

FINAL ASSESSMENT REPORT

PROGRAM UNDER REVIEW

PROGRAM	SENATE APPROVAL DATE	PREPARED BY
MES/MESc. Environment	December 13, 2019	Provost and Vice-President

A. SUMMARY OF REVIEW PROCESS & LISTING OF PROGRAMS UNDER REVIEW

SELF-STUDY REVIEW TIMELINE	DATE
1. Self-Study Presented to AQAPC	Mar. 21, 2019
2. Site Visit Conducted	Apr. 8 – 9, 2019
3. Reviewer's Report Received	May 28, 2019
4. Internal Reviewers Response Received	Jul. 31, 2019
5. Dean's Response Received	Aug. 18, 2019

The members of the review committee were:

- Dr. Steve Hansen (Internal)
- Dr. Doug Clark, University of Saskatchewan (External)
- Dr. Lisa Campbell, Duke University (External)

The academic programs offered by the Department which were examined as part of the review included:

- MA program in Environmental Studies
- MSc program in Environmental Science

This review was conducted under the terms and conditions of the IQAP approved by Senate on May 17, 2013.

B. PROGRAM STRENGTHS

External Reviewers: *The Graduate Program in Environmental Studies and Science is highly consistent with NU's mission, as articulated in NU's 2015-2020 Strategic Plan in two specific ways. First, the program provides a concrete means for "students, faculty and staff to realize their full intellectual and personal potential to the benefit of our local, national, and international communities". Second, as quantified in the self-study document, the program materially advance opportunities for Indigenous and first-generation learners. Further, the program contributes directly to two areas of strength identified in NU's Strategic Mandate Agreement (2014-2017) (self study pp. 4-5): "Collaborating with Nipissing First Nation and local municipalities to work on Lake Nipissing environmental and fishing issues." (1.1), and "environmental sciences" (4.1).*

The interdisciplinary program does not have a home unit so there is no faculty/unit plan to assess it against. Similarly, NU is just beginning to prepare its first Graduate Studies Plan, so that is not yet available for this assessment.

The Graduate Program in Environmental Studies and Science is both a key component of NU's Strategic Research Plan as well as an acknowledged strength within that plan. "Environment and Natural Resources" is one of six identified research themes and this program contributes materially to a further three themes: Indigenous and decolonial research, the human condition, and inequality.

All senior administrators we spoke to expressed enthusiasm and excitement about this program, and see it as reflecting the University's core commitments and values.

C. OPPORTUNITIES FOR IMPROVEMENT AND ENHANCEMENT

External Reviewers Recommendation #1: *Graduate education is a new focus for the University and many of the issues that are challenging for the Graduate Program in Environmental Studies and Science are likely challenging for others. For example, administrators recognize marketing of all graduate degrees requires attention. The recent establishment of a Dean of Research and Graduate Education and upcoming strategic planning for graduate education offers an important opportunity to address concerns of this program as part of overall changes to graduate education in the university. We write our report with this opportunity in mind*

Unit's Response: Agreed. The MES/MESc faculty appreciate the oversight and assistance of the Dean of Graduate Studies and Research Office, and look forward to the strategic plan as an opportunity to further improve the functioning of the program.

ACTION ITEM: Work with advancement and SGS to develop a marketing strategy for the MES&MESc program(s).

Dean's Response: Agreed. IQAP responses to the graduate studies at Nipissing should be co-written with the Faculty Dean and the Dean of Research and Graduate Studies.

Dean of Graduate Studies Response: Agreed. Marketing and recruitment was discussed at the recent Graduate Studies Retreat (August 26, 2019) and will be written into the Graduate Studies Strategic Plan.

Provost's Response: The review of approaches to marketing graduate programmes has started and needs to continue under the shared leadership of the Registrar and the Dean of Graduate Studies. This review needs to encompass all NU graduate programmes, and be applied to the all.

