

UTQAP Cyclical Review: Final Assessment Report and Implementation Plan

1 Review Summary

Program(s) Reviewed:	Applied Climatology Minor (Science) Astronomy and Astrophysics Minor (Science) Biochemistry (HBSc): Major, Major Co-op Biological Chemistry (HBSc): Specialist, Specialist Co-op; Major, Major Co-op Chemistry (HBSc): Specialist, Specialist Co-op; Major, Major Co-op Environmental Chemistry (HBSc): Specialist, Specialist Co-op; Major, Major Co-op Environmental Geoscience (HBSc): Specialist, Specialist Co-op Environmental Physics (HBSc): Specialist, Specialist Co-op Environmental Science (HBSc): Major, Major Co-op; Minor Environmental Studies (BA): Major Global Environmental Change (formerly Environmental Biology), (HBSc): Specialist, Specialist Co-op Natural Sciences and Environmental Management Minor (Science) Physics and Astrophysics (HBSc): Specialist; Major Physical and Mathematical Sciences (HBSc): Specialist Physical Sciences (HBSc): Major Certificate in Sustainability (Category 2) Combined Degree Programs with FASE MEng Combined Degree Programs with MEnvSc Combined Degree Programs with OISE MT Master of Environmental Science (MEnvSc) Environmental Science (PhD) Environmental Science (MSc) (approved to begin in May 2023)
Unit Reviewed:	Department of Physical and Environmental Sciences, University of Toronto Scarborough
Commissioning Officer:	Vice-Principal, Academic & Dean, University of Toronto Scarborough

Reviewers (Name, Affiliation):	<ul style="list-style-type: none"> • Dr. Simon Bates, Vice-Provost and Associate Vice President, Teaching & Learning, and Professor of Teaching, Department of Physics & Astronomy, University of British Columbia • Dr. Jeffrey McKenzie, Professor, Department of Earth & Planetary Sciences, McGill University • Dr. Jonathan Overpeck, Samuel A. Graham Dean, School for Environment and Sustainability, University of Michigan
Date of Review Visit:	March 27-28, 2024
Review Report Received by VPAP:	June 13, 2024
Administrative Response(s) Received by VPAP:	March 20, 2025
Date Reported to AP&P:	April 10, 2025

Previous UTQAP Review

Date:

Summary of Findings and Recommendations

Significant Program Strengths

- Faculty and staff deliver a first-class undergraduate educational program
- Students obtain experience in industry, with co-op available for students in most programs
- Innovative diversity of degree offerings
- Range of funding opportunities available to students
- Outstanding faculty research
- Strong faculty collaborations within the department and across Canada
- Extraordinarily high morale

Opportunities for Program Enhancement

- Developing a task force to review graduation rates and barriers to completion, as well as increasing outreach and tracking employment outcomes of graduates
- Addressing the writing requirements across all programs
- Addressing student challenges with calculus in introductory courses
- Expanding experiential learning opportunities for students in environmental science and environmental geoscience programs
- Supporting additional opportunities for undergraduate research
- Exploring opportunities for improvements in student advising
- Addressing challenges around staff workloads, equipment and space to provide better support to students and programs
- Exploring ways to enhance engagement between faculty from different disciplines and appointment categories within the department

Current Review: Documentation and Consultation

Documentation Provided to Reviewers

External Review Material: Terms of reference; Self-study and supporting data and appendices; Review report template; Site visit schedule; Previous review report, including the administrative response(s); Access to all undergraduate and graduate course and program descriptions; Access to the curricula vitae of faculty; Curriculum maps for the department's undergraduate and graduate programs.

Supplemental Material from Site Visit Meetings: Presentation deck from the UTSC Arts & Science Co-op Office.

Consultation Process

Decanal group, faculty, students, administrative staff and senior program administrators, as well as members of relevant cognate units, including the UTSC Library, the Office of the Registrar, the Arts & Science Co-op Office, and the Office of the Vice-Principal Research & Innovation.

Current Review: Findings and Recommendations

1. Undergraduate Program(s)

Unless otherwise noted, all bulleted comments apply to all programs reviewed.

The reviewers observed the following **strengths**:

- Overall quality
 - Program quality enhancement processes are in place, and reviewers observe no broad issues of concern
- Objectives
 - Program requirements including program-level learning outcomes are appropriate; and learning expectations and program outcomes are well-linked
- Admissions requirements
 - Admission requirements appear entirely appropriate for the programs offered
 - Environmental Science has very strong enrolment across all of its programs
 - Physics and Astrophysics program demonstrates high entrance requirements for incoming students
- Curriculum and program delivery
 - Delivery modes are appropriate for the programs, with a reasonable mixture of in-person and online teaching
 - Curricula are current and relevant, reflecting trends within the various disciplines across DPES programs
 - Program curricula provide a good range of continuously assessed components, with a clear, cross-cutting focus on writing skills
 - DPES has been responsive to challenges related to changes in high school curricula by adapting their undergraduate course requirements
- Innovation
 - Availability of 'prep courses' for incoming students is noted as an important innovation related to undergraduate admissions
 - Many DPES program and course designs support Universal Design for Learning principals, which can enhance the experience of all learners
- Assessment of learning
 - Assessment methods are varied and balanced
- Student engagement, experience and program support services
 - Impressive breadth and impact of the Co-op programs for undergraduates

- ▶ DPES programs provide numerous experiential learning opportunities for students, including teaching laboratories, field-based projects, and field trips
- Quality indicators – undergraduate students
 - ▶ Physics and Astrophysics undergraduate students are academically focused, with strong GPA outcomes

The reviewers identified the following **areas of concern**:

- Student engagement, experience and program support services
 - ▶ Challenges noted related to management of the co-op program for the undergraduate programs noted repeatedly during site visit discussions; reviewers note that DPES desires to move this program out of the divisional co-op office and into the department

The reviewers made the following **recommendations**:

- Student engagement, experience and program support services
 - ▶ “It is impossible for us, with our short visit to campus, to fully understand the issues and implications of this [potential] change, and to provide a definitive recommendation as to management of the Co-op program. But it is very clear that there is an issue that must be addressed.”
 - ▶ Reviewers note that it should be a priority for the new Dean to determine appropriate future directions regarding management of the undergraduate co-op program, involving consultation and discussion with UTSC co-op office leadership, DPES representation, and the Dean’s office
 - ▶ “Ultimately, the goal of the Co-op program for DPES should be to (i) improve the experiential learning for students; (ii) ensure subject matter voices are present in designing and delivering the co-op support for DPES students, and (iii) capitalize on the coherence and economies of a central unit.”
 - ▶ Consider the potential feasibility of collaboration between DPES and the UTSC co-op office to hire staff who might be embedded in DPES but have clear liaison responsibility to the central co-op office
 - ▶ “It is critical that DPES student experience be paramount even if this means more university resources need to be focused on making sure off-campus partners also see their collaborations with the university as a winning venture”

2. Graduate Program(s)

Unless otherwise noted, all bulleted comments apply to all programs reviewed.

