faculty’s programs their first choice.

Students alternate 4-month work terms with academic study. However, students are able to undertake longer, 8-month work terms. In certain sectors, such as in Biomedical Science, Financial Maths, and Maths & Its Applications, there has been a greater interest among employers for students to undertake all three WKT as a 12-month work term.

Students apply following their first year of study and admission is competitive, dependent on CGPA standards being met, which vary according to the program. Prior to commencing their first WKT, all students must complete a D2L course that introduces them to initial concepts of Co-op and a creation of a standard resume. They must also attend a mandatory full day Symposium, run by the Faculty’s Co-op team, as part of preparing them for the job search. Depending on the program, students also attend mandated preparation sessions run by their Co-op Program Specialist (CPS), to best set them up for success on their Co-op work term. To receive an academic credit for their WKT, students must submit a WKT report, marked as pass/fail, to their Co-op Faculty Advisor, together with an employer evaluation.

**Enrolment & Enrolment Projections:** Currently, there are 1,777 students enrolled across the four programs subject to this proposal, with 115 enrolled in Co-op. There is an increasing appetite among prospective students to select programs based on a Co-op offering, combined with a thriving labour market in particular sectors (Financial Maths, Maths and Its Applications). For all programs related to this proposal, the Co-op team is consistently advertising more jobs than students (on average 3 job postings to 1 student, to as high as 12 postings per Co-op student in Maths & Its Applications). In lowering the WKT threshold, the programs will increase their appeal to students, and enable the Co-op offering to focus on sustained, multi-year growth and deepening employer relationships.

**Table 1: Overview of projected Co-op growth** based on labour market insight and eligible student populations:

PROGRAM	19/20 Program Class Size	2019/20 Co-op Class Size as of April 2020 # (%)	2020/21 TARGETS Co-op Class Size # (%)	2021/22 TARGETS Co-op Class Size # (%)	2022/23 TARGETS Co-op Class Size # (%)
Biology	613	16 (3%)	18 (3%)	21 (3%)	24 (4%)
Biomedical Science	630	48 (7%)	60 (10%)	75 (12%)	85 (13%)
Financial Math	177	25 (14%)	35 (20%)	50 (28%)	60 (34%)
Math and its Applications	134	12 (9%)	20 (15%)	30 (22%)	40 (30%)

<b>Medical Physics</b>	223	14 (6%)	17 (8%)	20 (9%)	23 (10%)
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N.B.: All future growth estimates are conservative and can be reconsidered to ensure expansion is in line with Faculty ambitions.

**Current Co-op Calendar - Impacted Programs:** Please note that Medical Physics has historically provided students with three calendar options, all of which are outlined below.

<b>Biology, Biomedical Science, Financial Math, Math and Its Applications, Medical Physics</b>	<b>Fall Term</b>	<b>Winter Term</b>	<b>Spring/Summer Term</b>
<b>Year 1</b>	1st Semester	2nd Semester	Off
<b>Year 2</b>	3rd Semester	4th Semester	<b>WKT 1-405</b>
<b>Year 3</b>	5th Semester	<b>WKT 2-505</b>	<b>WKT 3 -506</b>
<b>Year 4</b>	<b>WKT 4 - 605</b>	6th Semester	<b>WKT 5 - 606</b>
<b>Year 5</b>	7th Semester	8th Semester	

<b>Medical Physics Option 2</b>	<b>Fall Term</b>	<b>Winter Term</b>	<b>Spring/Summer Term</b>
<b>Year 1</b>	1st Semester	2nd Semester	Off
<b>Year 2</b>	3rd Semester	4th Semester	<b>WKT 1-405</b>
<b>Year 3</b>	5th Semester	6th Semester	<b>WKT 2 -505</b>
<b>Year 4</b>	<b>WKT 3 - 505</b>	<b>WKT 4 - 605</b>	<b>WKT 5 - 606</b>
<b>Year 5</b>	7th Semester	8th Semester	

<b>Medical Physics Option 3</b>	<b>Fall Term</b>	<b>Winter Term</b>	<b>Spring/Summer Term</b>
<b>Year 1</b>	1st Semester	2nd Semester	Off
<b>Year 2</b>	3rd Semester	4th Semester	<b>WKT 1-405</b>
<b>Year 3</b>	5th Semester	6th Semester	<b>WKT 2 -505</b>
<b>Year 4</b>	7th Semester	<b>WKT 3 - 506</b>	<b>WKT 4 - 605</b>
<b>Year 5</b>	<b>WKT 5 - 606</b>	8th Semester	

**Amended Co-op Calendar:** Under the amended Co-op calendar, with only 3 work terms now required, students would be able to return to semester 6 study in the Fall of their 4th year<sup>1</sup>. As with Chemistry, there is no change to the course calendar sequencing. Students are now able to already complete Co-op by the Summer ahead of Year 4. For those who, due to individual circumstances, or a particular employer offer, need to delay the final work term, WKT's 4 and 5 remain on the calendar as optional times to complete their Co-op requirements.

