

Faculty / Affiliated University College	Faculty of Science	
Degrees Offered	Master of Environment and Sustainability (M.E.S)	
Date of Last Review	2014-2015	
Approved Fields	N/A	
External Reviewers	Dr. Maureen Reed, School of Environment and Sustainability University of Saskatchewan	Dr. Scott Mitchell, Department of Geography & Environmental Studies Carleton University
Internal Reviewers	Dr. Tom Drysdale Associate Dean Schulich School of Medicine and Dentistry	Daniel Amoak, PhD Candidate in Geography and Environment
Date of Site Visit	March 8, 9, 2023	
Date Review Report Received	March 30, 2023	
Date Program/Faculty Response Received	Program: April 17, 2023 Faculty: April 17, 2023	
Evaluation	Good Quality	
Approval Dates	SUPR-G: October 16, 2023 & September 11, 2023 revisions to be added then brought back to committee ACA: October 25, 2023 Senate: November 10, 2023	
Year of Next Review	Year of next cyclical review: 2030-2031	
Progress Report	June 2026	

Overview of Western's Cyclical Review Assessment Reporting Process

In accordance with Western's Institutional Quality Assurance Process (IQAP), the Final Assessment Report (FAR) provides a summary of the cyclical review, internal responses, and assessment and evaluation of the Master of Environment and Sustainability (M.E.S.) Program delivered by the Faculty of Science.

This FAR considers the following documents:

- the program's self-study brief;
- the external reviewers' report;
- the response from the Program; and
- the response from the Dean, Faculty of Science.

This FAR identifies the strengths of the program and opportunities for program enhancement and improvement, and details the recommendations of the external reviewers – noting those recommendations to be prioritized for implementation.

The Implementation Plan details the recommendations from the FAR that have been selected for implementation, identifies who is responsible for approving and acting on the recommendations, specifies any action or follow-up that is required, and defines the timeline for completion.

The FAR (including Implementation Plan) is sent for approval through the Senate Graduate Program Review Committee (SUPR-G) and ACA, then for information to Senate and to the Ontario Universities' Council on Quality Assurance. Subsequently, it is publicly accessible on Western's IQAP website. The FAR is the only document from the graduate cyclical review process that is made public; all other documents are confidential to the Faculty of Science, the School of Graduate & Postdoctoral Studies (SGPS), and SUPR-G.

Executive Summary

Initiated in 2007, the Master of Environment and Sustainability Program is a three term (1-year), course-based interdisciplinary program comprised of required courses, elective workshop courses and a co-op milestone (~500 hours). The M.E.S. is designed to focus and develop the intellectual and practical skills for the application and advancement of environmental management and sustainability in scientific, business, not-for-profit, manufacturing and government sectors. In 2020-21, total enrolment in the program was 44 students.

To inform the self-study, feedback was collected from focus groups with current students, program completion surveys, and interviews with students and supervisors during co-op site visits. A curriculum mapping exercise was equally completed with course instructors.

The external reviewers shared a positive assessment of the Master of Environment and Sustainability Program. They offer six recommendations for further enhancement.

Strengths and Innovative Features Identified by the Program

- Students benefit from professional training, delivered by highly regarded experts and/or practitioners in the relevant fields.
- The diverse educational backgrounds of the students is one of the program's greatest strengths and is leveraged to expose students to the interdisciplinary nature of the environment and sustainability sector.
- The program embeds two Indigenous Learning Bundles in the EnvrSust 9250 course and a field trip to the Chippewas of the Thames First Nation.
- The program, in partnership with the London Environmental Network (LEN), piloted an enhanced experiential learning component in 2021-2022, which supports 47 environmental groups.
- The co-op education experience and the consulting course give students an opportunity to work with a client in a non-academic, applied setting.
- Students expressed that MES provided many valuable experiences including 1) Speaker Series, workshops/case studies in Foundations of Sustainability; 2) practical hands-on application of R studio and QGIS; 3) support in preparation for the co-op job search; 4) focus on learning more about topics of interest to each student; and 5) development of skills related to grant, resume, cover letter, and consultation report writing.

Concerns and Areas of Improvement Identified and Discussed by the Program

- The high number of limited duties instructors and high instructor turnover, complicates the sharing of course syllabi somewhat because new instructors keep re-designing courses.
- Space limitations constrain cap limits to workshops and the consulting course.
- The length of the program is constrained by the co-op 'season', as most co-ops are hiring for the summer term (May- August).
- All day workshops may be too long – splitting workshops into smaller chunks would help with student motivation and engagement.
- Students identified the following areas for improvement: 1) incorporation of social sustainability as one of the 3 pillars of the program with a focus on indigenous communities; 2) further opportunities for in-depth study of course materials (case studies), rather than breadth; 3) inclusion of a course which explores current trends/issues; 4) ensure equitable experiences/expectations across the program; and 5) review the timeframe allocated for co-op placements and scheduling of workshops to ensure these support required assignments.

