

**Bachelor of Science in Environmental and Urban
Sustainability Science (Hons)
Notice of Intent for New Programs (NOI)**

First Cohort Fall 2028

Submitted to Vice-Provost Academic on May 11, 2026

New Program Notice of Intent

1. Basic information

1.1.1. Name and brief description of the proposed program, the proposed degree designation(s), identification of the designated academic unit, and the program governance structure:

The proposed Bachelor of Science in Environmental and Urban Sustainability Science (EUSS) (Hons) represents an advancement in interdisciplinary and experiential program offerings at Toronto Metropolitan University. The program prioritizes applied skills and scientific literacy, but a central attribute of sustainability science and the program is the integration of human dimensions of environmental challenges and to seek solutions and management approaches through systems thinking. An integrative approach to understanding human-environment interactions is at the core of geography, but the proposed BSc goes further by including core required and elective courses from the Department of Geography and Environmental Studies, the Department of Chemistry and Biology, the School of Urban and Regional Planning and more. The program will provide a rigorous foundation in sustainability science through required courses in physical and environmental geography, geomatics, biology, chemistry, ecology, and environmental management.

The program will have an applied focus on future career pathways with the technical, scientific and practical skillsets to tackle some of the most pressing environmental challenges of today, with Concentrations in Climate Change, Land and Water Resources, Ecosystem Services and Geospatial Methods, all strengthened by the majority of courses having a laboratory component and the option to pursue a cooperative education program. Graduates will have a unique analytical skill set that includes scientific methods of data collection and analysis, laboratory and field techniques, application of geotechnologies and geospatial methods, complemented by social science methods and critical analysis skills that will make them uniquely qualified to analyze and assess complex social-ecological systems such as drivers and impacts of environmental change. Experiential learning opportunities to engage with real-world environmental data are integral components of the proposed program, not only through the optional co-op program, but in core required and elective courses where students will be required to design and conduct research projects and practice field work to develop practical and technical proficiencies.

Development of a Bachelor of Science to complement the current BA in Environmental and Urban Sustainability (EUS) was a key recommendation of the most recent periodic program review (PPR), which was approved by the TMU Senate on May 6, 2025. The program will therefore be administered by the Department of Geography and Environmental Studies as the designated academic unit. Following TMU Senate Policy 45 on interdisciplinary programs (1.2.8 - 1.2.14), the program will be governed by a dedicated Undergraduate Program Council with representation from the Department of Geography and Environmental Studies and the Department of Chemistry and Biology, and potentially other Departments or Schools as determined by the final curriculum structure. The UPC bylaws will be developed as part of the full program proposal.

1.1.2. Summary of the overlap between, and/or integration of, the program with other existing or planned programs at TMU:

The proposed program will overlap and integrate most prominently with the recently modified Bachelor of Arts in Environment and Urban Sustainability (EUS) program, with shared core required and core elective courses throughout this curriculum.¹ The proposed program will also integrate with Geographic Analysis (BA), Biology (BSc), Biomedical Science (BSc) and Chemistry (BSc) in core foundation courses, and with Geographic Analysis, Biology and Chemistry through core elective courses and opportunities to pursue Minors and Concentrations.

The proposed program in EUSS will provide students with a unique opportunity to acquire specialized skills in physical geography, geomatics and environmental science, with the added benefit of essential learning in the social sciences. Practical skills and breadth as well as opportunities to focus on different fields of practice makes the BSc in EUSS a one-of-a-kind program at TMU and across the province. More specifically, the proposed program integrates with EUS through foundation courses in environmental and physical geography, GIS and quantitative methods, and intermediate courses on landscape change and field methods. Students in both EUS and the proposed BSc program will design and conduct field research in 3rd year, while the proposed program will additionally benefit from a new and required Senior Field Project class in 4th year. Climate change mitigation and adaptation and Indigenous geographies are integral to future environmental professionals and we are therefore proposing to include GEO 311: Indigenous Geographies and GEO 313: Weather and Climate as required courses. Foundational topics on climate change adaptation and mitigation (e.g., EUS 450: Responses to Climate Change) will be required for students in both EUS and EUSS, while students in EUSS will take additional courses that provide an advanced understanding of environmental systems and change.

Integration with EUS will promote excellent and improved opportunities for collaborative, experiential and field-based learning. Students in the EUS program have always enjoyed opportunities to take field trips, collect environmental data, learn in context and engage with the public and private sectors. Experiential learning to support technical and analytical training is furthermore supported by core and elective courses in Geographic Analysis, Biology and Chemistry - a total of 33 out of 46 courses proposed for the Core Elective Table include a laboratory component!

