DATE:            May 30, 2024

TO:              Senate

FROM:            Dr. David Hornsby, Vice-Provost and Associate Vice-President (Academic), and Chair, Senate Quality Assurance and Planning Committee

RE:              Final Assessment Report and Executive Summary: Undergraduate Programs in Health Sciences

The purpose of this memorandum is to request that Senate approve the Final Assessment Report and Executive Summary arising from cyclical program review of the undergraduate programs in Health Sciences.

The request to Senate is based on a recommendation from the Senate Quality Assurance and Planning Committee (SQAPC), which passed the following motion at its meeting of April 11, 2024:

**THAT** SQAPC recommends to SENATE the approval of the Final Assessment Report and Executive Summary arising from the cyclical program review of the undergraduate programs in Health Sciences.

The Final Assessment Report and Executive Summary is provided pursuant to article 5.4.1. of the provincial Quality Assurance Framework and article 7.2.24 of Carleton's Institutional Quality Assurance Process (IQAP). Article 7.2.24.3 of Carleton's IQAP (passed by Senate in November 2021 and ratified by the Ontario Universities Council on Quality Assurance in April 2022) stipulates that, in approving the Final Assessment Report and Executive Summary 'the role of SQAPC and Senate is to ensure that due process has been followed and that the conclusions and recommendations contained in the Final Assessment Report and Executive Summary are reasonable in terms of the documentation on which they are based.'

In making their recommendations to Senate and fulfilling their responsibilities under the IQAP, members of SQAPC were provided with all the appendices listed on page 2 of the Final Assessment Report and Executive Summary. These appendices constitute the basis for reviewing the process that was followed and assessing the appropriateness of the outcomes.

These appendices are therefore not included with the documentation for Senate. They can, however, be made available to Senators should they so wish.

Any major modifications described in the Implementation Plan, contained within the Final Assessment Report, are subject to approval by the Senate Committee on Curriculum, Admission, and Studies Policy, the Senate Quality Assurance and Planning Committee (SQAPC) and Senate as outlined in articles 7.4.1 and 5.1 of Carleton's IQAP.

Once approved by Senate, the Final Assessment Report, Executive Summary and Implementation Plan will be forwarded to the Ontario Universities' Council on Quality Assurance and reported to Carleton's Board of Governors for information. The Executive Summary and Implementation Plan will be posted

on the website of Carleton University's Office of the Vice-Provost and Associate Vice-President (Academic), as required by the provincial Quality Assurance Framework and Carleton's IQAP.

**Senate Motion June 7, 2024:**

**THAT** Senate approve the Final Assessment Report and Executive Summary arising from the Cyclical Review of the Undergraduate programs in Health Sciences.

**SENATE QUALITY ASSURANCE AND PLANNING COMMITTEE**
**Cyclical Review of the undergraduate programs**
**in Health Sciences**
**Executive Summary and Final Assessment Report**

This Executive Summary and Final Assessment Report of the cyclical review of Carleton's undergraduate programs in Health Sciences are provided pursuant to the provincial Quality Assurance Framework and Carleton's Institutional Quality Assurance Process (IQAP).

**EXECUTIVE SUMMARY**

The undergraduate programs in Health Sciences reside in the Department of Health Sciences, a unit administered by the Faculty of Science.

As a consequence of the review, the programs were categorized by Carleton University's Senate Quality Assurance and Planning Committee (SQAPC) as being of good quality. (Carleton's IQAP 7.2.13-7.2.14).

The External Reviewers' report offered a very positive assessment of the programs. Within the context of this positive assessment, the report nonetheless made a number of recommendations for the continuing enhancement of the programs. These recommendations were productively addressed by the Chair of the Department of Health Sciences and the Dean of the Faculty of Science in responses to the External Reviewers' report and Implementation on Plan that was submitted to SQAPC on April 11th, 2024.