The reviewers observed the following **strengths**:

- Overall quality
 - ▶ Unit has a thriving research environment for graduate students
 - ▶ DPES students comprise half of the graduate students affiliated with the UTSC campus

- ▶ Professional MSc in Environmental Science is a leader in Canada for one year coursework and co-op based environment programs, and is very effective both in teaching and creating a strong learning community
- ▶ Program quality enhancement processes are in place, and reviewers note no broad issues of concern
- Admissions requirements
 - ▶ PhD program has had consistent application numbers, and approximately 15 new students enrol each year
 - ▶ Admission requirements appear entirely appropriate for the programs offered
 - ▶ Environmental Science has very strong enrolment across all of its programs
 - ▶ Environmental Studies program has shown a significant increase in enrolment in recent years
- Curriculum and program delivery
 - ▶ Professional MSc in Environmental Science has a standard set of courses that prepares students for the workplace by developing professional skills
 - ▶ Course sequence pathways that do not impede time to completion for graduate students who do co-op options have been developed, and more work is in progress to improve these pathways
 - ▶ Program curricula provide a good range of continuously assessed components, with a clear, cross-cutting focus on writing skills
- Innovation
 - ▶ Many DPES program and course designs support Universal Design for Learning principals, which can enhance the experience of all learners
- Accessibility and diversity
 - ▶ In the Professional MSc, there are numerous activities to support students from diverse backgrounds
- Assessment of learning
 - ▶ Assessment methods are varied and balanced
- Student engagement, experience and program support services
 - ▶ Professional MSc offers an online professional skills primer course for incoming students
 - ▶ Impressive breadth and impact of the Co-op program for the Professional MSc, with a 100% success rate in finding co-op/internship placements Professional Masters students
 - ▶ In addition to standard course requirements, DPES exhibits an excellent focus on preparing PhD students to enter the workforce
 - ▶ Department has introduced an innovative new staff position: a Student Learning and Professional Development Coordinator, to implement plans to support the development of work-integrated learning opportunities for doctoral students; reviewers note that this is one of the few programs in the physical sciences addressing the emerging trend of PhD students with post-degree goals outside of academia

- ▶ Professional MSc in Environmental Science co-op program is notable for being managed directly by DPES and not by the UTSC co-op office, and its success is a result of the work of a small number of dedicated staff members
- Quality indicators – graduate students
 - ▶ Students are very academically successful, with numerous competitive scholarships from entities such as NSERC, CIHR, OGS, etc.
 - ▶ PhD students are highly productive, with publications in a number of journals
- Student funding
 - ▶ “There is evidence that the financial support for the PhD program was sufficient”

The reviewers identified the following **areas of concern**:

- Student engagement, experience and program support services
 - ▶ Graduate students note some challenges related to interactions with faculty and peers at the St. George campus, which appear to be partly a result of physical distance and the time and resources required to travel between campuses
 - ▶ Graduate students express feeling siloed at UTSC, and unable to easily access infrastructure across the three campuses
 - ▶ Graduate students express concerns about TA hours, feeling that the actual time they spend far exceeds their budgeted hours
- Student funding
 - ▶ Reviewers note they did not receive information regarding financial arrangements for students in the professional MSc program

The reviewers made the following **recommendations**:

- Student engagement, experience and program support services
 - ▶ Reviewers recommend “a review of TA activities and if necessary, a calibration of TA hours and workloads so that students only work for the hours they are paid”

3. Faculty/Research

The reviewers observed the following **strengths**:

- Overall quality
 - ▶ DPES faculty have excellent broad expertise across their respective fields of study
 - ▶ Quality of DPES faculty is very impressive
 - ▶ “Given the limited number of faculty relative to the expansive disciplinary nature of DPES, it makes sense that each disciplinary grouping within the department has made strategic choices to focus on specific research areas as their strengths”
- Research
 - ▶ Departmental research is exceptionally strong
 - ▶ Research strength is a key feature in supporting a thriving graduate education system in DPES

- ▶ DPES has several Fellows of the Royal Society of Canada and holders of Canada Research Chairs; and many faculty receive high-profile national and international awards
- ▶ DPES produces more than 200 peer-reviewed publications annually, and consistently receives more than \$2.5 million each year in competitive grant funding
- ▶ Almost all tenure stream faculty hold tri-council grants
- Faculty
 - ▶ Faculty are leading numerous initiatives related to EDI, including a teaching grant to support EDI training for graduate students and TAs
 - ▶ Teaching stream faculty are leading technological and pedagogical innovations, as well as a number of EDI-centred curriculum initiatives
 - ▶ DPES has an excellent balance of tenure and teaching stream faculty, who enjoy strong integration and mutual recognition across the two groups
 - ▶ Teaching stream faculty who support the professional MSc program display an impressive breadth of knowledge
 - ▶ Reviewers “did not hear any concerns expressed about supervisory loads nor did we observe any associated problems”
 - ▶ Teaching stream faculty make important contributions to course design, undergraduate research activities, and pedagogical scholarship within their respective areas
 - ▶ Teaching stream publications on Chemistry Education noted as particularly impressive
 - ▶ Chemistry program has a very strong complement of tenure and teaching stream faculty with numerous teaching and research awards
 - ▶ Impressive Physics faculty group, who put on a full BSc program with a “skeleton” group of 8 faculty members

The reviewers identified the following **areas of concern**:

- Faculty
 - ▶ While DPES is a large department, the faculty complement is lean in most subject areas; Physics in particular is noted as the “leanest”
 - ▶ Half of the Physics group have been on sabbatical or other leave, with similar absences anticipated the following year; reviewers note concerns about the sustainability of this arrangement
 - ▶ Recent opportunities to grow the faculty complement do not appear to have been pursued by the Physics group, “which suggests a degree of internal disharmony”

The reviewers made the following **recommendations**:

- Overall quality
 - ▶ “Given that faculty and staff numbers need to increase to support the growing nature of departmental student enrollments, it makes sense that each disciplinary grouping within DPES continues to focus on specific strengths rather than become more diffuse in research excellence”

- Faculty
 - ▶ Reviewers recommend that adding to the diversity of the faculty complement should be a departmental goal, though acknowledge that this process can take time

4. Administration

Note: Issues that are addressed through specific University processes and therefore considered out of scope for UTQAP reviews (e.g., individual Human Resources issues, specific health and safety concerns) are routed to proper University offices to be addressed, and are therefore not included in the Review Summary component of the Final Assessment Report and Implementation Plan.