1.1.3. Program Description and Scope

1.1.3.1. A working set of program objectives:

The new program objectives for the proposed BSc were presented to Curriculum Quality Assurance for endorsement on May 16, 2025, and approved by the Department Council on May 22, 2025:

1. Provide a robust interdisciplinary curriculum that integrates natural and social sciences to ensure students gain both scientific literacy and an appreciation for the human dimensions of environmental challenges.
2. Provide a rigorous foundation in natural sciences as they relate to environmental systems.
3. Foster analytical and critical thinking skills to enable students to critically analyze complex socio-ecological systems, including sustainable development, environmental ethics, and risk, and to evaluate various solutions for climate and environmental change.

¹ A major modification of the BA in EUS curriculum was submitted in May 2025 and approved by the Academic Standards Committee on October 9, 2025 and is implemented for the Fall 2026 student intake.

4. Prepare students to engage with real-world environmental data by developing practical and technical proficiencies in environmental data collection, analysis, and visualization, including the use of geospatial technology, statistical programming, and field and laboratory techniques.
5. Promote research and problem-solving capabilities through experiential learning and opportunities to design and conduct independent research using diverse methodologies to address sustainability challenges.
6. Cultivate effective communication and collaboration skills, preparing students to articulate complex environmental issues to diverse audiences and to work effectively in team environments for professional practice.
7. Instill a strong ethical and culturally aware approach to environmental decision-making, emphasizing cultural humility, positionality, and the integration of Indigenous ways of knowing into environmental policy and management.

1.1.3.2. Appropriateness of degree nomenclature given the program's objectives:

The Bachelor of Science designation is based on the program's focus on scientific processes and methods as they relate to the discovery and understanding of environmental phenomena, and as appropriate within the discipline of geography and its methods of inquiry, an integrative approach drawing from social and natural sciences. Program objectives and the curriculum focus on data collection and analytical skills, problem-solving and experiential learning, practical and technical proficiencies are appropriately situated within a Bachelor of Science degree designation more broadly and its approach to understanding and solving environmental challenges. Systems thinking and analyses are also recognized as rigorous, standardized and replicable methods of inquiry and understanding to address the 'wicked problems' caused by global environmental processes that have unique impacts on local environments and populations depending on their geographic context.

The Bachelor of Science designation is appropriate and consistent with standards of degree nomenclature at other post-secondary institutions as well as within Toronto Metropolitan University. Comparator Bachelor of Science programs at institutions in Ontario and Canada at large typically include foundation courses in biology and/or chemistry, and occasionally include further core required or elective options for courses in scientific disciplines outside geography. To this end, the proposed curriculum and the near equal proportion of non-geography core elective courses exceeds the norm based on comparator programs. Within Toronto Metropolitan University, the program structure is consistent with the inclusion of physical or natural science courses and the Bachelor of Science designation to other programs that maintain a rigorous and systematic approach to disciplinary knowledge and methods, such as computer science.

1.1.3.3. A brief explanation of the proposed program objectives and how these align with the University's mission and academic plan:

The proposed degree aligns well with Toronto Metropolitan University's academic plan. The program's objectives map directly onto the university's core strategic priorities, demonstrating a clear synergy between the proposed curriculum and TMU's institutional vision.

Interdisciplinarity and Critical Thinking: The university's emphasis on an interdisciplinary approach to solving complex problems is a cornerstone of the proposed program. Objective 1 directly addresses this through a curriculum that integrates natural and social sciences. This ensures students understand both the physical science of environmental challenges such as climate change and its profound human dimensions. The importance of developing a deep understanding of environmental processes is

underscored by Objective 2, while Objective 3 further supports this by aiming to foster analytical and critical thinking skills. This will enable students to analyze complex socio-ecological systems and evaluate multifaceted solutions, moving beyond a single-discipline perspective.

Experiential Learning and Future Readiness: A key pillar of TMU's academic plan is providing students with hands-on, experiential learning to prepare them for future careers. The program is designed to meet this goal head-on. Objective 4 focuses on developing practical and technical skills in environmental data collection, analysis, and visualization. Proficiency in geospatial technology, statistical and analytical methods, and field/lab techniques will make graduates highly competitive and "future-ready." Objective 5 promotes research and problem-solving capabilities through experiential learning. By providing opportunities to design and conduct independent research, the program ensures students can apply theoretical knowledge to tangible sustainability challenges. Objective 6 cultivates essential professional skills, including effective communication and collaboration, preparing students for teamwork and leadership in their careers.