As with Chemistry, what appears in the calendar is a recommended 'suggested' pattern for students to follow. A key factor in Co-op is that job offers can range from 4 month to 16 month contracts, and all parties historically work with students to ensure they are able to accept the job offer best for them, and integrate this into their academic calendar. It's also important to bear in mind that Co-op students are on a different study track to their peers, and hence are always 'out of sync' with those choosing a purely academic path.

<b>Biology, Biomedical Science, Financial Math, Math and Its Applications, Medical Physics</b>	<b>Fall Term</b>	<b>Winter Term</b>	<b>Spring/Summer Term</b>
<b>Year 1</b>	1st Semester	2nd Semester	Off
<b>Year 2</b>	3rd Semester	4th Semester	<b>WKT 1-405</b>
<b>Year 3</b>	5th Semester	<b>WKT 2-505</b>	<b>WKT 3-506</b>
<b>Year 4</b>	<b>6th Semester / (Optional) WKT 4-605</b>	6th Semester or 7th Semester	<b>WKT 5-606</b>
<b>Year 5</b>	7th Semester or 8th Semester	8th Semester or Completion of Credits	

<b>Medical Physics Option 2</b>	<b>Fall Term</b>	<b>Winter Term</b>	<b>Spring/Summer Term</b>
<b>Year 1</b>	1st Semester	2nd Semester	Off
<b>Year 2</b>	3rd Semester	4th Semester	<b>WKT 1-405</b>
<b>Year 3</b>	5th Semester	6th Semester	<b>WKT 2-505</b>
<b>Year 4</b>	<b>WKT 3 - 505</b>	<b>7th Semester / (Optional) WKT 4-605</b>	<b>WKT 5-606</b>
<b>Year 5</b>	7th Semester	8th Semester	

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<sup>1</sup> For Medical Physics, students will continue to have three calendars to select from, meaning that Semester 6 can take place in either in Year 4 in any of the Fall, Winter or Spring semesters.

Medical Physics Option 3	Fall Term	Winter Term	Spring/Summer Term
Year 1	1st Semester	2nd Semester	
Year 2	3rd Semester	4th Semester	WKT 1-405
Year 3	5th Semester	6th Semester	WKT 2-505
Year 4	7th Semester	WKT 3 - 506	WKT 4-605
Year 5	8th Semester / (Optional) WKT 5-606	8th Semester	

**Modifications to the Calendars:** Year 4 will now have two optional WKT in the Fall and Spring/Summer semesters (WKT 4 & 5) where students can do study terms or can undertake additional WKT if needed. Years 1, 2, 3 and 5 will remain unchanged for all programs except for:

**Medical Physics Option 3** - there will now be an optional WKT in year 4 Spring/Summer and Year 5 Fall (WKT 4 & 5) where students can either do study terms, or undertake an additional WKT if needed.

Departments reiterate that students completing 3 WKT on schedule, will not have their studies interrupted and will be able to complete their degree in a timely manner. Specifically:

**Biology:** The optional 4th WKT sits in the Year 4/Fall term. If students choose not to pursue Co-op in this semester and /or have already completed their 3 required work terms, students can continue their studies by taking professionally related courses and one liberal study (intended for semester 7). They would then complete semester 6 courses in Year 4/Winter, as scheduled, together with CMN 600 in this particular semester. Examples of courses available to students include: BLG600, BLG411, BLG402, BLG340

**Biomedical Science:** There is a single required course that students are meant to take during their 6th semester. This is substantially fewer required courses than were affected in the previous four-work term schedule. Co-op students can take this one course (BMS 650) in their 8th term (i.e. Winter term of their 4th year).

**Mathematics & Its Applications; Financial Mathematics:** With the exception of one required course in 6th semester (MTH 719), Co-op students can take all other required courses that they may not have taken in their 5th term (CMTH 501 and MTH 640) during their 7th term (i.e. Fall term of their 4th year). MTH 719 would be taken alternatively in a student's 4th or 8th term.

**Medical Physics:** Students are able to swap some courses between semesters, moving around liberal electives and PR courses. Suggested curriculum options exist for Co-op students to guarantee their graduation in a timely manner.

**Co-operative Education & Program Learning Outcomes:** The WKT requirement reduction will have no impact on students' achievements of the learning outcomes. CEWIL, the national body overseeing Co-op, mandates a minimum of three work terms only is required to ensure the student is able to gain a full experiential learning opportunity, bridging academic with professional experience. Overall, the Co-op student experience will continue to support those learning outcomes which focus on the following:

- The application of theoretical knowledge to practical and professional contexts;
- Communication of ideas to a range of audiences;

- Working collaboratively as part of a team and building working relationships.