**FINAL ASSESSMENT REPORT**

**Introduction**

The undergraduate programs in Health Sciences reside in the Department of Health Sciences, a unit administered by the Faculty of Science. This review was conducted pursuant to the Quality Assurance Framework and Carleton's Institutional Quality Assurance Process (IQAP). As a consequence of the review, the programs were categorized by Carleton University's Senate Quality Assurance and Planning Committee (SQAPC) as being of good quality. (Carleton's IQAP 7.2.13-14).

The site visit, which took place on May 29-30, 2023, was conducted by Dr. Ebba Kurz from the University of Calgary and Dr. Sarah Wells from Dalhousie University. The site visit involved formal meetings with the Provost, the Vice-Provost and Associate Vice-President (Academic), the Dean of the Faculty of Science and the Chair of the Department of Health Sciences. The review committee also met with faculty members, lab coordinators, staff, and undergraduate students.

The External Reviewers' report, submitted on June 21, 2023 offered a very positive assessment of the program.

This Final Assessment Report provides a summary of:

- Strengths of the programs
- Challenges faced by the programs
- Opportunities for program improvement and enhancement
- The Outcome of the Review
- The Implementation Plan

This report draws on five documents:

- The Self-study developed by members of the Department of Health Sciences  (Appendix A)
- The Report of the External Review Committee (Appendix B).
- The response and implementation plan from the Chair of the Department of Health Sciences (Appendix C)
- The Response from the Dean of the Faculty of Science (Appendix D).
- The internal discussant's recommendation report (Appendix E).

Appendix F contains brief biographies of the members of the External Review Committee.

This Final Assessment Report contains the Implementation Plan (Appendix C) developed by the Chair of the Department of Health Sciences Studies and agreed to by the Dean of the Faculty of Science for the implementation of recommendations for program enhancement identified as part of the cyclical program review process.

The Implementation Plan identifies who is responsible for implementing the agreed upon recommendations, as well as the timelines for implementation and reporting.

**Strengths of the programs**

*General*

The External Reviewers' Report states that "We are strongly supportive of the BHSc program and its strengths outweigh any areas for improvement we bring forward for consideration".

*Faculty*

Speaking with regard to faculty, the external reviewers' stated: "The BHSc program is very fortunate to have a dedicated group of faculty members and instructors who actively contribute to program teaching and quality. It is clear through our conversations with students that they greatly value the high quality of their program and instruction."

*Students*

The external reviewers noted that "The BHSc is a highly sought-after program that has seen year-over-year increases in applications (to 781 in 2020). As discussed in section 4, the total number of students enrolled has increased to 98 in 2020, with a future cap of 120-130. Students accepted into the program are high-achieving (requiring Gr. 12 averages >85%)."

*Curriculum*

The external reviewers noted that the "program's current learning objectives are met by its overall design. Students receive strong training in core health sciences and gain understanding of the multidisciplinary context of the field including the social determinants of health. In Ontario and across Canada, the need for more training of highly qualified individuals in the area of health is clear. Carleton is to be commended for the design and launch of this timely program".

**Opportunities for program improvement and enhancement**

The External Reviewers' Report made 14 recommendations for improvement:

1. Re-articulation of Program-Level Learning Outcomes. **Weakness**
2. Curriculum Mapping and Alignment (alignment of activities/assessments with PLOs). **Weakness**
   a) Identify gaps and overlaps in curriculum map.
   b) Re-organize curriculum to address 2nd year workload concerns.
   c) Reduce the number of lab courses and/or the number of labs required in some courses (this may help with item b. above).
   d) Introduce flexibility in course selection. e.g. in place of MATH 1007, students have the option to take one of a list of "selectives" (e.g., Data Science or Computer Science).
3. Review/Revise/Reduce Concentrations Offered **Weakness**
   a) Streamline (merge or reduce) the number of concentrations offered to align with the newly-articulated PLOs and faculty expertise, with consideration of enrolment reflecting student interest.
   b) Delay selection of a more limited number of concentrations until after 2nd year, with deliberate exposure to those areas in the common curriculum of Yrs 1-2.
4. Undertake a comprehensive review of learning outcomes, course content and student assessment. **Weakness**
5. Consider developing a holistic admissions procedure that considers additional non-cognitive attributes in addition to grade 12 academic performance. **Opportunity**
6. Consider developing an admission pathway for Black and Indigenous students. **Opportunity**