Equity, Diversity, Inclusion, and Reconciliation: The program demonstrates a deep and thoughtful commitment to TMU's priority of advancing equity, truth, and reconciliation. Objective 7 is explicitly designed to instill a strong ethical and culturally aware approach. It emphasizes the critical importance of cultural humility, understanding one's own positionality, and respectfully integrating Indigenous ways of knowing into environmental policy and management. This objective goes beyond simple acknowledgment and moves toward meaningful integration, reflecting a core value of the university's academic plan.

In summary, the objectives of the proposed Environmental and Urban Sustainability BSc program are not just compatible with the TMU academic plan; they are a direct and robust embodiment of its key principles, promising to produce graduates who are scientifically literate, technically skilled, ethically grounded, and ready to lead.

1.1.3.4. Discussion of societal need and student demand:

Societal need for the proposed program was articulated by the external peer review team, the Program Advisory Council, Department and Faculty in the periodic program review, recognizing the Department's capacity and expertise in delivering a rigorous curriculum grounded in environmental systems and geospatial technologies to complement the applied social and policy focus of the Environmental and Urban Sustainability BA program. Consultation with the Office of the Registrar furthermore indicated an opportunity within the University to strengthen programming in this area, and that comparator programs in the Province have steady and robust demand. However, the proposed program is unique in its design and goals within the Greater Toronto Area and stands apart from comparator programs by its applied focus on environmental systems and their interactions, geotechnology and field methods, particularly in the context of climate change. Graduates will be uniquely positioned to understand and mitigate local impacts of global environmental processes across private and public sectors.

In a [2024 report](#) on the future labour market demands, EcoCanada in collaboration with provincial and federal governments estimated that there will be 181,750 net new job openings for environmental professionals by 2033 in Ontario alone, primarily concentrated in areas of sustainability and resource management, along with professional, scientific and technical services and other fields of relevance to graduates of the proposed program. This is further supported by government policies such as The Canadian Sustainable Jobs Act (June, 2024), which will support Canadian workers and communities in the shift to a low-carbon economy, while "[...] fostering the creation of a more sustainable, inclusive and prosperous future for generations to come." Graduates will furthermore benefit from the Department's community of alumni, government and industry partners in related fields of practice that has grown over the 50 years since the BA in Geographic Analysis (formerly Applied Geography) was established and the launch of the EUS program in 2012.

An analysis conducted by the TMU Office of the Registrar of applications and registrations to BSc programs in Environmental Science and related scientific disciplines such as Environmental Geoscience and Environmental Chemistry in Ontario shows modest but steady demand between 2019 and 2023 (Appendix II). Table 2 presents such programs as comparators by virtue of their BSc designations and explicit focus on the environment, but the proposed program is differentiated as an interdisciplinary program with a stronger integration of geotechnology, social sciences and the urban context. This is reflected by comparatively fewer high school science and math courses in the proposed admission requirements. The proposed program also stands apart from BSc offerings in other geography departments by stronger integration of natural sciences. An assessment of demand based on comparative programs is furthermore challenged due to the diversity of environmentally focused degree options commonly observed at other institutions, such as common entry points, undeclared or shared platforms, and flexibility in combining majors and minors to meet degree requirements.

Student demand for the proposed program was expressed by current and past EUS students during the 2024 PPR, noting that the unique and applied focus of the program could be strengthened with more scientific and technical focus. From 2019-2023, 23-28% of EUS program registrants had at least one high school science credit, thereby meeting the admission requirements for the proposed program (Appendix II). We recognize that the proposed program may therefore divert a portion of the traditional applicant pool from the EUS BA, but expect this to be ameliorated by increased demand for the EUS BA following a major modification to bolster experiential learning through the addition of co-op as well as stronger integration of geotechnology and field study components in the core curriculum. The shared curriculum components of the EUS BA and the proposed program will also encourage program transfers between the programs rather than out of the programs altogether.

The EUS BA remains one of the strongest environmental studies Honours programs in the province by applications and registrations, and is recognized as an innovative program with a proven track record of student success. The proposed EUSS BSc and the EUS BA programs will strengthen each other and appeal to additional applicants due to collaborative and experiential learning throughout the curriculum, particularly in project-based upper year field study and capstone courses. Demand for both programs will also benefit from liaison and recruitment activities at the University and Department levels as direct engagements with secondary students, teachers and guidance counselors supported by industry partners, trade and academic associations continue to expand. Taken together, we expect enrollments to grow from an initial cohort of 24 students in 2028 to a steady state of 48 students by 2030, with potential capacity for exceeding demand to be met if needed.