**Additional Resources Required:** The Faculty of Science does not anticipate requiring additional faculty resources to accommodate the proposed change. There are no changes to the placement of the work terms to the current calendar, meaning the pathway for students remains the same throughout years 1, 2 and 3. In year 4 onwards, students will continue to have the ability to complete their degree on track within a 5 year period, as is the norm for those taking a Co-op route. Based on the seven years experience with a similar change for Chemistry, programs do not envision course offerings and / or teaching loads being negatively impacted, due to the ability for students to move through the existing curriculum on track to a timely completion.

This curriculum modification will lead to a reduction in resource requirements for Faculty Advisors and will enable Co-op to devote its resources to further expanding employer relationships and ensuring student growth and success. In anticipation of any growth that will result in Co-op enrollment as a result of the reduced work term requirements, the Faculty has recently agreed on a transfer of ownership to the Co-op team of steps related to Co-op application and approvals, to be effective from Summer 2020.

**Comparator Programs:** When evaluating the work term (WKT) requirements of comparator schools in Ontario, it is evident that the average requirement is the CEWIL minimum of 3 work terms. Only the University of Waterloo mandates 4 out of 5 WKT be completed.

**Communication of WKT changes:** We are requesting that the reduction to required WKT be effective from the 21/22 academic year, to allow a full academic year for Faculty and Co-op to communicate the updated requirements to current and prospective students. Co-op and the Faculty have a number of communication methods by which students and employers will be made aware of the change to WKT requirements:

- Student and employer emails via contact data from our Orbis and Salesforce platforms.
- Co-op Program Specialists who work closely with Co-op students and employers.
- Career & Co-op website, Program websites.
- Notifications during key Co-op events, including the annual Co-op Preparatory Symposium occurring annually in September.
- Notification during key events for prospective candidates / Co-op applicants, including: Co-op Discovery Session programs, Open Houses and Ontario Universities Fair.
- Faculty of Science Career & Co-op weekly e-newsletter to students.
- Email announcements and social media channels commonly used to reach students, including Career & Co-op's Facebook, Twitter, Instagram and LinkedIn groups.

**Implications for Current Co-op Students:** The modification to WKT requirements across the concerned programs is proposed to be made retroactive, thereby ensuring that students enrolled in their first year in 20/21 who are eligible to apply to Co-op as well as those currently enrolled in Co-op and have completed up to their first three work terms, would benefit from the WKT change. Therefore, students who have already completed three work terms would be informed that they have finished the required number and will be on track to graduate with Co-op listed on their transcript and on their degree. For students who have only completed two WKT's, Co-op Program Specialists will inform them that they now have three options to complete the final WKT (where WKT's 3, 4 and 5 will continue to sit in the program calendar).

### **Recommendation**

Having satisfied itself of the merit of this proposal, the Academic Standards Committee recommends: *That Senate approve the changes to co-operative education work term requirements in Biology, Biomedical Sciences, Financial Mathematics, Medical Physics, and Mathematics and its Applications – Faculty of Science.*

**E. For Information: CHANG SCHOOL CERTIFICATES - REVISIONS (March/April 2020)**

- i. Certificate in Social Sciences and Humanities Foundations: Course additions – Elective
- ii. Certificate in Strategic Marketing: Course Addition - Elective
- iii. Certificate in Lighting Design: Course Deletions and Additions - Required

Respectfully Submitted,

Kelly MacKay, Chair for the Committee

ASC Members:

Charmaine Hack, Registrar

Donna Bell, Secretary of Senate

Kelly MacKay, Chair and Vice-Provost Academic

Anita Jack-Davies, Office of the Vice President, Equity and Community Inclusion

Bettina West, Director, Curriculum Quality Assurance

Ann Marie Singh, Faculty of Arts, Criminology

Dale Smith, Faculty of Arts, English

Gavin Adamson, Faculty of Communication and Design, Journalism

Robert Clapperton, Faculty of Communication and Design, Professional Communication

Thomas Tenkate, Faculty of Community Services, Occupational & Public Health

Ian Young, Faculty of Community Services, Occupational & Public Health

Jurij Leshchyshyn, Faculty of Engineering & Architectural Science, Architectural Science

Donatus Oguamanam, Faculty of Engineering & Architectural Science, Mechanical & Industrial Engineering

Miranda Kirby, Faculty of Science, Physics

Farid Shirazi, Ted Rogers School of Management, Information Technology Management

Mary Han, Ted Rogers School of Management, Entrepreneurship and Strategy

May Yan, Library

Linda Koechli, Chang School of Continuing Education

Dalia Hanna, Chang School of Continuing Education

Jacob Circo, Student

Karlee Reece, Student