The reviewers observed the following **strengths**:

- Relationships
 - ▶ Unit has benefited from a stable period of strong departmental leadership; leadership's contributions to the success of DPES are widely acknowledged
 - ▶ Departmental morale appears high; very positive interactions noted across various programs and across student, faculty and staff roles
 - ▶ Undergraduate program has very strong connections to local community, with 50% of students coming from the immediate surrounding area
 - ▶ Numerous community partnerships are noted to further drive student diversity
 - ▶ "In DPES, the cohesive and respectful interactions between research-focused and teaching stream faculty are the norm...DPES should be commended for this positive, collegial environment and esteem of expertise."
 - ▶ Faculty appear to enjoy and benefit from participation in a unit with such a broad range of interdisciplinary teaching and research opportunities
 - ▶ Department enjoys good relationships with other UTSC units
 - ▶ DPES subject librarian is very active in working with faculty and students
 - ▶ Department clearly demonstrates strong relationships with local community and organizations
 - ▶ DPES has numerous industry and government connections through the Professional MSc program
- Organizational and financial structure
 - ▶ DPES's organizational and financial structure is appropriate and effective, with clear processes in place for managing departmental financial activities and supporting research activities
 - ▶ Impressive investment in laboratory facilities since the last review
 - ▶ The analytical instrumentation facility is impressive and used by researchers and students, including undergraduates
 - ▶ Some teaching laboratories are state-of-the-art
 - ▶ DPES is located in a fairly new building with excellent spaces and resources
- Long-range planning and overall assessment
 - ▶ Department is functioning highly effectively, and in alignment with UTSC and U of T's plans and priorities

- ▶ “DPES programs are distinct in their applied and interdisciplinary learning, with many programs augmented with strong experiential components”
- ▶ Many DPES programs are in growth mode, and the new Scarborough Academy of Medicine and Integrated Health (SAMIH) may offer further growth potential through teaching opportunities
- ▶ Faculty and staff support a highly cohesive and functional grouping of different disciplines, programs and research activities
- ▶ Significant progress has been made on responding to recommendations from the previous review
- ▶ Department has undergone a major transformation in response to the 2017 review, with a net increase of 18 faculty and staff, and 150 submissions of course/program proposals and revisions
- ▶ Department has made significant progress in increasing experiential learning opportunities for students, with “a wealth” of such opportunities now available
- ▶ Reviewers note many exciting advances in promoting departmental EDI initiatives
- ▶ The Registrar’s office has done impressive work in promoting the department’s programs to Black and Indigenous students
- ▶ Reviewers highlight that DPES maintains accreditation for some Chemistry programs with the Canadian Society for Chemistry; and for the Major programs in Environmental Science and Environmental Studies by the Environmental Careers Organization of Canada
- ▶ “[W]e feel that DPES, as a whole, is very strong as an interdisciplinary academic unit; it leads the way on campus for research graduate student enrollment, research outputs are high quality and taught programs are current, interdisciplinary and distinctively experiential. It is the integration of several disciplines that fosters a spirit of interdisciplinary collaboration, particularly for the disciplines co-located within the same building.”
- ▶ DPES has a dedicated committee to help promote EDI initiatives, and EDI appears to be integrated in some of the unit’s curricula
- International comparators
 - ▶ “The department is a unique combination of disciplines and interdisciplinary synergy that is clearly thriving under a common departmental home”

The reviewers identified the following **areas of concern**:

- Relationships
 - ▶ Relationships with the Campus Co-op office appear strained as a result of differing perspectives regarding where ownership of the DPES undergraduate co-op programs should reside
 - ▶ Reviewers wonder if the physical separation of the Physics faculty group from the rest of the DPES unit serves as a barrier to cohesion and relationship building; Physics teaching stream faculty note for example that they rarely have opportunities to collaborate on pedagogy or innovation projects with other instructors
- Organizational and financial structure
 - ▶ DPES workloads are high, particularly for support staff

- ▶ Reviewers echo faculty concerns regarding insufficient teaching and administrative staffing; “[this] is a serious issue given overall rising enrollments and future increases due to more activity on the UTSC campus”
- ▶ Reviewers note that there does not appear to be a coherent departmental plan for prioritized staffing requests, due to constraints related to a hiring freeze
- ▶ Some “minor disquiet” noted in the DPES community regarding a move away from the ‘Associate Chair (Discipline)’ role to disciplinary representatives reporting to the unit head
- ▶ Some teaching laboratories are outdated
- ▶ Some challenges noted regarding student preparedness and confidence in laboratory settings; accessibility for all types of learners is also limited, as are the resources for teaching lab technical support
- ▶ Reviewers note it is unfortunate that the Physics group does not reside in the same building as the rest of DPES; and that such distance may make it difficult for Physics to feel cohesion with the rest of the unit
- Long-range planning and overall assessment
 - ▶ Lack of clarity noted around whether DPES has a strategic and/or succession plan to address numerous upcoming changes that will impact them, including a change in Departmental Chair; a new UTM Vice-Principal, Academic and Dean; and the opening of SAMIH
 - ▶ Reviewers note that the importance of EDI was addressed in a somewhat limited manner in the DPES self study, and that the unit’s diverse student body is eager to see EDI initiatives given greater prominence in the department
- International comparators
 - ▶ Reviewers note that comparison of DPES and its programs to similar units at peer institutions is difficult, given the omnibus nature of the department

The reviewers made the following **recommendations**:

- Relationships
 - ▶ Reviewers recommend prioritizing the development of a collaborative plan to increase the integration of the Physics group into the broader DPES unit, and address challenges in Physics related to cohesion and capacity; (reviewers note that addressing these issues will likely require an investment of resources, but that increased enrolments and the improved functioning of the Physics program should justify such investments)
- Organizational and financial structure
 - ▶ “More attention and investment are needed to ensure that all teaching laboratories, and not just some, are safe and accessible to all learners”
 - ▶ Undergraduate students note a desire for extended library hours and communal meeting spaces
 - ▶ “We learned that the university will be moving to responsibility-based financial management, and hope that implementation of this strategy will result in increased flows of resources to DPES commensurate with the growing enrollments and success of the department”

- ▶ While fundraising is not currently a significant component of DPES activities, reviewers note some potential for development in this area (at the institutional, divisional and/or departmental level), given the strong growth of DPES alumni numbers, and the growing societal importance of sustainability, environmental action, and social justice issues
- Long-range planning and overall assessment
 - ▶ Prospects for the unit's future are bright, "particularly if [the] university increases funding to match the on-going growth in departmental stature, student numbers and overall impact"
 - ▶ "There are opportunities for further departmental growth and increased teaching, but strategic decisions are needed."
 - ▶ "[G]iven the growing societal need for sustainability, environmental solutions, climate action, and socially just solutions, DPES offers the university a way to become more prominent both nationally and internationally. The university must invest more in DPES in order to fully seize this opportunity."
 - ▶ Noting enrolment opportunities for DPES related to the opening of SAMIH, the reviewers recommend accelerated planning for how SAMIH students will be accommodated on campus, especially in teaching labs
 - ▶ ..."The university must make it a top priority to address current limitations [in particular related to teaching laboratories] and ensure that the fixes will be able to accommodate the technical support demands that will arise with increased student numbers."
 - ▶ Reviewers recommend that DPES ensure that EDI is made more prominent in departmental activities, noting that students would be useful and enthusiastic partners in planning and implementing related endeavours
 - ▶ Consider working with faculty, staff and students to embed more EDI into departmental program design, assessment, classroom climate and other areas; consider also engaging with partners from across UTSC and beyond, who may have relevant expertise