Review Process

As part of the external review, the review committee, comprising two external reviewers, one internal reviewer and a graduate student reviewer, were provided with Volume I and II of the self-study brief in advance of the scheduled review and then met virtually (due to pandemic restrictions) over two days with the:

- Associate Vice-Provost of the School of Graduate & Postdoctoral Studies
- Associate Vice-Provost, Academic Planning, Policy and Faculty Relations
- Director, Academic Quality & Enhancement
- Associate Dean, Graduate and Postdoctoral Studies
- Program Director and Graduate Chair
- Associate University Librarian
- Graduate Program and Department Staff
- Program Faculty Members
- Graduate Students

Following the virtual site visit, the external reviewers submitted a comprehensive report of their findings which was sent to the Program and Dean for review and response. Formative documents, including Volumes I and II of the Self-Study, the External Report, and the Program and Decanal responses form the basis of this Final Assessment Report (FAR) of the Master of Environment and Sustainability Program. The FAR is collated and submitted to SUPR-G by the Internal Reviewer with the support of the Office of Academic Quality and Enhancement.

Summative Assessment – External Reviewers’ Report

External reviewers shared that the program *“has many strengths as evidenced by high demand, retention, and the enthusiasm of students and instructors.”*

Strengths of the Program

- Connection with the Careers Office provides important opportunities for professional skill development that will help students secure and maintain relevant jobs in the workplace.
- Bringing in external professionals to teach workshops ensures that these are tailored each year to meet student demand and to allow for rapid shifts in content to keep up with evolving issues / topics.
- Hands-on, practical work, particularly in the capstone course and in the Ecosystem Health course;
- The co-op project which simulates a consulting environment is an important attraction of the program for prospective students.
- A strong alumni network, which is drawn upon in several ways and at events through the year.
- EDI initiatives used to 1) guide faculty recruitment; 2) integrate “Indigenous Bundles” offered by the Office of Indigenous Initiatives; 3) build relationships with a First Nation near the University.

Areas of Concern or Prospective Improvement

- Reliance on limited duties instructors creates a burden on the single faculty appointee and Director, and introduces uncertainty regarding availability of instructors across program years.
- Lack of adequate and accessible space is a barrier to future program offerings.
- Learning outcomes for the program remain rather broad – the specific theme(s) that characterize this program could be more clearly articulated and promoted.
- Explore how competencies in leadership and team-work could be specifically assessed through the multiple courses and opportunities that the program offers.
- Tuition differential places barriers on international students.
- Consider enhancing the curriculum by 1) standardizing course expectations and grading guidelines across the program; 2) making course sequencing more intuitive; 3) increasing content related to social sustainability including incorporating the UN Sustainable Development Goals; 4) introducing a workshop in team building during Orientation week.
- EDI practices could: 1) further inform curriculum design and delivery, particularly as it might relate to the UN Sustainable Development Goals; 2) be applied to student recruitment; 3) be embedded into other course offerings and workshops – this is in line with students’ request for more direct engagement with Indigenous communities.

Summary of the Reviewers' Recommendations and Program/Faculty Responses

The following are the reviewers' recommendations in the order listed by the external reviewers. Recommendations requiring implementation have been marked with an asterisk (*).

Reviewers' Recommendation	Program/Faculty Response
<p>Recommendation #1* Strengthen curriculum design, assessment, and coordination.</p> <p>a) Work with the Centre for Teaching and Learning (CTL) on items such as:</p> <ul style="list-style-type: none"> • revising program objectives that make the program distinctive; • ensuring courses have measurable learning outcomes; • embedding EDI-DI into course offerings; • diversifying assessments across courses; and • offering suggestions for how to assess important, yet challenging, outcomes such as "leadership". <p>b) Work with alumni and employers to bring student feedback into learning assessment and outcome process.</p> <p>c) Develop coordination mechanisms for all instructors in the program.</p>	<p>Program:</p> <p>a) The program is planning to complete a curriculum review/update over the summer of 2023. This includes updating program learning outcomes, further incorporating EDI into the curriculum, reviewing assessments and aligning course objectives with program objectives. The program has already contacted the CTL to set up individual consultations.</p> <p>b) At the end of their co-op, students are explicitly asked to write a report about how they applied their academic skills within their co-op. The program will consider incorporating these types of reflective components throughout existing courses to help facilitate the formative assessment of learning outcomes (e.g., journal entries, etc.). The program will continue to work with alumni to assess learning outcomes and solicit feedback around assessment processes.</p> <p>c) Recent changes in the collective bargaining agreement should allow us to compensate limited duties instructors for time outside of their regular classes. This will facilitate broader discussions with these instructors such as aligning teaching content, aligning course deadlines, and ensuring instructors are more aware of the needs of the broader program. Some of this can be facilitated by individual meetings with the Program Director, but larger discussions will be facilitated by an MES retreat in the summer of 2023.</p> <p>Faculty:</p> <p>a) Beyond the program's consultation with the CTL, new contracts for limited duties instructors will include duties and compensation for professional development and contributing to curriculum alignment.</p> <p>b) The program plans to collect more feedback from alumni and employers to better assess the achievement of learning outcomes and program direction. The Faculty suggests that alumni and employers are represented in the advisory board for the program.</p> <p>c) The Faculty will ensure that hours for professional development and program consultations are included in the contracts of limited duty hires.</p>