External Reviewers Recommendation #2: *There is a core group of dedicated faculty who have kept this program going. Some of them have devoted research resources to do so. We recognize the value of their dedication and enthusiasm to the program and their students*

Unit's Response: The core faculty appreciate this acknowledgement and identify the problem of faculty morale/burnout. We plan to review membership requirements in the coming academic year and explore ways to incentivize further engagement and participation from all members. We hope that clarifying the faculty membership requirements will provide the information necessary to administrators to allocate resources to the program such that faculty are supported in a way that makes it possible for them to meet these obligations.

At issue, in particular, is that less engaged faculty are not able to teach in the graduate program due to undergraduate program commitments. However, all graduate faculty members are in this situation. Perhaps a combination of revised graduate course offerings and a new graduate program model may be needed across programs.

ACTION ITEM: Review the criteria for Graduate faculty membership, including the duties and responsibilities of members. Review the MES & MSc graduate course structure and delivery.

Dean's Response: Agreed. Further discussion regarding GS faculty membership and the program requirements will be crucial to the program's further success. The program needs a strong Graduate Studies coordinator who will liaise with the Arts and Science chairs and coordinators to make sure that the membership is reflective of the program's direction. The Dean of Arts and Science has been working closely with the GS coordinators on clarifying the Arts and Science graduate studies programs' curricula and program requirements. This work will continue.

Dean of Graduate Studies and Research response:

Agreed. The School of Graduate Studies will develop a supervisor/student agreement. Graduate Faculty membership was reviewed in the winter of 2019 and changes were made to include Affiliate Faculty status to allow faculty members from outside the host department participate in graduate education. The course structure and delivery was discussed at the recent Graduate Studies Retreat. Program coordinators are looking for opportunities to share resources across programs to facilitate efficient delivery of all graduate programs at Nipissing University. Program Coordinators will consult with their committees and bring forward recommendations to Graduate Studies Committee (GSC) for consideration (timeline: Fall/Winter 2019).

Provost's Response: Nipissing University very much appreciates the efforts of all faculty in the programme. I hope that the recent shift in the reporting structure of having grad co-ordinators report directly to the Dean of Graduate Studies will assist in identifying unnecessary duplications of effort between the various graduate programmes. I also hope that the forthcoming Strategic Plan for Graduate Studies will address the issue of an appropriate balance of investment in undergraduate and graduate programmes.

External Reviewers Recommendation #3: *Being a program without a departmental home creates some challenges and opportunities that we identify throughout the report*

Unit's Response: This is a significant concern for the program. The self-study and review report highlight several problems associated with the lack of representation of the MES and MSc program in the traditional (departmental) academic structure of the university.

While a specific departmental administrative home may relieve some issues, it will continue to be in conflict with the breadth of the MES/MSc program, connecting faculty and students from across many departmental units. Another possible solution could be the creation of a new School that houses multiple complementary programs. For example, preliminary discussions have taken place regarding a potential school of Northern Communities, Infrastructure and Environment (NCIE), within the faculty of Arts and Sciences, which might provide a broader organizational structure to house the MES/MSc program.

ACTION ITEM: The program will explore the possibility of moving under one of the contributing departmental structures (e.g. Geography or Biology) or a new academic unit (e.g. Environmental Studies/Sciences) or broader School (e.g. NCIE).

Dean's Response: Agreed. The program does not have a home per se. While this provides other departments with an opportunity to participate, a rotational oversight is needed. The discussion about establishing Schools in Arts and Science will unfold this year. Centralizing the program under the School of Environmental Studies and Environmental Science is certainly worth considering.

Dean of Graduate Studies and Research response:

SGS would support centralizing the program under a new School of Environmental Studies/Science. The Nipissing University Strategic Plan and the Strategic Research Plan (SRP) would support the establishment of a School or Department of Environmental Studies/Science. In addition, establishing and undergraduate program in Environmental Studies/Science would address the concern raised by the reviewers in #1 of not having a specific undergraduate program feeding into the MES/Sc Program.

Provost's Response: Interdisciplinary programmes that are managed by several collaborating departments are not unusual in universities. The goal should be the collegial running of the programme and developing structures that support such an approach to programme management.