UNIVERSITY OF
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Office of the Vice-Principal Academic and Dean

March 20, 2025

Professor Nicholas Rule
Vice-Provost, Academic Programs
Office of the Vice-Provost, Academic Programs
Division of the Vice-President & Provost
University of Toronto

**Dean's Administrative Response: External Review of the Department of Physical and Environmental Sciences,
University of Toronto Scarborough**

Dear Professor Rule,

Thank you for your letter of December 9, 2024, requesting my administrative response to the March 2024 external review of the Department of Physical and Environmental Sciences. I want to extend my gratitude to the review team—Simon Bates, Vice-Provost and Associate Vice-President, Teaching & Learning, and Professor of Teaching, Department of Physics & Astronomy, University of British Columbia; Jeffrey McKenzie, Professor, Department of Earth & Planetary Sciences, McGill University; and Jonathan Overpeck, Samuel A. Graham Dean, School for Environment and Sustainability, University of Michigan—for their consultation with the Department during the site visit from March 27-28, 2024, and for their Report, which was finalized on June 13, 2024, and shared with the Department.

We deeply appreciate the reviewers' commendation of the Department's curricula in relation to current disciplinary trends, as well as the Department's extensive experiential learning and co-op offerings for undergraduate students. In addition to praising the flourishing research environment created by the Department for its graduate students and for preparing PhD students to pursue different pathways, the reviewers recognized the technological and pedagogical innovations led by the Department's faculty members, noting the transformative progress undertaken by the Department since its last review.

The report from the review team identifies several areas for enhancement and development, including determining appropriate future directions for optimal stewardship of the undergraduate co-op program; exploring options to ensure the Department's graduate student population is appropriately supported; encouraging greater collaboration and community among all faculty members of the Department; making Equity, Diversity, and Inclusion (EDI) more prominent in departmental activities; engaging in strategic planning to address future leadership and growth changes; and assessing available laboratory spaces in relation to technical support demands and student accessibility needs. With this letter, I have included a table summarizing the responses to the specific recommendations of the reviewers and anticipated timelines for implementation, where appropriate.

Once again, I thank the review team for their insightful and valuable review of the Department and its programs. I look forward to supporting the Department in implementing the recommendations of this report. The Dean's Office will monitor the implementation of recommendations through ongoing meetings with the Chair of the Department of Physical and Environmental Sciences. An interim report to the Office of the Vice-Provost, Academic Programs will be prepared in **Fall 2028**. The next external review of the Department will take place **no later than the 2031-32 academic year**.

Sincerely,

A handwritten signature in dark ink, reading "Karin Ruhlandt".

Professor Karin Ruhlandt
Vice-Principal Academic & Dean

2023-24 UTQAP Review of the UTSC Department of Physical and Environmental Sciences - Review Recommendations

Please do the following for each recommendation in the table:

- If you **intend** to act on a recommendation, please provide an **Implementation Plan** identifying actions to be taken, the time frame (short, medium, long term) for each, and who will take the lead in each area. If appropriate, please identify any necessary changes in organization, policy or governance; and any resources, financial and otherwise, that will be provided, and who will provide them.
- If you **do not** intend to act on a recommendation, please briefly explain why the actions recommended have not been prioritized.
- In accordance with the UTQAP and Ontario's Quality Assurance Framework, "it is important to note that, while the external reviewers' report may include **commentary** on issues such as faculty complement and/or space requirements when related to the quality of the program under review, **recommendations** on these or any other elements that are within the purview of the university's internal budgetary decision-making processes must be tied directly to issues of program quality or sustainability" (emphasis added)
- You may wish to refer to the [sample table](#) provided by the Office of the Vice-Provost, Academic Programs

Request Prompt <i>verbatim from the request</i>	Rec. #	Recommendations from Review Report <i>verbatim from the review report</i>	Unit Response	Dean's Response
The reviewers highlighted significant challenges and differences of opinion related to management of the undergraduate co-op program. They recommended that UTSC leadership engage in consultations with all stakeholders to determine appropriate future directions for optimal stewardship of the program.	1.	"[The management of the undergraduate co-op program] should be a priority for the new Dean. There should be a series of focused conversations around addressing the breakdown of trust and cooperation, involving Co-op office leadership, departmental representation, and the Dean's office, with a decision on the way forward (even if as a 1-2 year pilot) by Fall 2024. Ultimately, the goal of the Co-op program for DPES should be to (i) improve the experiential learning for students; (ii) ensure subject matter voices are present in designing and delivering the co-op support for DPES students, and (iii) capitalize on the coherence and economies of a central unit."	<p>This is an issue that was raised extensively in our self-assessment report. We are delighted that the external reviewers emphasized the need to rectify the multitude of issues that make the performance of our co-op programs far from satisfactory. Moving forward, the next major aspiration of the department is to take full control of our co-op programs; especially in Environmental Sciences (EES). Counter to the significant growth of our EES (Major, Minors, and Specialist) programs over the past 6-7 years, the enrollment trends in their co-op counterparts have been disturbingly stagnant with no discernible signs of improvement (i.e., collectively less than 50 EES co-op students).</p> <p>While the Arts & Science Co-op Office has recently embarked on a promising exercise that aims to address some of the long-standing dysfunctionalities of the programs, such as the development of proper course sequencing that will increase the number of summer offerings, we have fundamentally different perspectives regarding the framework that should be in place</p>	<p>Co-op is a historic strength of UTSC, and the Dean's Office is committed to the success of these programs. As an initial step toward addressing the concerns identified by reviewers and the department, the Arts & Science Co-Op Office has hired a dedicated liaison to support programming in the sciences. We have also completed a review of all required course pathways for students in the department's co-op programs and committed funding to better facilitate regular timetabling; this has been an ongoing barrier to program completion. We are in the early stages of this new structure and will need to assess its success.</p> <p>We acknowledge that the department has a different perspective on supporting the professional development of students, particularly at the undergraduate level. With that in mind, I am committed to engaging in strategic discussions with academic leaders and with the Arts & Science Co-Op office to ensure that appropriate supports are in place for the long-term success of co-op and experiential learning</p>