<p>Recommendation #2* Secure resources to support delivery of curriculum, program development, outreach (such as with Indigenous communities), and administrative needs.</p>	<p>Program: The program will explore forming a committee to review academic content – members of this committee could also serve as Acting Director during holiday or leave periods. The presence of tenured faculty members could be increased through guest lectures in existing programs. The program has a strong cohort of limited duties instructors that contribute significantly to the program, including directly facilitating co-op employment opportunities in their respective industries. Limited duty faculty also provide a range of perspectives ranging from engineering, social science, business.</p> <p>Faculty: The Faculty agrees with the program about the many benefits of having LD hires from industry teaching in the MES program. Students in this program already have an undergraduate degree taught by academics and it is the connection to industry and government that makes the MES program unique. However, the Faculty agrees with the reviewers that it is important to have more full-time faculty involved in the program and endeavor to create a program committee or board that includes the program director and at least one other full time faculty member to help with the service load of administering the program and build resilience.</p>
<p>Recommendation #3* Admissions should be done by committee, using a transparent and systematic review process.</p>	<p>Program: The program will undertake a process to revamp application procedures that will include altering the application process with layers of application triaging. As part of this, a committee will be formed where full-time faculty members will have some of their service workload assigned to assessing MES applications. A rubric that highlights the needs of the program and aligns that with incoming international students will be developed.</p> <p>Faculty: The Faculty will support the formation of a MES program committee that will participate in application assessments by working with other programs to assign some faculty service work in the MES program. Ideally, this committee might also include a member of the MES alumni or an employer from the co-op program.</p>
<p>Recommendation #4* Secure appropriate and accessible spaces for teaching.</p>	<p>Program: In response to the current challenges in booking room space, the program has rearranged the schedule so that workshops, which require all students to be in the same place at the same time, are only run on Fridays. This may mean that facilitators will have to make two trips to London if they are from outside the city, but it should allow the program to host students in more comfortable room spaces as on-campus room-bookings are under much less stress on Fridays. Students will need to continue to use their own computers to support learning in our regular classrooms, in lieu of computers in computer labs. The program will host dedicated workshops on Fridays where students may have access to the computer labs (e.g., GIS workshop).</p> <p>Faculty: The regular room for the MES program is well suited for the current cohort size when the courses are divided in two sections of 30. Keeping two sections allows for smaller class sizes and increases interactions between instructors and students. However, the Faculty supports and encourages the growth of the MES program and will find a larger space if the program grows. The Faculty understands the need for appropriate space for the weekly workshops where all students attend and will work with the program and central administration to request an appropriate space for the workshops. If space on campus is not available, accessible off-campus options will be considered.</p>