External Reviewers Recommendation #4: *The combination of two degrees (MES and MSc) and two tracks (1 year MRP option; 2 year thesis option) places strain on program resources and causes confusion/dissatisfaction among students. We identify specific concerns and offer suggestions on how to address these in SECTION C.*

Unit's Response: There is general agreement that the four degree programs are difficult to sustain. The differentiation of programs (MES vs MSc based on research area, MRP vs Thesis based on originality and student involvement) is clear to the faculty but perhaps not to students.

We are interested in the reviewers' idea of making the one-year program more clearly focused on professional development. However, we would need support for developing and administering this new iteration of the one-year program and arranging experiential learning opportunities with community partners; we propose that this matter be discussed with the new Dean of Teaching.

ACTION ITEM: The faculty have tentatively agreed to suspend the one-year program in 2020-21, pending further discussion and consideration during the next academic year. The faculty will also review the existing MES and MSc program structure and the interdisciplinary components shared between the two degrees. After one year we will make recommendations regarding the programs that should be offered and any changes to their structure that are required to clarify expectations of students and ensure the programs can be offered sustainably going forward. Merging some graduate programs (e.g. MES and new sociology/anthropology program) could be considered to alleviate some of the conflicting demands from different programs on faculty.

Dean's Response: Agreed. Further clarification of the MRP and Thesis stream distinction is necessary. The program should consider eliminating the MRP stream given that it requires additional resources and is thus fiscally less viable than the Thesis stream. A consideration of the professional stream is certainly an option but unrealistic due to the already-strained faculty complement and the lacking expertise in this area.

Dean of Graduate Studies and Research response:

Agreed. The issue of clarification of the thesis and MRP routes is common across all masters programs. The issue was discussed and tabled at the recent Graduate Studies Retreat. Further discussion will take place at the program level with proposals being brought forward to GSC for consideration.

Provost's Response: This discussion speaks to the student experience of the degree pathway, and it is important to clarify. We need to seriously which stream would be a better option for Nipissing regardless of what the original intention is. A possible MBA in Environmental Management should be considered as a professional option.

External Reviewers Recommendation #5: *With limited resources and structural constraints on teaching (constraints we don't fully understand, and that are tied to the collective agreement among other things), the faculty have developed a core curriculum that delivers on many goals of the programs. There are some shortfalls and we suggest ways these might be overcome in SECTION E.*

Unit's Response: We are unable to comment on many of the constraints given that they are out of the control of the faculty contributing to the program. As stated above, we will review program structure and requirements with a view to promote clarity and sustainability.

Dean's Response: See Section E.

Dean of Graduate Studies and Research response:

The Dean of GSR will work with the faculty Deans around issues of workload and program delivery recognizing budgetary constraints and the need to deliver undergraduate programming.

Provost's Response: Nipissing University operates within significant resource constraints but work to ensure that the curricula of the graduate programmes delivers on learning outcomes and student expectations is ongoing.

External Reviewers Recommendation #6: *Although most of our recommendations target specific issues within the program, the vision of/for the program could use some reflection and clarification. Some senior administrators described it as a 'flagship' program offering an alternative to a traditional research degree and that trains professionals to work in the environmental field (a vision that seems to align with the ambitions of the 1 year degree). Other administrators and most faculty saw it as a traditional research degree that allows faculty to access graduate students, but with an interdisciplinary orientation (aligns with the 2 year degree). Others saw it as both. We argue that many of the challenges identified in this report could be at least partially addressed/ameliorated with a clearer and shared vision of the program and its constituent parts.*

Unit's Response: The faculty hold the view that the traditional, research-based (thesis) program is the main objective, and this option has recruited the most students, resulted in the most training (and eventual employment), and produced the most research outcomes. The different views of the programs ultimate goals date back to the origin of the programs, with the faculty always focused on the two-year option. Having said that, we recognize there have been some successes with the one-year (MRP option).

ACTION ITEM: The faculty will create a clear vision statement for the program, with specific reference to the degrees and routes that are retained following our review of the different options.

