FOR APPROVAL

TO: Arts & Science Council

SPONSOR: Dwayne Benjamin, Vice-Dean, Graduate Education

CONTACT INFO: vicedeangraduate.artsci@utoronto.ca

DATE: April 8, 2020 for April 15, 2020

AGENDA ITEM: 4

ITEM OF BUSINESS:
Major Modification – Proposed Change to the Program Length of the Master of Science in Cell & Systems Biology

JURISDICTIONAL INFORMATION:
The Arts & Science Council has delegated authority to approve modifications to existing degree programs that are defined in the University of Toronto Quality Assurance Process (UTQAP) as major modifications, such as changing the length of a degree program.

GOVERNANCE PATH:
1. Graduate Curriculum Committee – March 9, 2020 (for approval)
2. Arts & Science Council – April 15, 2020 (final approval)
3. Office of the Vice-Provost, Academic Programs (for information), in turn reported to the Committee on Academic Policy & Programs (for information) – May 6, 2020

The Office of the Vice-Provost, Academic Programs will also report this major modification to the Ontario Universities Council on Quality Assurance in the summer of 2020.

HIGHLIGHTS:

The Department of Cell & Systems Biology proposes to amend the minimum program length of the Master’s program from six sessions to four sessions, to more accurately reflect the minimum length of time that it takes students to complete the program.

While the official program length of the MSc as reflected in the SGS calendar is 6 sessions full-time, many students complete the program requirements within 16 months. The program learning outcomes (one half course, completion of a seminar series, a research thesis and the public presentation of the thesis research) are achievable within 16 months, and thus will not be changing. Students are supported to complete the program in this period of time through established timelines for completing coursework and developing a thesis plan. In recognition of the varied and unpredictable timelines of
lab-based science research, the reduced minimum program length will not alter the academic and financial support that the department offers to students whose M.Sc. studies continue beyond a fourth session.

This proposal has been developed in consultation with the Office of the Vice-Provost, Academic Programs.

**MOTION:**

a) THAT the change to the program length of the Master of Science in Cell & Systems Biology, described in the attached proposal dated March 9, 2020, be approved effective for the academic year 2020-21.
University of Toronto

Major Modification Proposal:

Significant Modifications to Existing Graduate and Undergraduate Programs

This template should be used to bring forward all proposals for major modifications to existing graduate and undergraduate programs for governance approval under the University of Toronto’s Quality Assurance Process.

<table>
<thead>
<tr>
<th>Program being modified:</th>
<th>MSc in Cell Systems Biology</th>
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</thead>
<tbody>
<tr>
<td>Please specify exactly what program and which components of that are being modified; e.g., BA...specialist, major and minor components.</td>
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<tr>
<td>Proposed major modification:</td>
<td>Change to program length from 6 to 4 sessions</td>
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<tr>
<td>Department/unit (if applicable):</td>
<td>Cell and Systems Biology (CSB)</td>
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<tr>
<td>Faculty/academic division:</td>
<td>Arts and Science</td>
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<tr>
<td>Dean's office contact:</td>
<td>Sharon Kelly</td>
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<tr>
<td>Proponent:</td>
<td>Cell and Systems Biology Graduate Committee</td>
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<tr>
<td>Version date:</td>
<td>March 9, 2020</td>
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<tr>
<td>Please change as you edit this proposal.</td>
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</tbody>
</table>

1 Summary

- Please provide a brief summary of the change(s) being proposed as it relates to the current structure of the program.

We propose to change the minimum program length of the CSB Masters program as published in the SGS calendar from 6 sessions (24 months) to 4 sessions (16 months).

In the Fall of 2018 SGS began correcting an error in assessing the Balance of Degree fee for students in some graduate units, including CSB. The Balance of Degree fee is charged when, at the conclusion of their program, a student has paid less than the minimum degree fee, which is based on the full-time program length and is the minimum amount of tuition that every student must have paid upon completion of the program prior to graduation. As a result, a number of CSB MSc students who completed their degree prior to the 24 month minimum program length were unexpectedly charged a Balance of Degree fee. We seek, then, to amend our approved program length to more accurately reflect minimum MSc program completion times within the department.
2 Effective Date

September 2020

3 Academic Rationale

- What are the academic reasons for the change proposed, and how do they fit with the unit’s and division’s academic plans?

Although the official program length of the MSc as reflected in the SGS calendar is 6 sessions full-time, many students complete the program requirements within 16 months (4 sessions), which aligns with the length of time required to efficiently provide a valued thesis degree. Other students require up to 24 months to complete the degree requirements. Such variations are not unexpected in a research-thesis focused degree program.

The specific program requirements for the CSB MSc program are:

- Complete 0.5 full-course equivalent (FCE) of approved graduate coursework.
- Complete the CSB 1010Y MSc Seminar Series (1.0 FCE, minimum 24 seminars per year).
- Complete a thesis based on a research project.
- Give a public presentation of thesis research and defend the thesis at an oral examination.

There is an expectation that coursework is to be completed in the first 12 months. The student’s thesis plan is also expected to be in place within the first 12 months; the supervisory committee meets twice within this period to support this. In terms of the CSB 1010Y seminar series requirement, students attend, on average, two seminars per month. The program learning outcomes are achievable within a 16 month period; the proposed shortening of the minimum MSc program length does not, therefore, result in a change to the program learning outcomes.

The emphasis on 16 months is also critical to an on-time completion of the PhD within the time allowed for the funded cohort (5 years total) for those MSc students that go on to complete a PhD.