The proposed admission requirements to the BSc in EUSS for Ontario high school applicants will include completion of the Ontario Secondary School Diploma; completion of 6 Grade 12U or M courses with a minimum overall average of 70%, and; completion of Grade 12 English (ENG4U or EAE4U) and one of Physics (SPH4U), Chemistry (SCH4U) or Biology (SBI4U) with a minimum grade of 70% in each. This reflects current admission requirements to undergraduate programs in the Department of Geography and Environmental Studies, with the addition of a science course requirement as determined in consultation with the Department of Chemistry and Biology. These criteria reflect the minimum admission requirements for comparator programs and a balanced approach to ensure student preparedness and success while meeting student demand. From 2019-2023, 754 EUS applicants with one or more grade 12 high school science credits registered in programs other than EUS (Source: Environment and Urban Sustainability: 2019-23 applications analysis, Office of the Registrar, TMU, Appendix I).

Academic requirements for full-time, 4-year program

To be considered for admission, Ontario high school students must meet the following requirements:

- Completion of the Ontario Secondary School Diploma (OSSD)
- Completion of 6 Grade 12 U or M courses with a minimum overall average of 70%
- Completion of the following required Grade 12 U courses (minimum grade of 70% in each):
 - English/anglais (ENG4U/EAE4U preferred)
 - 1 of Physics (SPH4U), Chemistry (SCH4U) or Biology (SBI4U)

An overall average of 70% is required for consideration. Due to competition, the average needed for admission can fluctuate each year (it depends on the number of applications received and the number of spaces available). The grade range at the top of this page represents the average required in previous years.

Academic admission requirements for all other applicants are available on the [admission requirements page](#). If you haven't been educated in Ontario, you may be considered with the equivalent of the Ontario requirements. TMU reserves the right to determine equivalency at its sole discretion.

1.1.3.5. Program comparators from within the Province or beyond:

The integrative nature of geography as a discipline and sustainability science as a field of study is reflected by institutional variations in degree offerings and home departments, or in many cases, collaborating departments. Table 1 provides a list of comparator programs based on the proposed degree designation and an explicit focus on the environment. Table 2 provides an overview of complementary BA and BSc degrees offered at universities in Ontario and other Canadian provinces.

Table 1: Selected list of comparator programs in Ontario based on curriculum focus and degree designation					
University	Program Name	Degree	Key Focus / Specializations	Experiential Learning	Distinguishing Features
University of Waterloo	Environmental Science	B.Sc.	Specializations in Ecology, Geoscience, and Water Science. Strong focus on quantitative and analytical methods.	Mandatory co-op program; Field courses; Honours thesis option.	Emphasis on water science and hydrology, leveraging the expertise of the Water Institute.
University of Waterloo	Climate and Environmental Change	B.Sc.	Specializations in Geomatics, Economy and Society, and Aviation. Integrates biology, chemistry, physics, and earth science with human geography.	Optional co-op program; Field courses; Honours thesis option.	Integration of data tools such as computer modelling to complement natural science approaches to climate solutions.
University of Guelph	Environmental Sciences	B.Sc.	Majors include Ecology; Environment & Resource Management; Environmental Economics & Policy.	Co-op available; Numerous field courses; Independent research projects.	A broad "all-under-one-roof" approach with majors spanning natural and social sciences within the B.Sc. framework.
University of	Environmental	B.Sc.	Majors include	Lab and field courses;	Integrated program structure

Table 1: Selected list of comparator programs in Ontario based on curriculum focus and degree designation

