## University of Toronto Semi-Annual Report on Graduate Collaborative Specialization Reviews, Cycle 6, 2017-18 Collaborative Specializations Reviews are Commissioned by the Dean of the Lead Faculty

**Collaborative Specialization (CS) Definition:** "an intra-university graduate field of study that provides an additional multidisciplinary experience for students enrolled in and completing the degree requirements of one of a number of approved masters and/or PhD programs. Students meet the admission requirements of and register in the participating (or 'home') program but complete, in addition to the degree requirements of that program, the additional requirements specified by the Collaborative Specialization. The degree conferred is that of the home program. The completion of the Collaborative Specialization is indicated by a transcript notation indicating the additional specialization." (Quality Assurance Framework)

The learning outcomes of a collaborative specialization are in addition to those supported by the home program.

| Collaborative      |   |                                      |                                    | Other Strengths or Challenges        |                                   |
|--------------------|---|--------------------------------------|------------------------------------|--------------------------------------|-----------------------------------|
| Specialization &   |   | Appropriateness of Collaborative     | Vitality of Collaborative          | Identified                           | Review Outcome                    |
| Lead Faculty       | Participating Programs & Degrees            | Specialization Requirements          | Specialization                     |                                      |                                   |
| Resuscitation      | Biomedical Engineering—PhD                  | The CSRS provides clear learning     | The CSRS enjoys a loyal,           | Going forward, sustainable           | MOA is recommended for            |
| Sciences           | Clinical Engineering—MHSc                   | outcomes for students. The CSRS      | supportive faculty and consistent  | funding remains a challenge for      | renewal.                          |
| (CSRS)             | Community Health—MScCH                      | offers a curriculum with learning    | enrollment of between 7-12         | the CSRS. The CSRS has many          |                                   |
|                    | Health Policy, Management and Evaluation—   | outcomes that promote curiosity,     | graduate students per academic     | strengths. The CSRS is a unique      |                                   |
| Lead Faculty:      | MSc, PhD                                    | collaboration, critical thinking and | year. The CSRS conceptualizes      | program in resuscitation sciences    |                                   |
| Medicine           | Immunology—MSc, PhD                         | translational knowledge,             | and hosts a unique and popular     | in Canada, because the CSRS          |                                   |
|                    | Laboratory Medicine and Pathobiology—MSc,   | contributing to a fundamental skill  | biennial scientific meeting called | draws trainees from various          |                                   |
|                    | PhD   | set for a career in research.        | Resuscitation in Motion (RiM).     | disciplines and offers curriculum    |                                   |
| Date of Summary    | Mechanical and Industrial Engineering—MASc, |                                      |                                    | that goes beyond the clinical        |                                   |
| Assessment Report: | MEng, PhD                                   |                                      |                                    | realm. One of the future aims is to  |                                   |
| November 7, 2017   | Medical Science—MSc, PhD                    |                                      |                                    | build on the success of the CSRS     |                                   |
|                    | Nursing Science—MN, PhD                     |                                      |                                    | towards a comprehensive training     |                                   |
|                    | Pharmacology—MSc, PhD                       |                                      |                                    | strategy that will identify          |                                   |
|                    | Physiology—MSc, PhD                         |                                      |                                    | opportunities for internships        |                                   |
|                    | Public Health Sciences—MPH, MSc, PhD        |                                      |                                    | across our industry network          |                                   |
|                    | Rehabilitation Science—MSc, PhD             |                                      |                                    |                                      |                                   |
| Genome Biology &   | Biochemistry—PhD                            | This collaborative specialization    | From 2009-2013, the                | This collaborative specialization is | MOA is recommended for            |
| Bioinformatics     | Biomedical Engineering—PhD                  | offers graduate students the         | collaborative specialization had   | undergoing a renewal, which          | renewal.                          |
|                    | Cell and Systems Biology—PhD                | opportunity to learn advanced        | relatively healthy and stable      | includes the refinement of           |                                   |
|                    | Chemical Engineering and Applied Chemistry— | theoretical knowledge of genome      | enrolments (17-18 students/year)   | program requirements, increased      | Implementation plans to address   |
| Lead Faculty:      | PhD   | biology and bioinformatics, in       | that drew from a range of          | student recruitment, and             | the concerns identified:          |
| Arts & Science     | Computer Science—PhD                        | addition to gaining technical        | Departments. During 2013-2015,     | increased faculty and Department     |                                   |
|                    | Ecology and Evolutionary Biology—PhD        | expertise in these disciplines. The  | the previous Director did not      | participation. The newly             | - To ensure that the program      |
|                    | Laboratory Medicine and Pathobiology—PhD    | requirements are designed to         | admit any new students, and the    | appointed Director has brought       | requirements continue to meet     |
| Date of Summary    | Medical Biophysics—PhD                      | ensure that the students meet the    | enrolment numbers dropped to       | renewed enthusiasm for the           | the learning objectives, a new    |
| Assessment Report: | Medical Science—PhD                         | learning objectives of the           | less than one-third of their       | collaborative specialization, which  | core course will be developed and |
| March 14, 2018     | Molecular Genetics—PhD                      | program, which include training      | historic average. However, under   |                                      | an additional forum will be       |

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| Collaborative<br>Specialization &<br>Lead Faculty | Participating Programs & Degrees | Appropriateness of Collaborative<br>Specialization Requirements  | Vitality of Collaborative<br>Specialization   | Other Strengths or Challenges<br>Identified                     | Review Outcome  |
|---|----------------------------------|--|---|---|---|
| Lead Faculty                                      | Participating Programs & Degrees | Specialization Requirements<br>students to meet the current<br>demand in academia and industry,<br>to provide a forum for scientific<br>interaction and community<br>building, to stimulate<br>collaboration between labs and<br>across academic units, and to<br>promote excellence in research<br>and teaching in genome biology<br>and bioinformatics.<br>Some concern has been raised<br>that the requirements for<br>completing the program are<br>relatively high and may negatively<br>impact time to completion. | new leadership the enrolment<br>has begun to grow with six new<br>PhD students being recently<br>admitted. There are also five new<br>participating faculty members.<br>Thus, the vitality of the<br>collaborative specialization has<br>increased significantly in the last<br>two years, with the appointment<br>of a new Director. This<br>collaborative specialization is<br>intended for graduate students<br>whose research programs are<br>focused on genome biology and<br>bioinformatics, however the<br>current program enrolments and<br>offerings appear more focused<br>on bioinformatics. | Identified<br>is now poised to regain its<br>previous vitality. | <ul> <li>created for student and faculty<br/>seminars that supplements the<br/>Toronto Bioinformatics User<br/>Group seminars.</li> <li>The Director will address the<br/>issue of high program<br/>requirements by (i) reviewing the<br/>current requirements in related<br/>Collaborative Specializations, and<br/>(ii) consulting with participating<br/>programs. If the workload for this<br/>Specialization is deemed too<br/>onerous, a revised set of<br/>requirements will be established.</li> <li>To increase student enrolment, a<br/>new recruitment website will be<br/>built, existing program materials<br/>will be rebranded, an updated<br/>MoU will be drafted, a new faculty<br/>member from Medical Biophysics<br/>will be added, and a supporting<br/>unit will be identified to provide<br/>administrative support.</li> <li>The Director will also work to<br/>achieve more of a balance<br/>between the two disciplines, by</li> </ul> |
|   |                                  |  |   |   | ensuring that course offerings,<br>research seminars, and Principal<br>Investigators also represent<br>genome biology.  |