4 Description of the Proposed Major Modification(s)

- Please describe in detail what changes are being proposed. Major modifications include changes to the program requirements that will significantly change what students will know and be able to do when they complete the program.
- Other major modifications that may be included are significant changes to admissions requirements, significant changes to faculty engaged in program and; a change to mode of delivery, change to the language of the program and offering the program at another location or institution.
• Please be explicit about how the learning outcomes have changed and include both previous and proposed learning outcomes or one version of the current learning outcomes with the new learning outcome in track changes. You may wish to use Appendices A and B.
• Describe how the modification reflects universal design principles and/or how the potential need to provide mental or physical health accommodations has been considered in the development of this modification.
• Please provide calendar copy, either in track changes or as two separate documents in appendices C and D as applicable.

The change proposed is a reduction in the official MSc program length from 6 sessions to 4 sessions (full-time). The degree requirements, the ability of students to complete these requirements and the program learning outcomes will not be affected by this change, as they are achievable within this time frame. Masters’ students completing their program within 16 months is a common trend for the department. Coursework requirements are normally completed in the first 12 months. Seminar series attendance is throughout the program, regardless of program length. And the supervisory committee meets twice in the first 12 months, meaning a plan to write the thesis should be in place within the this period. There will be a wide range of completion times, but a science-based M.Sc. program will often have less predictable times to completion. A plan could be to complete within 16 months, but if experiments in the first year generate very limited data, a project can easily require two full years to complete.

This change was prompted by the correction of an error in calculating the balance of degree fee in previous years. Several of our recent MSc graduates who completed their degree prior to the minimum length of 24 months were charged this fee and we wish to rectify this for future graduates.

This will not change the timeframe for those students who elect to transfer from the MSc program to the PhD, because there will still be a majority of MSc students who will be funded for up to 24 months. MSc students, in consultation with their supervisor, sometimes do not decide that they want to transfer to the PhD until 14-18 months into their program. By giving a slightly larger window, they can make an informed decision. Moving to an earlier deadline as a result of the reduced minimum MSc program length would likely lead to more back-transfer requests within the first year after transferring. This is exceptionally rare in the Department of Cell and Systems Biology. Status quo is recommended.

5 Impact of the Change on Students

• Outline the expected impact on continuing students, if any, and how they will be accommodated.
• Please detail any consultation with students.
The reduced minimum program length will not alter the academic and financial support (e.g. RA) that the department offers to students whose M.Sc. studies continue beyond a fourth session up to 24 months.

This change will also not have a significant impact on convocation times. Based on previous years, there will be approximately four or five more June graduates per year. This could increase over time, but it will be a very gradual increase.

The proposed change to the MSc length was discussed at Graduate student town hall meetings (Nov 9, 2018; Nov 7, 2019). The students were in favor of the change.

6 Consultation

- Describe the impact of the major modification on other programs and any consultation undertaken with the Dean and chair/director of relevant academic units.

There will be no impact on other programs.

This proposal was discussed and approved by members of the CSB Graduate Studies Committee, which includes research faculty members from each of the sub-disciplines and the three campuses (Oct 8, 2019) and at a CSB Faculty meeting (Nov 5, 2019). As noted above, the proposed change was also discussed with graduate students, at two town hall meetings, which included student representation from the department’s main sub-disciplines. Students who attended these town halls were in favour of the change.

7 Resources

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

None. As noted above, students who must continue beyond a fourth session will continue to receive academic and financial support from the department, as they currently do.
8 UTQAP Process

The UTQAP pathway is summarized in the table below.

<table>
<thead>
<tr>
<th>Steps</th>
<th>Approvals</th>
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<tbody>
<tr>
<td>Development/consultation within unit</td>
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<tr>
<td>Consultation with Dean’s office (and VPAP)</td>
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<tr>
<td>VPAP Sign-off</td>
<td>March 4, 2020</td>
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<td>Unit-level approval as appropriate</td>
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<tr>
<td>Faculty/divisional council</td>
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<tr>
<td>Submission to Provost’s office</td>
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<td>Reported to the Provost and included in annual report to AP&amp;P</td>
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<td>Ontario Quality Council—reported annually</td>
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Appendix A: Calendar Copy with Changes Tracked

Master of Science

Program Description

The MSc program in Cell and Systems Biology provides ideal training for career paths in education, business, and policy where science-based decision-making and the interpretation and transmission of scientific information are becoming increasingly important, particularly in many of the “knowledge-based” economies that are emerging world over.

The MSc program trains scientists who are well suited to fill this demand. The program’s objective is to provide students with skills in the generation, critical evaluation, assessment, and communication of data so that they are equipped to proceed with further post-graduate degrees, or other career opportunities where such skills are desired.

Minimum Admission Requirements

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Department of Cell and Systems Biology’s additional admission requirements stated below.

- An appropriate bachelor’s degree with high academic standing from a recognized university, with a B+ (or equivalent) average in the final year of the bachelor’s program, and a mid-B overall average in the previous year of study.

Program Requirements

- Complete 0.5 full-course equivalent (FCE) of approved graduate coursework.

- Complete the CSB 1010Y MSc Seminar Series (1.0 FCE, minimum 24 seminars per year).

- Complete a thesis based on a research project.

- Give a public presentation of thesis research and defend the thesis at an oral examination.
Program Length

4 sessions full-time (typical registration sequence F/W/S/F)
6 sessions full-time (typical registration sequence: F/W/S/F/A/W/S)

Time Limit

3 years full-time