			<p>to ensure a rich professional development for our students. The astonishing record of our MEnvSci internship team -100% internship placements annually, and more than 70% extensions of their internships and/or full-time employment offers- sets an “academic model” that we aspire to implement to our co-op programs. These tangible deliverables are the result of an academically rigorous curriculum, rich in experiential-learning opportunities, and tightly linked with the workforce (industry, government, non-profit organizations).</p> <p>From a departmental perspective, having our undergraduate co-op programs under our supervision will establish the department as the focal academic unit within the UofT system that offers comprehensive education and promising career prospects in Environmental Sciences. A fully functional undergraduate EES co-op, combined with our Professional MEnvSci program and the proposed Work Integrated Learning pathway in our PhD program will allow us to establish the Department of Physical and Environmental Sciences as an academic unit that offers clear linkages with the workforce for BSc, MSc, and PhD students!</p> <p>It is our hope that this change in the administration of our co-op program, endowed with the appropriate human and financial resources, will be in the foreseeable future. As a first step, our plans involve the EES undergraduate co-op, but we do intend to request full administrative oversight of the CHM programs within the next 2-3 years.</p>	<p>not only in the department but across the campus as a whole. At this stage, we are interested in taking a coordinated approach that supports and connects needs across the campus rather than implementing department-specific offices. We are considering the possibility of an external review of co-op at UTSC as a part of the assessment of next steps.</p>
The reviewers raised concerns that graduate students in DPES feel isolated from the St. George campus,	2.	“In our meeting with graduate students two issues of concern were discussed. First, the graduate students found interactions with faculty	The vast majority of these concerns have been raised by students, who are affiliated with tri-campus graduate programs of cognate academic	Almost half of UTSC graduate students are “affiliated” and belong to tri-campus graduate units that are largely based downtown. The Vice-

<p>encounter difficulties accessing tri-campus resources and infrastructure, and report that their TA responsibilities often require more time than is budgeted. They recommended exploring approaches to ensure that the unit's graduate student population is appropriately supported.</p>		<p>and peers at the St. George campus to be challenging. Part of the issue was physical distance, and the time/resources required to visit the other campus. Further, the students felt siloed at UTSC, and not easily able to access infrastructure across the tri-campus. Second, the graduate students expressed concerns about TA hours, and felt that their actual time spent undertaking TA hours far exceeded their budgeted hours. We would recommend a review of TA activities and if necessary, a calibration of TA hours and workloads so that students only work for the hours they are paid.”</p>	<p>units primarily located at the St. George campus. DPES has already reached out to the departments of Chemistry and Physics. Starting from next year, we will play a more active role with the delivery of the seminar series of their units and they will do the same for ours. There will be more opportunities for cross-fertilization through nomination of speakers, as well as live streaming of all the talks. That said, the department is very open to instigate more initiatives that will bring the three campuses of the University of Toronto system closer, assuming that the required resources are available.</p> <p>As far as the TA activities are concerned, the department has recently completed a comprehensive review of our TA assignments and we are happy to report two major advancements: (i) Courses that needed extra support have -on average- received a 10% increase in the allocated TA hours. (ii) The tasks assigned to TAs have been revisited to ensure optimal use of the existing resources for several courses. We have not received any complaints by any of our graduate students so far. We are committed to closely monitor this issue and rectify any problems that may be raised in the future.</p>	<p>Dean Graduate & Postdoctoral Studies at UTSC regularly holds events and workshops to foster a unique graduate community on campus. The Graduate Chair from Chemistry tries to regularly meet with UTSC graduate students in person and we will encourage leaders from other graduate units to do the same.</p> <p>The Dean's Office appreciates the department's collaborations with other cognate units at the St. George campus to bring graduate students from that campus and UTSC together for various initiatives. We also support the department's efforts to review and optimize the allocation of tasks and hours for TA activities across different courses. We look forward to engaging in further discussion with the department about how these processes will connect to the campus-wide implementation of the planned new budget model to ensure appropriate supports.</p>
<p>The reviewers recommended that the unit engage in a strategic faculty complement planning process; and that they prioritize ensuring appropriate coverage in Physics and adding to the diversity of the faculty complement when hiring opportunities permit. They also highlighted opportunities to strengthen the integration of the Physics faculty group with the rest of the unit, and to</p>	<p>3.</p>	<p>“We learned that 4 out of the 8 Physics faculty (tenure track plus teaching) were on sabbatical and leave this year (with the same or similar numbers next year). It is hard to see how this is sustainable, let alone how it can support growth in student numbers (e.g., associated with the SAMIH). Conversely, we also learned that opportunities to grow the faculty complement were not taken up by Physics faculty which suggests a degree of internal disharmony. We wonder if the physical separation from the rest of the DPES department is a barrier. For example,</p>	<p>The approval of all the sabbatical/study leaves during the academic year 2022-2023 was an executive decision made by the leadership of the department, in order to accommodate a multitude of health/mental issues raised by our faculty members after 2.5 years of the pandemic. It was a one-time-only decision to support our academic personnel and allow them to recover from the toll of these extraordinary times. The physical separation of the physics group from the rest of the department is certainly an issue....and an unfortunate decision that was made in 2014</p>	<p>Recognizing the long after-effects of the COVID-19 pandemic and the challenges to collegiality within our community due to global geopolitical uncertainties, the Office of the Vice-Dean Faculty Affairs, Equity, and Success (OVDFAES) has designated 2024-25 as the Year Towards Restoration, with new initiatives organized aiming to transform the institutional culture of UTSC into a more restorative one. We are pleased also to note that three faculty members from the Department of Physical and Environmental Sciences are part of this year's</p>