7. Hire an additional 2-3 teaching-track academic appointments to reduce reliance on contract instructors. **Weakness.**
8. Stagger future sabbatical leaves to minimize program disruption and reliance on contract instructors. **Concern**
9. Fund additional summer research internships and/or health sciences research internships. This could also be an identified focus for philanthropy. **Opportunity**
10. Establish a capital/maintenance fund to plan for regular maintenance and as-needed replacement for equipment in teaching laboratories. **Concern.**
11. Establish a more transparent communications system between the department-level units and University-wide units (such as the physical plant and facilities management) to address needs more effectively. **Weakness.**
12. Review the position of laboratory coordinator to determine if it would be better suited as an instructor-rank appointment. **Concern.**
13. Establish KPIs on student performance, program attrition and post-graduation pathways. Data may be collected by survey. **Concern.**
14. Provide additional career information to current and incoming students. **Opportunity**

## The Outcome of the Review

As a consequence of the review, the undergraduate programs in Health Sciences were categorized by Carleton University's Senate Quality Assurance and Planning Committee (SQAPC) as being of **GOOD QUALITY** (Carleton's IQAP 7.2.13-14).

## The Implementation Plan

The recommendations that were put forward as a result of the review process were productively addressed by the Chair of the Department of Health Sciences and the Dean of the Faculty of Science in a response to the External Reviewers' report and Implementation Plan that was considered by SQAPC on April 11th, 2024.  The Department agreed unconditionally to recommendations #1; #2 a, b, and d; #3; #8; #13; and #14 and agreed to recommendations #7 and #9 if resources permit. They also agreed to recommendations #4, #5, #6, #10 and #11 in principle and did not agree to recommendations #2c and #12.

It is to be noted that Carleton's IQAP provides for the monitoring of implementation plans. A monitoring report is to be submitted by the academic unit(s) and Faculty Dean(s), and forwarded to SQAPC for its review by June 30th, 2025.

## The Next Cyclical Review

The next cyclical review of the undergraduate programs in Health Sciences will be conducted during the 2028-29 academic year.

**Health Science**
**Unit Response to External Reviewers' Report & Implementation Plan**
**Programs Being Reviewed: Undergraduate Programs**

# Note: This document is forwarded to Senate, the Quality Council and posted on the Vice- Provost's external website.

## Introduction & General Comments
Please include any general comments regarding the External Reviewers' Report.

*The Department of Health Sciences was pleased to receive the Reviewers' very positive and encouraging External Reviewers' report on June 29th, 2023. This report was shared with our faculty and staff, and we are committed to the continual improvement of our program to enhance the student, staff, and faculty experience. This document contains both a response to the External Reviewers' Report and an Implementation Plan (Section B), which have been discussed with the Dean of the Faculty of Science Maria DeRosa.*

For each recommendation ***one*** of the following responses must be selected:

**Agreed to unconditionally:** used when the unit agrees to and is able to take action on the recommendation without further consultation with any other parties internal or external to the unit.
**Agree**d to **if additional resources permit:** used when the unit agrees with the recommendation, however action can only be taken if additional resources are made available. Units must describe the resources needed to implement the recommendation and provide an explanation demonstrating how they plan to obtain those resources. In these cases, discussions with the Deans will normally be required and therefore identified as an action item.
**Agreed to in principle:** used when the unit agrees with the recommendation, however action is dependent on something other than resources. Units must describe these dependencies and determine what actions, if any, will be taken.
**Not agreed to:** used when the unit does not agree with the recommendation and therefore will not be taking further action. A rationale must be provided to indicate why the unit does not agree (no action should be associated with this response).