Dean's Response: As mentioned above, the MES-MESc program is primarily a research program. Enrolment numbers further attest to the popularity of this stream. A professional stream is worth discussing, but currently not feasible.

Dean of Graduate Studies and Research response:

Agreed. There seems to be some confusion with the external reviewers about the focus of the program. With the current resources a professional stream would not be feasible. However, the use of professionals as committee members in the program is viewed as positive. Professionals bring a different lens to the process thus providing the student with a more broad view of knowledge translation and the impact of their work. In addition, professionals often speak at the MES/Sc speaker series providing the students with more professional networking opportunities.

Provost's Response: I don't necessarily agree with the responses above. Any visioning for this programme must involve staff working within strategic enrollment vision for the institution i.e. Recruitment, marketing etc.

External Reviewers Recommendation #7: *Current resource constraints (limited teaching capacity, limited student funding/relatively high tuition) seem to limit the prospects for future program growth. Even if the number of degree streams was reduced the program could not be stabilized with current resources since stability would still be contingent on maintaining student recruitment at viable levels and timely degree completion. Compounded with the problem of allocating funding to two-year programs on an annual basis, we suggest the funding model for the program and graduate studies in general be among the highest priorities taken up in the strategic review of graduate education at NU.*

Unit's Response: The faculty share these concerns regarding resourcing of the program.

ACTION ITEM: The faculty request a clear description of planned program resources be provided over a projected time period (e.g. the next five years) so that decisions regarding the continuation of the one-year MRP option, and the interdisciplinary core courses can be evaluated with the best available information.

Dean's Response: Since Nipissing is primarily an undergraduate university, the core of the Arts and Science faculty budget centers around undergraduate programming. Further discussion of the GS governance and budgeting is crucial

to furthering the success of all our graduate studies programs at Nipissing. Collaborative efforts between the Faculty Dean and the Dean of Research and Graduate Studies to resolve budgeting and resource allocation challenges for Arts and Science graduate studies programs are underway.

Dean of Graduate Studies and Research response:

Agreed. The Dean of GSR will continue to work with both faculty Deans for the effective and efficient delivery of graduate programming at Nipissing University. For example, increasing the GA stipend to come closer to the provincial minimum would help with student recruitment with more attractive funding packages. The Dean of GSR also supports increasing the number of GA positions at the university. By doing so, there will be more graduate teaching assistants to assist with undergraduate course delivery.

Provost's Response: The graduate programmes play a very important, and an increasing, role at Nipissing University. All programmes work within serious resource constraints and must identify strategies to strengthen sustainability of the programmes: how to avoid duplication of effort with other programmes? How to capitalize on existing synergies and strengths? How to attract international students? What does Nipissing offer that is not offered by other similar programmes?

D. IMPLEMENTATION PLAN

Below are the recommendations that require specific action as a result of the Review, along with the identification of the position or unit responsible for the action in question. Notwithstanding the position or unit identified as being responsible for specific recommendations, the Dean of the Faculty has the overall responsibility for ensuring that the recommended actions are undertaken

RECOMMENDATION	RESPONSIBLE MEMBER/UNIT	PROJECTED COMPLETION
#1 - Develop a recruitment strategy	Registrar's Office, Dean of Grad Studies	April 2020
#2,3,4 - Review resources, incl. Programme structure and membership	Faculty, Dean of Grad Studies	April 2020
#2, 5 - Review curricula and pedagogy	Faculty, Dean of A&S	April 2020
#6 - Review degree pathways and options	Deans & Provost, Faculty, Registrar	April 2020

E. ADDITIONAL RESPONSE FROM EXTERNAL REVIEWERS

External Reviewers Response: Curriculum and Program Delivery

- Curriculum reflects the current state of the discipline or area of study.**

Core curriculum: The core curriculum seeks to provide students with an overview of fundamentals related to interdisciplinary research (through 5116 Perspectives and 5117 Methods course) and a key tool in environmental analysis (5126 Geomatics for MES/MESc Graduate Students). The self study reflects thought and attention by faculty to what they mean by 'interdisciplinary' and what they hope to deliver in the program (see section E). The three core courses are discussed in turn below.