Toronto	Science		Environmental Science; Environment and Health; Environment and Behaviour; Environment and Energy, Environmental Chemistry.	community research and collaborative projects; Research and excursion programs.	allows for flexibility in course selection across arts and science departments.
University of Toronto (Scarborough)	Physical & Environmental Sciences	B.Sc.	Specialist streams in Environmental Science, Environmental Geoscience, and Environmental Chemistry.	Paid co-op option; Field camps; Research courses and thesis project.	Strong focus on the physical and chemical sciences underpinning environmental systems.
McMaster University	Earth & Environmental Sciences	B.Sc.	Streams include Environmental Science, Geoscience, and Environmental Hydrology. Focus on Earth systems.	Optional co-op; Field schools (domestic & international); Honours thesis.	Offers a distinct "Integrated Science (iSci)" pathway for a research-intensive, interdisciplinary experience.
Queen's University	Environmental Science	B.Sc. (Hons)	Specializations in Conservation & Biodiversity; Geosciences; Environmental Chemistry; Environmental Life Sciences.	Internship option (QUIP); Field schools and courses at QUBS (Biological Station); Honours thesis.	Strong tradition in field-based learning and biology/geology.
Western University	Environmental Science	B.Sc.	Interdisciplinary program drawing from Biology, Chemistry, and Earth Sciences. Module options available.	Science Internship Program (12-16 months); Field courses; Honours thesis.	Integrated program structure allows for flexibility in course selection across science departments.
Western University	Geography and Environment	B.Sc.	Completed as Honours Specialization or Double Major with Geographic Information Science, Climate Change and Society and others.	Faculty or University Internship program with external employers or researchers; field courses; Honours thesis.	Integrated structure within Geography and Environment department allows flexibility in double major selection
Carleton University	Environmental Science	B.Sc. (Hons)	Concentrations include Conservation & Biodiversity; Environmental Health; Earth Sciences.	Co-op available; Field camp; Honours thesis or research project.	Location in Ottawa provides unique opportunities for engagement with federal government departments and NGOs.
York University	Environmental Science	B.Sc.	Streams in Environmental Biology, Environmental Chemistry, and Atmospheric Science.	Co-op option; Field courses; Honours thesis.	A specific stream in Atmospheric Science provides a direct link to climate and weather systems.

Table 2: Selected list of of geography departments in Ontario and other provinces that offer complementary Bachelor of Arts and Bachelor of Science Honours degrees

Region	University	Department Name	Degrees Offered
Ontario	Western University	Department of Geography and Environment	BA and BSc in Geography and Environment; other BA and BSc options

	Carleton University	Department of Geography and Environmental Studies	BA and BSc in Geography; BA and BSc in Geomatics; other BA options
	University of Ottawa	Department of Geography, Environment and Geomatics	BA and BSc in Physical Geography and Geomatics; other BA options
	University of Guelph	Department of Geography, Environment and Geomatics	BA in Geography; BSc in Environmental Science (Majors in Earth Observation and Geographic Information Science; Environment and Resource Management).
	University of Toronto (Mississauga)	Department of Geography, Geomatics and Environment	BA and BSc in Geography, BSc in Geospatial Data Science; BSc in Environmental Science; BA in Environmental Management
	Queen's University	Department of Geography and Planning	BA and BSc in Geography
	McMaster University	School of Earth, Environment & Society	BA in Environment & Society; BSc in Environmental Sciences; BSc in Earth and Environmental Sciences; BSc in Biodiversity and Environmental Sciences
	Trent University	School of the Environment	BA and BSc in Environmental Resource Science/Studies; BA and BSc in Geography; BA and BSc in Indigenous Environmental Studies and Sciences; BA and BSc in Sustainable Agriculture and Food Systems
Other Provinces	McGill University (QC)	Department of Geography	BA and BSc in Geography; BA&Sc in Sustainability, Science and Society
	Mount Allison University (NB)	Department of Geography and Environment	BA in Geography; BA in Environmental Studies; BSc in Environmental Science
	University of Victoria (BC)	Department of Geography	BA and BSc in Geography
	University of Winnipeg (MB)	Department of Geography; Department of Environmental Studies and Sciences	BA and BSc in Geography; BA and BSc in Environmental Studies and Sciences
	Simon Fraser University (BC)	Department of Geography	BA in Human Geography; BA in Urban Worlds; BSc in Physical Geography; BSc in Geographic Information Science; Bachelor of Environment in Global Environmental Systems

1.1.3.6. Program courses

Program courses will be delivered in-person, following the Department's prioritization of engaged, hands-on and group learning fostered in laboratory and experiential learning environments. The curriculum is designed for completion of 10 courses per year, and will include the creation of one new course: EUS 7XX Urban Hydro-Climatology (See Appendix i for Course Descriptions).