## Calendar Changes
If any of the action items you intend to implement will result in calendar changes, please describe what those changes will be. To submit a formal calendar change, please do so using the Courseleaf system.

## Hiring
Where an action item requires additional hiring (faculty or staff) the owner should at minimum include the Dean of the faculty and member of the unit.

| UNIT RESPONSE AND IMPLEMENTATION PLAN | | | | | |
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| **Programs Being Reviewed: Bachelor of Health Sciences** | | | | | |
| **Prepared by (name/position/unit/date): Martin Holcik March, Chair, March 8th, 2024** | | | | | |
| **External Reviewer Recommendation & Categorization** | **Unit Response (choose only one for each recommendation):** <br> 1- Agreed to unconditionally <br> 2- Agreed to if additional resources permit (describe resources) <br> 3- Agreed to in principle <br> 4- Not agreed to <br> Rationales are required for categories 2, 3 & 4 | **Action Item** | **Owner** | **Timeline** | **Will the action described require calendar changes? (Y or N)** |
| 1. Re-articulation of Program-Level Learning Outcomes. **Weakness.** | 1 | With support from OQI and TLS, we will develop and execute an environmental scan to assess if the PLO are current, how they reflect BHSc program needs, and how they compare to similar programs in Ontario. The environmental scan results will inform action toward recommendations #2, 3, and 4. To this end, we have established an Undergraduate Curriculum taskforce to lead this initiative. The taskforce will also work with the Office of the Vice-Provost. | UG taskforce, UG committee, whole Department, OQI, TLS, OVP | 16-18 months | Yes |
| 2. Curriculum Mapping and Alignment (alignment of activities/assessments with PLOs). **Weakness.** <br>   a)  Identify gaps and overlaps in curriculum map. <br>   b)  Re-organize curriculum to address 2nd year workload concerns. | **1 except for recommendation 2c, for which our response is 4** | We have established an UG taskforce that will conduct mapping of our existing curriculum. This activity will also be supported by environmental scan findings (recommendation #1). This will lead to the proposal of an updated curriculum addressing the issues of course overlap/gaps, course load distribution, and electives. In addition, curriculum mapping | UG Task force, UG committee, whole Department, Dean, TLS, OVP | This action depends on the completion of #1 <br><br> *a)* 16-18 months <br><br> b) 18-24 months | Yes |

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| c) Reduce the number of lab courses and/or the number of labs required in some courses (this may help with item b. above).<br>d) Introduce flexibility in course selection. *e.g.* in place of MATH 1007, students have the option to take one of a list of "selectives" (e.g., Data Science or Computer Science). | | | will inform concentration streamlining (recommendation 3a).<br><br>However, we disagree that we should decrease the number of experiential opportunities for BHSc students unless our curriculum mapping exercise indicates this. As a program anchored in the Faculty of Science, we strongly believe that the students need to be exposed to hands-on experiential opportunities that reflect the job opportunities for our graduates. | | c) n/a<br>d) 18-24 months | |
| 3. Review/Revise/Reduce Concentrations Offered.<br>**Weakness.**<br>a) Streamline (merge or reduce) the number of concentrations offered to align with the newly-articulated PLOs and faculty expertise, with consideration of enrolment reflecting student interest<br>b) Delay selection of a more limited number of concentrations until after 2nd year, with deliberate exposure to those areas in the common curriculum of Yrs 1-2. | 1 | | Completing recommendations 1 and 2 in conjunction with historical enrollment data will inform the streamlining of concentrations to align with student needs and PLO. We have already engaged with the admissions office about exploring the possibility of delaying the concentration selection until after 1st year (since this also impacts OUAC selection) and will continue these discussions. | UG Task force, UG committee, whole Department, Dean, OQI, Admissions, RO | This action depends on the completion of #1<br><br>a) 16-18 months<br>b) 18-24 months | Yes |