ENST 5116 is co-taught by faculty representing the natural and the social sciences/humanities. The course is designed to expose students to alternative ways of thinking about and studying environmental problems and systems. It

combines readings from the natural sciences, social sciences, and humanities to develop interdisciplinary understanding of issues. The course and the co-taught structure is highly valued by faculty; those we spoke to who have participated in instruction see it is important for their own thinking about their work and the program, and as advancing their own interdisciplinary collaborations. Students struggle with some elements of the course (in particular with critiques of positivist science, see section E), but most appreciate its value. Some of the 'struggle' can be attributed to why students are in the program; anecdotally, during our conversations with students it seemed that those who came to the program to work with a specific professor in a traditional research capacity (and who might have opted for a departmental Master's program if available) seemed most critical of the course.

ENST 5117 used to be co-taught, but this changed in 2016 due to constraints on teaching resources. Faculty see this change as a loss for the program's interdisciplinary ambitions. It was another course that facilitated faculty as well as student learning. It is currently taught by one instructor and students were generally positive about the value of the course, particularly that they produce a research proposal. There was some discussion about the 'best' time to take it (re: funding deadlines, etc.), but students recognized there was no perfect timing.

ENST 5126 serves as the only required 'tool' course in the curriculum. Although familiarity with geoinformatics is clearly a valuable skill, the status of the course as a core requirement requires further thought. Students come in with vastly different levels of experience with GIS and not all students see it as relevant to their research interests. The only rationale we heard for requiring it was that it would make students more employable. In our own programs, designating 'requirements' can serve as a way to ensure enrollment numbers high enough to allocate teaching resources (an important consideration in this program), so we understand this may be an additional rationale. To be clear, we are not recommending the program eliminate this course as a requirement, but we do think it warrants further thought and reflection, and articulation of the rationale to students. We were impressed by one faculty member whose students do not require GIS for their work, but who saw the value of thinking about his lab's work spatially nonetheless.

The program could alternatively consider identifying a number of different 'tool', 'skill', or 'methods' courses that might substitute for this requirement, although this would require additional courses be offered, or that graduate courses in other programs be cross-listed (e.g. were told some students were taking qualitative methods in Sociology). The cross-listing option seems viable (and efficient), and graduate programs could coordinate to ensure the right number and diversity of courses were available each year (e.g. in every year there is a quantitative, qualitative, and geospatial methods option offered, or some other categorization/logic). This coordination could potentially be a function of the office of the new Dean of Graduate Education and Research. As graduate education at the University grows, efficiency in course delivery across programs should be a key concern, particularly for a small institution with significant undergraduate teaching commitments.

Elective curriculum: Theoretically, there are many electives students can take to fulfill their requirements, and they receive a list of these with their offer of admission. In practice, few electives are offered. This is a source of frustration for students, who struggle to meet course requirements and/or take courses they are less interested in. Faculty are very aware of this problem and express their own angst about it. Again, we see potential in the upcoming review of graduate education and the possibility to have graduate level courses across programs open to students in different programs. Although we understand this sometimes happens with 'permission', we recommend serious consideration be given to institutionalizing cross-listing.

- Appropriateness of the program's structure, curriculum and length to its learning outcomes and degree level expectations.

The program offers an MES or MSc degree, in 1 and 2 year versions. The distinction between the 1 and 2 year options are in the requirement of a thesis (2 yr) versus a major research paper (MRP, 1 yr) and different requirements for electives (1 for 2 yr; 4 for 1 year). The distinction between the MES and MSc are based on advisor and 'type' of work completed (natural science versus social science/humanities). The core requirements (3 courses) are the same for all 4 options.

Given the size of the program, this structure may be overly complicated/ambitious, and there are some pedagogical and practical issues associated with the current distinctions among the programs.