Table 3: Regular Course Sequence		
<i>Fall</i>	<i>Winter</i>	<i>Spring/Summer</i>
Year I		
BIO 143 Biology 1 CHY 103 General Chemistry 1 EUS 102 Environment and Sustainability GEO 131 Energy, Earth and Ecosystems GEO 141 Geography and GIS	BIO 144 Biology 2 GEO 161 Introduction to Analytical Techniques GEO 241 Cartographic Principles and Practice One course from Open Elective One course from Table A (LLS)	
Year II		
GEO 361 Inferential Statistics in Geography GEO 311 Indigenous Geographies GEO 313 Weather and Climate One Core Electives - Table I One Course from Open Elective	BLG 567 Ecology EUS 450 Responses to Climate Change GEO 441 Geographic Information Science One Core Electives - Table I One course from Table A (LLS)	
Year III		
EUS 701 Field Studies in Urban Environmental Sci GEO 542 Introduction to Remote Sensing GEO 513 Physical Geography in Decision Support One Core Electives - Table I One course from Table B (ULS)	EUS 601 Nature in Fragments GEO 575 Hydrology in a Changing World GEO 612 Environmental Decision Making One Course from Open Elective One course from Table B (ULS)	
Year IV		
EUS 702 Senior Field Project One Core Electives - Table I Two courses from Open Elective One course from Table B (ULS)	EUS 801 Senior Professional Project Two Core Electives - Table I One course from Open Elective One course from Table B (ULS)	

Table 4: Co-op Course Sequence		
<i>Fall</i>	<i>Winter</i>	<i>Spring/Summer</i>
Year I		
BIO 143 Biology 1 CHY 103 General Chemistry 1 EUS 102 Environment and Sustainability GEO 131 Energy, Earth and Ecosystems GEO 141 Geography and GIS	BIO 144 Biology 2 GEO 161 Introduction to Analytical Techniques GEO 241 Cartographic Principles and Practice One course from Open Elective One course from Table A (LLS)	<i>Students off</i>
Year II		
GEO 361 Inferential Statistics in Geography GEO 311 Indigenous Geographies GEO 313 Weather and Climate GEO 171 Professional Geography One Core Electives - Table I	BLG 567 Ecology EUS 450 Responses to Climate Change GEO 441 Geographic Information Science One Core Electives - Table I One course from Table A (LLS)	WKT 150
Year III		
EUS 701 Field Studies in Urban Environmental Sci GEO 542 Introduction to Remote Sensing	WKT 250	<i>Students off or can take electives</i>

Table 4: Co-op Course Sequence		
GEO 513 Physical Geography in Decision Support One Core Electives - Table I One course from Table B (ULS)		
Year IV		
WKT 350	EUS 601 Nature in Fragments GEO 575 Hydrology in a Changing World GEO 612 Environmental Decision Making One Course from Open Elective One course from Table B (ULS)	<i>Students off or can take electives or complete WKT450</i>
Year V		
EUS 702 Senior Field Project One Core Electives - Table I Two courses from Open Elective One course from Table B (ULS)	EUS 801 Senior Professional Project Two Core Electives - Table I One course from Open Elective One course from Table B (ULS)	

Table 5: Courses credit summary and experiential learning components		
Number of Credits	Co-op	Experiential Learning Components
Core Required: 22 Core Elective: 6 Open Elective: 6 Liberal Studies: 6	- Optional - Admission based on GPA	- Co-op - Lab and field activities in required courses - Lab and field activities in elective courses - EUS 701 Field Studies in Urban Enviro Sci - EUS 702 Senior Field Project - EUS 801 Senior Professional Project - EUS 880 Field Studies

Table 6: Co-op Work Term Sequence													
1st Year			2nd Year			3rd Year			4th Year			5th Year	
F	W	S	F	W	S	F	W	S	F	W	S	F	W
Study	Study	Off	Study	Study	Co-op Work Term	Study	Co-op Work Term	Off or Study	Co-op Work Term	Study	Off, Study or Optional 4th Co-op Work Term	Study	Study

Table 7: Program balance and coherence to Policy 2			
Category:	Expected Range (%)	# Actual Courses	% Actual Courses
Core Studies	60-75	28	70%
<i>Core Required</i>		22	55%
<i>Core Elective</i>		6	15%
Open Electives	10-25	6	15%
Liberal Studies	15-20	6	15%

1.1.3.7. For graduate programs a summary of: (see above) program length (rationale included), presentation of the curriculum in a clear table format, rationale for the proposed mode of delivery:

N/A

1.1.3.8. Appropriateness of the program's structure and requirements, in meeting the institution's undergraduate or graduate Degree Level Expectations:

The proposed BSc in Environmental and Urban Sustainability Science is strategically structured to meet the Undergraduate Degree Level Expectations (UDLEs) as outlined in Appendix 1 of TMU's Senate Policy 110. The curriculum provides a robust Depth and Breadth of Knowledge (UDLE 1), beginning with first-year foundational courses in geosciences, biology, and chemistry (UDLE 1a). These introductory units transition into specialized instruction in climate change science and urban ecology, ensuring students acquire detailed knowledge in a specific sub-discipline (UDLE 1d). Interdisciplinary intersection is a hallmark of the program (UDLE 1b), fostered through core courses that integrate sustainability science with physical geography. By engaging with Indigenous Geographies and environmental management, students develop the Application of Knowledge (UDLE 3), specifically the ability to use qualitative and quantitative data to make sound judgments (UDLE 3ib) and propose solutions to complex environmental disturbances (UDLE 3iia/b).