<p>encourage greater collaboration and community among all DPES faculty.</p>		<p>the teaching stream faculty in Physics, in contrast to the other DPES Teaching Stream faculty, said they rarely had the opportunity to collaborate on pedagogy or innovation projects with other instructors. Lab technical support is also an issue that needs to be addressed.</p> <p>We recommend making it a priority (e.g., because of likely near-term demand growth due to the SAMIH) to develop a collaborative plan that addresses the challenges noted above in a pragmatic and sustainable manner. This plan will undoubtedly require more investment of resources, but increased enrollments should justify this investment, as will the fact that a more well-functioning and integrated Physics program should serve to increase the stature of DPES and the university.”</p>	<p>during the construction of the ESC building. We are hopeful that the ongoing development in our campus will offer an opportunity for space re-allocation that will make it feasible for the physics group to come closer to the rest of the department. Of equal importance is our proposal for a major renovation of our A-level physics labs (please refer to our self-assessment study). The proposed changes will not only enrich the learning experience of our students but will also allow us to accommodate the enrollment increase from the establishment of SAMIH. Last but not least, there is a plan for a new faculty position in the area of environmental physics that will not only allow to support our dynamic specialist program but will also bring (intellectually) closer the disciplines of Environmental Sciences and Physics. Once the current hiring freeze is removed, this position will be one of our strategic priorities.</p>	<p>Mentoring Excellence and Diversity Advisory Committee (MEAD), which advises on and provides resources for the professional development of faculty and librarians. In addition, DPES faculty are active members of two OVDFAES-funded Mentorship Partnerships focused on (1) sensory, affective, imaginative and land-based (SAIL) pedagogy and (2) sharing Indigenous knowledge and learnings. Mentorship Partnerships aim to foster community and learning among faculty and librarians. DPES participation affirms faculty need for such opportunities; and DPES leadership has been integral to their success.</p> <p>Several capital projects are currently underway at the University of Toronto Scarborough, including the construction of the Myron and Berna Garron Health Sciences Complex (SAMIH) and the development of Phase 2 of the Environmental and Related Technologies Hub. My office and I look forward to advocating spacing (re-)allocation needs on behalf of the department when engaging in discussions with the Office of the Vice-President & Principal and the Office of the Vice-Principal Research and Innovation as these projects continue and near completion.</p> <p>My office and I appreciate the department’s desire for renovated physics lab spaces to enhance the student experience and the identification of environmental physics as a potential area for future hiring. In the current budget environment, my office is actively working to align future hiring and capital projects with campus strategic priorities, while being mindful of the Physics group’s current needs within the department.</p>
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	4.	<p>“We recognize that increased diversity in the faculty complement is a slow process (particularly in tight financial conditions and in a department where people like their colleagues and don’t leave). Nonetheless, creating a more diverse faculty should also be a goal.”</p>	<p>As noted during the site visit of the external reviewers, the department has made remarkable progress in achieving a gender-balanced faculty membership over the past ten (10) years; especially if we consider that we are a STEM department. The department has also been actively involved with academic initiatives targeting a multitude of equity-deserving groups, e.g., Environmental Anthropology. We are intensely committed to continue with these initiatives for years to come.</p>	<p>UTSC is committed to equity, diversity, and inclusion in its goal of inspiring inclusive excellence. This commitment is reflected in our faculty hiring practices and our success in welcoming Black and Indigenous colleagues to UTSC through the UTSC Pathway to Parity program (supported by funding from the University Provost), a concerted effort to increase the number of Black and Indigenous faculty to reflect the community and student populations we serve. DPES is a valued partner in this work, having launched one (ultimately unsuccessful) recruitment effort in recent years and leading a Pathway hire in 2024-25. The current Pathway search is in Environmental Studies and attracted a gender and racially diverse pool of applicants, boding well for future hiring efforts. We look forward to continuing to collaborate with the department on ongoing planning toward the further diversification of faculty and related structural changes that support inclusive excellence across the campus.</p> <p>Currently, three of the 17 members (including 2 Co-Chairs) of UTSC’s Mentoring Excellence and Diversity Advisory Committee (MEAD) are faculty members from the Department of Physical and Environmental Sciences. Notably, all three of these faculty members are women, and one is a person of colour. MEAD advises on and provides resources for the professional development of faculty and librarians.</p>
<p>The reviewers noted limited coverage of Equity, Diversity and Inclusion activities in the unit’s self-study document. They broadly recommended that DPES take steps to ensure that EDI is made more prominent in departmental activities,</p>	5.	<p>“...the students that we met with were diverse and keen to see greater prominence of EDI initiatives (e.g., equity and inclusion oriented, including the teaching of knowledge from more diverse sources and perspectives); they would be useful and enthusiastic partners in planning and implementing such endeavours.”</p>	<p>DPES has a dedicated and extremely active committee to deal with Equity, Diversity and Inclusion (EDI) issues, and its mandate is completely aligned with the UTSC mission. The purpose has been to promote initiatives that remove barriers to access opportunities/resources for faculty, staff, and</p>	<p>The department has been actively involved in the campus-wide curriculum review, which since 2020 has been working to reflect equity, accessibility, anti-racism, anti-colonialism, and Indigeneity in curriculum and pedagogy, as well as student mental health and well-being. We have included in our formal communications</p>

<p>and that they engage with students in pursuing such endeavors.</p>			<p>students and inspire intellectual growth over the entire EDI spectrum. Most of these initiatives are planned and discussed within the EDI team and are communicated by the Chair's office. Faculty who are involved in campus-wide initiatives, such as campus EDI committee, microaggression in the classroom, EDI in Teaching etc. share insights with the team and work towards departmental EDI goals.</p> <p>The Dean's office and DPES have dedicated funding for faculty to work and implement EDI principles in our program and course delivery. One such example is the Pedagogies of Inclusive Excellence (PIE) fund that is available for DPES faculty to incorporate inclusive pedagogies, including Indigenous content in our curriculum. We are extremely proud to report that DPES has achieved an impressive success rate with the PIE fund, and the successful proposals include learning opportunities conducive to the EDI principles across a multitude of A-,B-C-, and D-level courses.</p> <p>DPES faculty, staff, and students are also increasingly engaged with the Indigenous history and knowledge of the Peoples that populated the land we live on today. A recent event that was sponsored by a PIE fund initiative was held at DPES (e.g., workshops with Indigenous collaborators and colleagues) on June 27, 2023: Walking Together - Implementing Indigenous pedagogies in Environmental Sciences. During this workshop, the participants discussed how to include in the course material, Indigenous teaching and the history of racism and colonialism, highlighted the fear of faculty in getting it wrong and offering inadequate content.</p>	<p>(including the UTSC Campus Curriculum Review Working Circle's Resource Hub) to academic units examples of resources to consult as they incorporate different elements of EDI in their development of curriculum, and we will continue to partner with the department in the implementation and deepening of this work.</p> <p>UTSC has dedicated educational developers to assist the department in developing curriculum that centres universal design for learning and anti-racist pedagogies. In addition, the UTSC's Mentoring Excellence and Diversity Advisory Committee (MEAD) advises on and provides resources for the professional development of faculty and librarians.</p> <p>My office is committed to continuing to support the department's efforts to enhance and embed EDI in its programming, activities, and events. We would be happy to connect the department with the campus's Marketing and Communications team to brainstorm additional ways to better showcase the EDI and reconciliation initiatives that are underway in the department from an outreach perspective.</p>
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			<p>Similar events provide us with most valuable feedback from Indigenous colleagues, students and allies to be courageous and open to criticism, as this is the first step towards a sincere reconciliation and collaboration. Such events also helped us form valuable collaborations with other non-Indigenous colleagues to a multitude of (presumably intimidating) tasks together instead of individually. Based on participation of our faculty and staff in such workshops and events, as well as the received feedback, we think that DPES, and the EES group specifically, is on the right track to creating a safer and more inclusive space for our current and future students.</p> <p>Discussion and collaborative work during these workshops showed the high interest of our faculty and staff to get involved with EDI issues and use any opportunity to integrate Indigenous history, knowledge and ways of teaching not only in conventional settings, but also in field-based courses (e.g., history of the people and lands we travel during field camps). Another example is a project that seeks to promote anti-colonial pedagogy at UTSC through an experiential learning opportunity for DPES Graduate students. This work builds upon an established relationship with a community and treaty partner, Giidaakunadaad (Nancy Rowe) at Akinomaagaye Gaamik, on the Mississaugas of the Credit First Nation. Here, our students have an opportunity to engage with Indigenous culture and practice and reflect on their own values, conceptions and responsibilities through an immersive community-based learning experience.</p> <p>The MEnvSc program prepares students for careers as environmental professionals, and many of our graduates will directly engage with Indigenous Knowledge and Indigenous</p>	
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		<p>communities in their careers. With this in mind, we are working to foster an understanding of how to equitably engage with diverse knowledge systems and what it means to be an active treaty partner.</p> <p>DPES instructors and the Chair’s Office continuously aim at creating a safe, inclusive and equitable environment for everyone. For example, instructors try to make sure that all students know that everyone is welcome in the learning environment and that everyone can participate in experiential learning. This includes subsidizing field trips, helping students maneuver travel grant applications to further lower the costs, or make sure that the field trip logistics are clearly outlined, reviewed, and discussed with the students. These practices allow us to determine the changes that have to be made to be more inclusive or the alternative options that can be offered.</p> <p>Our many field trips in environmental science are key for experiential learning, but access to proper safety gear represents a subtle economic barrier for students, who did not grow up with substantial outdoor experience during their childhood. Many students lack the proper rain gear and steel toed boots to safely participate in field trips. To address this issue, Environmental Science received CTL funding to procure field camp equipment (\$12,576). The grant was used to improve the recruitment of students into geosciences by removing barriers (i.e., reducing the cost) for field trip participation.</p> <p>In addition to the departmental efforts to foster inclusion and accessibility in our courses, the University of Toronto Scarborough offers student a multitude of services and funding</p>	
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			opportunities; please refer to our self-assessment study.	
	6.	“We recommend that DPES ensure that EDI is prominent in department activities, and with speakers/visitors brought in to interact with the students.”	Please see our response to comment #5.	Please see our response to recommendation #5. We would also be happy to connect the department with offices within UTSC, such as the Equity, Diversity, and Inclusion Office and the Office of Indigenous Initiatives to explore recommended practices and plan for ways to execute these effectively.
	7.	“We recognize that increased diversity in the faculty complement is a slow process (particularly in tight financial conditions and in a department where people like their colleagues and don’t leave). Nonetheless, creating a more diverse faculty should also be a goal. In the meantime, an approach may be to work with current faculty, staff, and students to embed more EDI in departmental assessment, program design, classroom climate, and other areas. We also encourage working with partners from across UTSC, as well as from community and other universities, where relevant expertise can be brought in.”	Please see our response to comment #5.	Please see our response to recommendation #5. We would also be happy to connect the department with offices within UTSC, such as the Equity, Diversity, and Inclusion Office and the Office of Indigenous Initiatives to explore recommended practices and plan for ways to execute these effectively.
The reviewers highlighted a lack of clarity around whether DPES has developed plans to address numerous upcoming leadership and growth changes that will significantly impact them. They emphasized the critical importance of strategic planning and decision making for the unit.	8.	“There are numerous changes ahead for DPES, including a change in Departmental Chair, a new Dean, and the opening of SAMIH. It was not clear that DPES had a strategic and/or succession plan to address these numerous changes that will occur over the next year. There are opportunities for further departmental growth and increased teaching, but strategic decisions are needed.”	<p>The department is currently in the phase of recruiting a new Chair. While this change will inevitably involve a learning curve from the new leadership, the department has a clear academic plan, as amply described in the self-assessment study, that ensures its seamless future growth.</p> <p>In regard to the academic changes related to the opening of SAMIH, the department recently modified our former Specialist in Biological Chemistry, now referred to as Medicinal and Biological Chemistry, in order to highlight the existing medicinal chemistry content already in the program, and to further expand on in the</p>	<p>My office will be working closely with the department through the transition to a new Chair, building on the invaluable contributions and stellar leadership that the current Chair has provided to the department for many years. DPES is also actively involved in campus-wide planning that relates to SAMIH programming, recruitment, and space-related needs in the life sciences.</p> <p>My office looks forward to participating in the Chemical Society of Canada’s re-accreditation process for the department’s suite of Chemistry programs, including the modified and re-titled</p>