<p>Recommendation #5* Increase engagement with university-wide resources and support services.</p> <p>For example:</p> <ul style="list-style-type: none"> a) “Own Your Future” may help deliver existing or expanded professional development seminars; b) Western International may offer orientation and support services for international students and guide the program staff about what international students need to know in advance of arrival; c) The Office of Indigenous Initiatives on campus may help connect the program to Indigenous Guest Speakers who could offer workshops or special lectures in courses; and d) The CTL may offer multiple resources and professional development opportunities for curriculum review, revision, and delivery. 	<p>Program: Graduate students do not have access to dedicated academic counsellors that can sign-post them to extra support services. However, the program will look into finding support or case workers that could help students when problems arise.</p> <ul style="list-style-type: none"> a) Indeed, when students have been unable to attend some of the program workshops they have been asked to enroll in workshops offered by Own Your Own Future and Graduate Student Life. b) As listed below in the response to Recommendation #6, there will be greatly expanded supports for international students coming online this September. c) The program already has strong links to the Office of Indigenous Initiatives through the co-op coordinator. The Program will continue to strengthen this relationship as Indigenous initiatives are expanded. d) The program intends to work with the CTL on curriculum updates. <p>Faculty: The Faculty will provide the program Director and MES support staff with a comprehensive list and contact information for support services so that students in need can be efficiently directed to the supports they are seeking (e.g., health, wellness, accommodations, financial need). Western’s case managers can be called upon to determine what programs will best serve the student when need arises.</p>
<p>Recommendation #6* Improve resources available to international students.</p> <p>Consider:</p> <ul style="list-style-type: none"> a) enhanced supports from Western International to help students acclimatize prior to and during their tenure in the program; b) encouraging potential financial supports [bursaries, scholarships, TAships, RAships]; c) ensuring international students gain competitive co-op placements; and d) clearly articulating circumstances to international students before they make the commitment to come to Western. 	<p>Program: The SGPS has recently announced support services for international students. The program will now include information about this designated support person in admission letters that are sent to students prior to their arrival.</p> <p>In addition to new SGPS supports, the MES program will also explore further strengthening connections with other graduate departments (e.g., Biology) to help secure excess TAships that may be available for MES students.</p> <p>MES international students do gain competitive co-op positions and furthermore, those are often extremely high-quality positions (e.g., engineering consulting firms). Recent changes in employer wording in applications has added a new challenge to placing international students across the university (e.g., excluding students that <i>may</i> need sponsorships in the future). However, the program is working with Western International to ensure that MES international students are well-supported to tackle those discussions with employers.</p> <p>Faculty: The Faculty supports the program’s response.</p>

Implementation Plan

The Implementation Plan provides a summary of the recommendations that require action and/or follow-up. In each case, the Graduate Program Chair, in consultation with the SGPS and the Dean of the Faculty is responsible for enacting and monitoring the actions noted in Implementation Plan.

Recommendation	Proposed Action and Follow-up	Responsibility	Timeline
<p>Recommendation #1: Strengthen curriculum design, assessment, and coordination by:</p> <ul style="list-style-type: none"> - Working with the Centre for Teaching and Learning - Working with alumni and employers to bring student feedback into learning assessment and outcome process. - Developing coordination mechanisms for all instructors in the program. 	<ul style="list-style-type: none"> - Review program curriculum to update learning outcomes, further incorporate EDI into the curriculum, review assessments and align course objectives with program objectives. - Incorporate reflective components throughout existing courses to help facilitate the formative assessment of learning outcomes. - Collect more feedback from alumni and employers to better assess the achievement of learning outcomes. Consider having alumni and employers represented on the advisory board. - Include duties and compensation for professional development, as well as contributing to curriculum alignment, in new contracts for limited duties instructors. 	Director Associate Dean	By September 2024
<p>Recommendation #2: Secure faculty resources dedicated to the program to support delivery of curriculum, program development, outreach (such as with Indigenous communities), and administrative needs.</p>	<ul style="list-style-type: none"> - Create a program committee to help with the service load of administering the program and build resilience. - Increase the presence of tenured faculty members through guest lectures in existing programs. - Explore the potential for more full-time faculty to be incorporated into the program over the coming years through teaching some of the core courses. 	Program Director Associate Dean	By September 2024
<p>Recommendation #3: Admissions should be done by committee, using a transparent and systematic review process.</p>	Revamp the program's application procedures. Consider: <ul style="list-style-type: none"> - altering the application process with layers of application triaging; 	Program Director Associate Dean	By February 2024

	<ul style="list-style-type: none"> - forming a dedicated committee where full-time faculty members will have some of their service workload assigned to assessing MES applications; and - Developing a rubric that highlights the needs of our program and aligns that with incoming international students. 		
Recommendation #4: Secure appropriate and accessible spaces for teaching.	Request an appropriate space for the program workshops. If space on campus is not available, explore off-campus options that are accessible to the students.	Associate Dean Program Director	By September 2023
Recommendation #5: Increase engagement with university-wide resources and support services.	<ul style="list-style-type: none"> - Curate a comprehensive list, with contact information, of support services for students in need so that students can be efficiently directed to the support they are seeking. - Ensure that Western’s case managers can be called upon to determine what programs will best serve the student when need arises. 	Associate Dean Program Director	By September 2023
Recommendation #6: Improve resources available to international students.	<p>Working in conjunction with Western International:</p> <ul style="list-style-type: none"> - Include information about supports for international students in admission letters that are sent prior to their arrival. - Ensure that MES international students are well-supported to tackle discussions regarding co-op positions with employers. - Explore further strengthening connections with other graduate departments (e.g., Biology) to help secure excess TAs that may be available for our students. - Integrate additional opportunities for domestic and international students to connect and develop as a community at the outset of the program. For instance, via dedicated social events or a peer buddy/mentoring initiative. 	Program Director	By September 2024