The program further develops Knowledge of Methodologies (UDLE 2) through a sequenced exposure to analysis of different environmental systems, along with laboratory methods and advanced geotechnologies like GIS and Remote Sensing. These tools allow students to evaluate the appropriateness of different problem-solving approaches (UDLE 2a) and devise independent research projects in their final year capstone courses (UDLE 2b). To ensure Communication Skills (UDLE 4), the curriculum requires students to master scientific writing for technical audiences while also producing policy briefs and reports for the general public. Central to the EUSS experience is an Awareness of the Limits of Knowledge (UDLE 5), where experiential field studies and exposure to diverse worldviews force students to acknowledge scientific uncertainty and the boundaries of their own expertise. Finally, the program cultivates Autonomy and Professional Capacity (UDLE 6) by requiring students to manage complex group projects, maintain academic integrity, and exercise personal responsibility—skills essential for leadership in the environmental sector.

1.1.3.9. Discussion of how an EDI/anti-racism lens has been applied in the development of the program:

The proposed BSc curriculum will integrate Indigenous knowledge and diverse perspectives through required coursework and learning outcomes that challenge Western-dominated environmental discourse. For example, GEO 311 Indigenous Geographies is a core required course in the proposed BSc to ensure all students engage with Indigenous knowledge as it relates to human-environment interactions, environmental policy and management. Students will be exposed to non-Western knowledge systems as a means to both complement and challenge the dominance of Western scientific approaches. More generally, Program Objective (7) will ensure that courses in the proposed BSc will actively engage with students to promote critical self-awareness and the appraisal of impacts of environmental ethics, cultural humility, and positionality on environmental decisions. The BSc curriculum will also address climate anxiety—a documented barrier causing marked enrollment declines in environmental studies and science at Canadian post-secondary institutions—through solution-focused and hope-building approaches rather than problem-focused content.

The proposed BSc has been designed to provide students with a wide variety of experiential learning opportunities that include field-based learning and laboratory components. This teaching and learning modality may present accessibility challenges for students with physical disabilities (for comparison: EUS has a reported 12% of students with a physical disability, whereas 24% is reported for the broader community). In fine-tuning classroom activities, we will identify traditional environmental fieldwork assumptions about physical mobility, sensory capabilities, and stamina and design experiential learning opportunities that ensure multiple pathways for meaningful participation in data collection and analysis. The EUS's EDI/anti-racism approach extends to faculty diversification and career development support. In recent years, Geography & Environmental Studies has actively and intentionally challenged the traditional environmental field's exclusion of diverse voices. Recent hiring of Indigenous scholar Dr. Madeline Whetung and racialized scholars Drs. Emmanuel Kyeremeh, Ismahan Yusuf, and Harshita Yalamarty establish academic leadership positions.

The 2025 EDI reporting tool data shows that Women, Black students, and 2SLGBTQ+ students are well represented in the Environment and Urban Sustainability undergraduate program compared with community representation. Representation of racialized students, FNMI students, and persons with disabilities is below community proportions. We intend to address these potential barriers to recruitment by designing program promotional materials that highlight department teaching and research that embeds environmental justice and community-based environmental initiatives with the intention that these themes will resonate with diverse communities' values and immediate concerns. Furthermore, proposed recruitment activities will include career pathway mapping, with examples from graduates of our EUS degree, demonstrating diverse routes to environmental careers with particular attention to roles connecting to community values and environmental justice.

1.1.3.10. UPO analysis report (brief)

The University Planning Office (UPO) reviewed a draft proposal for the program during Fall 2025. A preliminary analysis indicates modest resource requirements as the program could primarily leverage existing resources within the university. Based on the initial review, this program will require modest resources to support additional registrations and two new courses. The majority of the additional resources would be in the Geography and Environmental Studies department, with some in the Faculty of Science's Chemistry and Biology department.