			<p>same thematic area through additional course offerings. It is anticipated that this revised program will better align with the interests of our students and campus, and lead to increased growth in the future. As a result of the implemented program changes, which included a program title change, the Chemical Society of Canada (CSC) accreditation for the Biological Chemistry Specialist does not apply to the Medicinal and Biological Chemistry Specialist. We have applied for accreditation of this new program, and we anticipate that it will easily meet the requirements for accreditation next month, when the site visit of the CSC external appraisers will take place.</p> <p>This specialist and its co-op counterpart are crafted as an intensive program that provides students with the breadth and depth needed to explore chemistry and its myriad of applications to medicinal, biological and health-related sciences. The first year of the program provides a solid base in general chemistry, introductory biology and calculus (two courses each), as well as introductory courses in physics and statistics (one each). The second year offers introductory courses in the main subdisciplines of chemistry, along with courses in cell biology. The third year brings in more specialized courses in biochemistry, bio-organic chemistry and medicinal chemistry, while continuing to develop student knowledge of organic, analytical and either physical or inorganic chemistry. The third-year courses lay the foundation for advanced interdisciplinary courses in the fourth year, which showcase applications of biological and medicinal chemistry through contemporary topics. As part of their final year, students are required to complete at least 0.5 credit of directed research under the supervision of a faculty member,</p>	Specialist and Specialist (Co-op) in Medicinal and Biological Chemistry in April 2025.
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			culminating in a written thesis and oral presentation by the student. Overall, students need to complete between 14.5 and 15.0 credits to meet the program requirements (depending on student course selection).	
Noting the impending arrival of SAMIH students at UTSC and related enrolment opportunities for DPES, the reviewers recommended accelerated planning for accommodating these learners on campus, with a particular focus on teaching laboratories. They also urged unit and divisional leadership to assess available laboratory spaces, and ensure that these spaces are updated appropriately to meet technical support demands and to accommodate student accessibility needs.	9.	“Given that SAMIH students will be on campus starting Fall 2024, we recommend accelerated planning for how these students will be accommodated, especially with respect to the teaching labs that will be needed.”	Thanks to the Dean’s support, the department has been granted an additional technician position to support the delivery of our Chemistry labs. However, it is absolutely necessary to get one more technician position given that the incoming cohort of students is expected to increase exponentially the pressure to our personnel. This request will be submitted as part of our new faculty complement plan.	My office and I are continuing to work with the department to address these concerns. We recognize the pressures that the department has been experiencing and will continue to partner with them to address these needs as best we can given the current fiscal climate and related hiring constraints.
	10.	“There are currently safety issues in the chemistry laboratories, such as line of sight for instructors who must be able to observe all students. Furthermore, there are currently some challenges around student preparedness and confidence in laboratory settings. Accessibility for all types of learners is also limited, and the resources for teaching lab technical support is stretched too thinly. The university must make it a top priority to address current [laboratory] limitations and ensure that the fixes will be able to accommodate the technical support demands that will arise with increased student numbers.”	<p>This comment from the external reviewers was most welcome. Our self-assessment study allocated more than ten pages to communicate the need for additional investments to our old Chemistry labs (Science Wing). One of the core issues that continues to plague the SW chemistry teaching laboratories since they were last renovated in 2004 are the poor sight lines, making it difficult to adequately communicate instructions, monitor student progress, and quickly identify students who may require extra attention. This is especially important because these labs are used for our A-level undergraduate chemistry laboratory practical sessions. These courses have a large enrollment of students with a wide array of diverse abilities and varying levels of chemistry knowledge and experience from their secondary institutions.</p> <p>Apart from poor sightlines, insufficient lighting is another downfall of the opaque walled fume hoods. Workbenches rely on two fluorescent tube lights to illuminate the space which can burn out causing the need for replacement of the bulb</p>	The accessibility and safety of our labs are paramount to the experiences of students, researchers, and educators. My office and I will advocate for these issues on behalf of the department during discussions with the Office of the Vice-President & Principal and the Office of the Vice-Principal Research and Innovation. In addition, we will consult with the Environmental Health and Safety Office as needed.