Pedagogical:

In distinguishing between the 1 and 2 year degrees, 2 issues arise. First, although some faculty we asked described clear distinctions between the MRP and the thesis, the students were less clear, and there appears to be 'creep' for some students (e.g. an MRP is not supposed to involve original data collection, but for some it does). Given the expanded scope of some MRPs, and the additional required electives, the 1 year program seems 'heavy' - some students suggested they do 'more work in less time.' Second, the challenges with delivering electives makes the requirements of the 1 year program onerous (students spend time searching for courses, convincing faculty to do independent study, etc.) and arbitrary (there is little choice, so 'electives' default to whatever is offered). All students, including those required to take only 1 elective, expressed frustration about the difference between advertised and offered courses.

In distinguishing between the MES and MSc degrees, the program relies on advisor and thesis/research paper topic, and with MES done by social science/humanities students, and MSc done by natural scientists. There is no difference in the program training or curriculum. We think it is worth noting that a program aiming to be interdisciplinary awards degrees along these disciplinary lines, in spite of having identical core requirements in each. Allowing more flexibility in the 'tools' requirement as described above, would increase the meaningful distinctions between degrees.

Practical: Servicing two distinct degrees (MES, MSc.), with two time options (1 or 2 year), with limited resources seems overly burdensome and creates equity issues, perceived by students in both tracks. For example, those taking the MRP option feel like they are doing more work in a compressed time period; those in the thesis option feel like they are paying for two years for the same degree.

The ambition for the 1 year program is laudable, to offer: 1. an alternative to research-intensive graduate work; 2. an opportunity for professionals in careers or for those looking for career enhancing certification; 3. in a condensed 1 year time frame. However, without a distinct curriculum, with a limited number of electives, and with students struggling to complete in a timely manner, the degree falls short of its ambition. Although faculty seem committed to the program goals, they are also invested in the 2-year program, as it provides them access to traditional students who do the kind of work that advances their own careers (as traditionally assessed by academic metrics). Faculty themselves recognize that they measure 'success' of their programs on traditional academic outputs by students (e.g. tables in the self study that describe student publications in peer reviewed journals). We recommend the commitment to the 1 year version be reevaluated. This is not a statement about the value of professionally oriented education generally; we both come from universities committed to professional education. However, professionally oriented education is 'different' than traditional research degrees, and the University seems best suited now (given existing program resources) to deliver the 2 year program.

If the 1 year option is kept, one modification might be to rethink the MRP. For example, students could instead complete 'client' oriented projects, where faculty work with community partners and collaborators to identify appropriately scaled research and/or applied projects that meet client identified needs. These could be theoretically be completed in groups, to enhance professional skills and reduce supervisory burden. Although developing client-based projects includes some upfront costs for faculty and partners, current enrollment in the program means 1 or 2 projects a year would suffice. Clients could even be faculty members and/or other parts of the university. For example, students might conduct an 'energy audit' of some part of campus. Scoped correctly, an ambitious team project could also reduce the elective requirements of the 1 year degree. This is just an example of how a rethink of the 1 year program might address both practical and pedagogical issues that arise from the current structure.

The upcoming strategic planning process for graduate education offers the opportunity to implement change that could benefit all graduate programs, e.g. by considering teaching loads and the role of graduate education in these, and by cross listing graduate level courses across programs. The latter would enhance options for students and avoid duplication of effort in different programs.

- Evidence of innovation or creativity in the content and/or delivery of the program relative to other such programs.

Co-teaching core requirements (currently 5116 Perspectives and formally 5117 Methods) is innovative for such programs. Other programs often rely on one faculty member to represent diverse views, divide material between two

faculty who ‘speak’ for their field, or showcase multiple faculty with varying levels of effort to tie multiple views together. The Perspectives course strives for ‘real’ integration, rather than alternating teaching between the instructors; the success seems somewhat dependent on who is teaching in any particular year (See section E).

- Opportunities for student learning beyond the classroom.

Learning beyond the classroom is facilitated by a seminar series, field trips in required courses, and in-class guest speakers from community and government organizations. Some students supported on RAs conduct research beyond the classroom. Students expressed interest in more opportunities to interact with faculty outside of the classroom.