The specifics of the resource needs and allocations for the program will be identified as the program is further developed and as more detail becomes available.

1.1.4. Resources (developed in consultation with the University Planning Office)

1.1.4.1. Brief description of how the need for a sufficient number of core faculty who are competent to teach and/or supervise in and achieve the goals of the program and foster the appropriate academic environment will be met;

As of 2025/26, the effective number of full time faculty members in the Department of Geography and Environmental Studies is twenty-one. This follows the departure of five faculty members in 2024 due to retirements and resignations, and the appointment of one tenure-track faculty member replacement and a tenure-track CRC Tier 2 in Gender and Migration following a search initiated in 2023. The added loss of teaching capacity due to releases and leaves means the Department will continue to depend on contract lecturers to teach both core required and elective courses, regardless of the program proposed herein. Expertise of the core faculty at present is well aligned with the goals of the program, and will be complemented by expertise of replacement positions that are needed to support the existing programs.

Core required and elective courses in biology and chemistry and the corresponding goals of the program to include foundational and elective courses on related topics will be supported by core faculty in the Department of Chemistry and Biology at present.

1.1.4.2. Brief description of the adequacy of the administrative units' planned utilization of existing human, physical and financial resources, including implications for the impact on other existing programs at the university and any current institutional commitments, such as registrarial and student services, to support the program;

The existing Undergraduate Program Director for EUS and the Undergraduate Program Administrator team for EUS and Geographic Analysis will continue their roles to include the proposed program initially. Student intake in the proposed BSc and the existing BA as well as consultation with the Dean of the Faculty of Arts will determine the need and feasibility of a dedicated Undergraduate Program Director and/or additional staff support to ensure operational coverage for the new program. The BSc designation does not permit the program to be part of the Arts Common Platform and will instead require unique admission requirements among existing programs on the Platform, including Grade 12 English and one of biology, chemistry or physics, in addition to a minimum grade average. However, the proposed curriculum for year one shares a notable proportion of courses with the Geographic Analysis and EUS BAs, as well as the Biology and Chemistry BSc programs, which presents opportunities for students to transfer in and out of the program potentially without delaying their degree progression.

Added resource requirements associated with the co-op option for the proposed program are minimal as the Department is already offering a preparation course for all Geographic Analysis students (direct entry co-op) as well as EUS students with a co-op option starting Fall 2026. The proposed BSc co-op option will follow the same work term schedule as the EUS and Geographic Analysis co-ops, for which class scheduling is already adjusted at the Department level. Additional fees associated with the co-op program will support the Career, Co-op and Student Success Centre in their efforts to secure work placements and other resources for students. Likewise, additional resource demands on the Office of the Registrar for admission, curriculum management, standing reports and graduation requirements will be offset by the cost-recovery model of the program.

The proposed BSc will place an increased demand on physical resources for GIS and geotechnology teaching in the Department, most importantly served by POD 348 which is a Department computer lab with 42 seats currently. There is, however, flexibility to add lab sections and evening classes and labs, as well as more effective utilization of Faculty of Arts computer labs such as POD 351 (41 seats) and POD 356 (40 seats). Other resources subject to increased demands are not limited by student numbers (e.g., software licenses for GIS and remote sensing applications) or will be adjusted as needed with relatively low costs (e.g., drones for flight training and image capture; environmental monitoring and sampling equipment). The Department currently works closely with the TMU Libraries Collaboratory as well as the Geospatial Map and Data Centre, and the BSc will present further opportunities to leverage resources and expertise on geographic data capture with drones, as well as data processing, analyses and visualization. The proposed program aligns with expertise and resources among existing Subject Liaison Librarians for Geography, Biology and Chemistry.

Access to a physical geography teaching lab is missing from the Department currently, and this will continue to present challenges and limit the Department's ability to deliver a comprehensive curriculum, with or without a new BSc program. The initial target intake for the BSc will be 48 students, which corresponds to two wet lab sections for first year chemistry and biology courses. The Department of Chemistry and Biology has the capacity to increase the number of lab sections as needed, reflecting an existing process for enrolment of students in a diversity of programs in other Departments and Faculties.

Moderate enrolment increases among core elective courses from the Department of Chemistry and Biology and other departments are not expected to present resource demands beyond current capacities.

1.1.4.3. For graduate programs: a statement of whether the program has a required SRC component for degree completion (e.g., thesis or MRP) or is course-based (Master's or Professional Master's Diploma). Programs intending to launch under full cost recovery model should also state this .

N/A