		<p>or in some cases the ballast. Fume hoods are also reliant on two working fluorescent tube lights, which without them make the fume hoods unsafe to use. Redesigning and renovating the layout of the space would not only improve the sightlines and illumination of workspace while making the labs safer to enhance the student learning experience, it would also present an opportunity to design the labs such that they can accommodate other disciplines from future growth if required, such as Environmental Sciences.</p> <p>In addition to making the space more flexible, incorporating new technology such as Piab vacuum systems and replacing the Constant Air Volume (CAV) fume hood systems with Variable Air Volume (VAV) systems (similar to those incorporated in the ESCB labs) would make the labs much more energy efficient and environmentally friendly, along with saving the University a significant amount on their energy expenses. Moreover, while the SW teaching labs have recently received a CTL teaching equipment grant to invest in accessible chemistry labware and equipment for students acquiring accommodations, there should also be a larger investment in adjustable height fume hoods and lab benches. Currently, each large lab has one accessible workstation with a hood, which is at a non-adjustable height. Incorporating large screen TVs and accompanying micro-PCs would also help to standardize pre-lab talks amongst TAs and significantly improve the communication of instructions to enhance the facilitation of lab exercises. There are a number of other changes that should be in place, and it is our hope that the upper administration will provide all the resources to necessitate for the department to continue its exciting trajectory.</p>	
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	11.	“More attention and investment are needed to ensure that all teaching laboratories, and not just some, are safe and accessible to all learners.”	Please see our response to comments #9 and #10.	Please see our response to recommendation #10.
Other recommendations:	12.	“We did hear from undergraduate students a need for extended library hours and a need for communal meeting spaces.”	This issue has been addressed by changing the designated space for our librarian within the second EV floor of our administration. The greater visibility of the new office space has increased student visitation. Unfortunately, space limitations do not allow for a regular arrangement to accommodate communal meetings. That said, the department has recently allocated space to our graduate students to facilitate the writing of their thesis and manuscripts.	The Sam Ibrahim Building, which opened in Fall 2024, serves as a central hub on the North Campus of UTSC for students to use as study spaces or to simply hang out. In addition, the UTSC Library has undergone extensive renovations that is enabling them to add group study rooms and general study spaces.
	13.	“The department does have an outreach - communications committee, but it understandably seems that fundraising is beyond the scope of an academic unit. Nonetheless, there is potential given the strong growth in the department alumni numbers and the growing importance of sustainability, environmental (especially climate) action, and social justice issues in society. Many universities are choosing to make these topics important components of their fundraising efforts, and the university (and department) might do well with a similar strategy.”	There have been sporadic fundraising efforts with modest success. The department has both the capacity and commitment to work together with the Development and Alumni Relations Office toward similar initiatives in a more systematic manner. We will welcome this prospect.	The Dean’s Office would be pleased to facilitate a connection between the department and the UTSC Development and Alumni Relations Office to discuss advancement and alumni engagement strategies, as well as recommended practices.

3 Committee on Academic Policy & Programs (AP&P) Findings

The spokesperson for the reading group reported that the review summary accurately described the full review, and the Dean's administrative response adequately addressed all issues identified. The Reading Group reported that the review highlighted high morale, strong research, breadth of program, strong co-op and experiential learning opportunities, interdisciplinary collaboration and clear progress since last review. The Reading Group asked the Unit to further comment on the strong opposing views on the management of the co-op program.

Katie Larson, Vice-Dean, Teaching, Learning & Undergraduate Programs, responded that the co-op and experiential learning programs were core commitments, a strength and priority of the campus. The Arts & Science co-op office administered the co-op program in a centralized format, working with various departments to support those programs. The Department of Physical & Environmental Sciences ("DPES") had been advocating for a department focused model, whereas the Dean's office wanted to explore a centralized model. Steps were taken in the interim to address the departmental concerns that were highlighted in the review. There were dedicated staff that served as direct department liaisons and they were in the early stages of assessing progress, acknowledging the core differences in opinion. Professor Larson noted that this was an ongoing discussion, and that there was a planned external review of the Arts & Science co-op program at UTSC, to gain proper insight on how best to move forward, since this concern was connected to experiential learning more broadly on campus.

No follow-up report was requested.

4 Institutional Executive Summary

The reviewers praised DPES for offering up-to-date undergraduate curricula that align with current disciplinary trends. Notably, the reviewers commended the Department's extensive experiential learning opportunities and robust co-op programs. They congratulated DPES on its thriving research environment for graduate students with an excellent focus on preparing PhD students to enter the workforce – in academia and beyond. They highlighted the impressive quality of DPES faculty and exceptionally strong departmental research; and noted that teaching stream faculty are leading technological and pedagogical innovations. Finally, the reviewers highlighted that DPES has made transformative progress since their last review, resulting in a net increase of faculty and staff; the Department benefits from stable leadership and strong morale; and the unit is housed in a modern building with excellent facilities.

The reviewers recommended that the following issues be addressed: engaging in consultations with all stakeholders to determine appropriate future directions for optimal stewardship of the undergraduate co-op program; exploring approaches to ensure that the unit's graduate student population is appropriately supported; engaging in a strategic faculty complement planning process, and prioritizing coverage in Physics and adding to the diversity of the faculty

complement when hiring opportunities permit; taking steps to ensure that EDI is made more prominent in departmental activities; engaging in strategic planning and decision making related to numerous upcoming leadership and growth changes; and conducting accelerated planning to accommodate the arrival of SAMIH students at UTSC, with a particular focus on teaching laboratories, as well as more broadly ensuring that laboratory spaces are updated appropriately to meet technical support demands and student accessibility needs.

The Dean's Administrative Response describes the Faculty and unit's responses to the reviewers' recommendations, including an implementation plan for any changes necessary as a result.

5 Monitoring and Date of Next Review

The Dean's Office will monitor the implementation of recommendations through ongoing meetings with the Chair of the Department of Physical and Environmental Sciences.

The Dean will provide an interim report to the Vice-Provost, Academic Programs in 2028 on the status of the implementation plans.

The next review will take place no later than the 2031-32 academic year.

6 Distribution

On August 15th 2025, the Final Assessment Report and Implementation Plan was posted to the Vice-Provost, Academic Programs website and the link provided by email to the Vice-Principal, Academic & Dean of UTSC, the Secretaries of AP&P, Academic Board and Governing Council, and the Ontario Universities Council on Quality Assurance. The Dean provided the link to unit/program leadership.