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| 4. Undertake a comprehensive review of learning outcomes, course content and student assessment. **Weakness.** | 3 | | This will be done along with recommendation #2 once recommendation #1 is completed and will require input from OQI, OVP, and TLS. | UG taskforce, UG committee, whole Department, OQI | 18-24 months | No |
| 5. Consider developing a holistic admissions procedure that considers additional non-cognitive attributes in addition to grade 12 academic performance. **Opportunity.** | 3 | | While this is an excellent suggestion in principle, it should be a broader university initiative that we support and agree on but don't have the resources to act on. Nevertheless, we will explore if this might be an option at Carleton. | UG curriculum committee, Department Chair, Admissions Office, Dean | 6-12 months | No |
| 6. Consider developing an admission pathway for Black and Indigenous students. **Opportunity.** | 3 | | See response to #5 above | See response to #5 above | 12-18 months | No |
| 7. Hire an additional 2-3 teaching-track academic appointments to reduce reliance on contract instructors. **Weakness.** | 2 | | The Department Chair will work with the Dean to identify strategies to hire additional faculty to reduce reliance on contract instructors.<br><br>Base funding will be required for additional hires. | Department Chair, Dean | 1-3 years | No |
| 8. Stagger future sabbatical leaves to minimize program disruption and reliance on contract instructors. **Concern.** | 1 | | The large number of core faculty on a sabbatical leave was due to COVID-19 pandemic, which impacted planned sabbaticals. It was an unusual situation that is likely not to happen in the future, especially given the growth of the Department. | Department Chair | Completed | No |

| 9. Fund additional summer research internships and/or health sciences research internships. This could also be an identified focus for philanthropy. **Opportunity.** | 2 | | The Department Chair will continue to work with advancement to identify new donor opportunities to support additional HSRI spots. In addition, the faculty will consider increasing their financial contribution to existing awards to support larger numbers of students. <br><br> Funds will be required from Advancement. | Department Chair, Advancement Office, whole Department | 2-3 years | No |
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| 10. Establish a capital/maintenance fund to plan for regular maintenance and as-needed replacement for equipment in teaching laboratories. **Concern.** | 3. | | Our teaching laboratories rely on sophisticated and expensive instrumentation to provide students with real-world up-to-date hands-on training. While this infrastructure is relatively new, it will require regular maintenance and, in the future, repair and replacement. Until recently, the Department had contingency funds that were meant to cover these unexpected expenses. However, this is no longer the case. We agree that it is critical to have access to capital/maintenance funds for teaching laboratories and will work with ODS toward this goal. | Department Chair; Dean | 3-6 months | No. |
| 11. Establish a more transparent communications system between the department-level units and University-wide units (such as the physical plant and facilities management) to address needs more effectively. **Weakness** | 3 | | Agreed. However, these issues are systemic and will require action by others than the Department. The Department Chair will use the FoS Chairs and Directors and the Academic Heads Roundtable forums to identify the scope of the issue and best practices in other units and work with Dean and others toward implementing this recommendation. | Department Chair, Dean, FMP | 12-24 months | No |

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| 12. Review the position of laboratory coordinator to determine if it would be better suited as an instructor-rank appointment. **Concern.** | 4 | | At Carleton University, lab coordinators are part of a different collective bargaining unit than instructors. Their role in our students' educational experience is critical, and we will ensure that their job duties/descriptions continue to align with the support instructors require in the laboratory aspects of the curriculum. | | No |
| 13. Establish KPIs on student performance, program attrition and post-graduation pathways. Data may be collected by survey. **Concern.** | 1 | | Although some data is available through CUBES, we will develop student surveys to assess KPI and student success. Part of this will also be done under recommendation #1 (environmental scan). | Department Chair, OQI, UG committee, Curriculum taskforce, entire Department | Develop within 12 months and then ongoing | No |
| 14. Provide additional career information to current and incoming students. **Opportunity**. | 1 | | In addition to ongoing initiatives, we will develop resources for students. These will include in-class information sessions as well as extra-curricular events. | UG committee, UG taskforce, SSSC, HSSS | 9-12 months | No |