

MSEM Assessment Report - AY 2021-22

Program: Masters of Science in Environmental Management (MSEM), Graduate Degree
Submitted 1 December 2022

Report Authors: Stephanie Siehr (sasiehr@usfca.edu), Allison Luengen (aluengen@usfca.edu), Tom MacDonald (macdonaldt@usfca.edu), April Randle (amrandle@usfca.edu), and Sindy Vela (svela@usfca.edu)

Executive Summary

In this reflection report, the MSEM assessment team finds that despite strong interest and admissions in the program, the number of enrolled students has dropped in the past four years. We attribute that drop in enrollments to: (1) external factors such as a strong job market and San Francisco's high cost of living; (2) University factors such as a rigid course size policy and limited support for graduate students; and (3) internal factors including the loss of faculty and curriculum and subsequent loss of external engagement. These factors hamper MSEM's attractiveness and ability to deliver a thriving program. Even so, this long-running program has much to offer. By rebuilding our faculty, refreshing our curriculum, and enhancing our narrative, MSEM can continue to educate future generations of environmental leaders.

Introduction

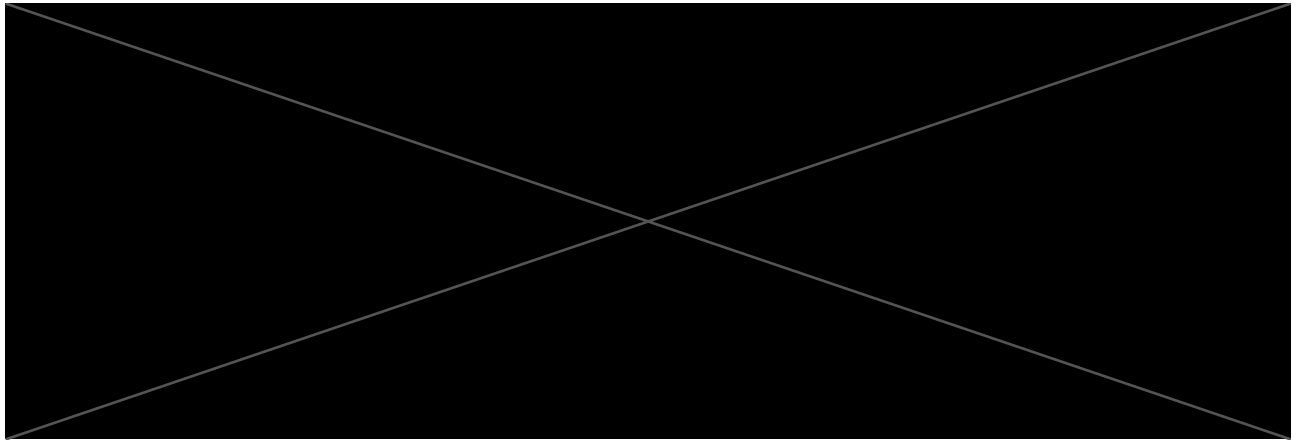
For the Fall 2022 Assessment report on the Master of Science in Environmental Management (MSEM) program, we shifted to a reflection report. This shift was due to a need to examine multi-year big-picture trends in the program. Like many graduate programs at USF and around the country, MSEM has encountered multiple challenges the past few years and experienced a dip in enrollment. Along with external influences, we wanted to examine the influence of University policies and resources, and internal dynamics of the program.

This report includes five areas of reflection, plus plans for improvement.

1. Program Admissions and Enrollment Trends
2. Mission and PLOs
3. Curriculum and Course Enrollment Trends
4. Faculty and Staffing
5. Student Feedback
6. Plans for Improvement

1. Admissions and Enrollment Trends

Table 1 shows MSEM Admissions trends over the past five years. Application numbers in MSEM have remained strong during the past five years, averaging 137 per year during that period. During the past five years, the number of MSEM Admits increased from the year 2018 to 2021, then dropped in 2022. The average Admit Rate during this period was 66%. Our recruiting efforts have been steady with information sessions, frequent communication with the Office of Graduate Admissions and Office of Marketing and Communications, direct outreach through professional networks, and high levels of contact with prospective students.



In admissions decisions, the MSEM program considers work experience and looks for applicants understanding that MSEM is an applied graduate program designed for working students, with classes on weeknights and Saturdays. We look for strong academic preparation in the natural sciences, yet also offer conditional admission for those making a transition into the environmental field; such students must complete preparatory coursework during the summer before starting MSEM. Traditionally, the ideal MSEM applicant is a working professional already in the Bay Area or California; we have had the strongest yield and satisfaction from this group. To maintain the value of peer-to-peer exchange in the program, we aim for a cohort with >50% working professionals.

We have seen a shift in the composition and quality of applications, in a few ways.

(i) We are seeing a greater number of international applicants yet lower yield from this group. Some of the international applicants are not suitably prepared for MSEM or don't understand that it is an applied program (e.g. they ask about fundamental science research positions in our labs – and that isn't how the program works).

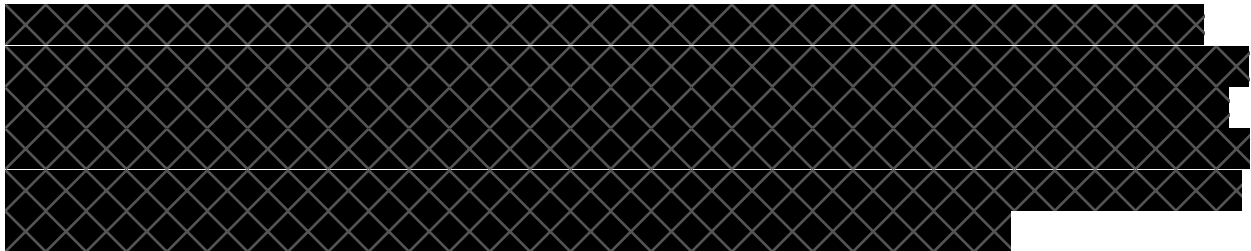
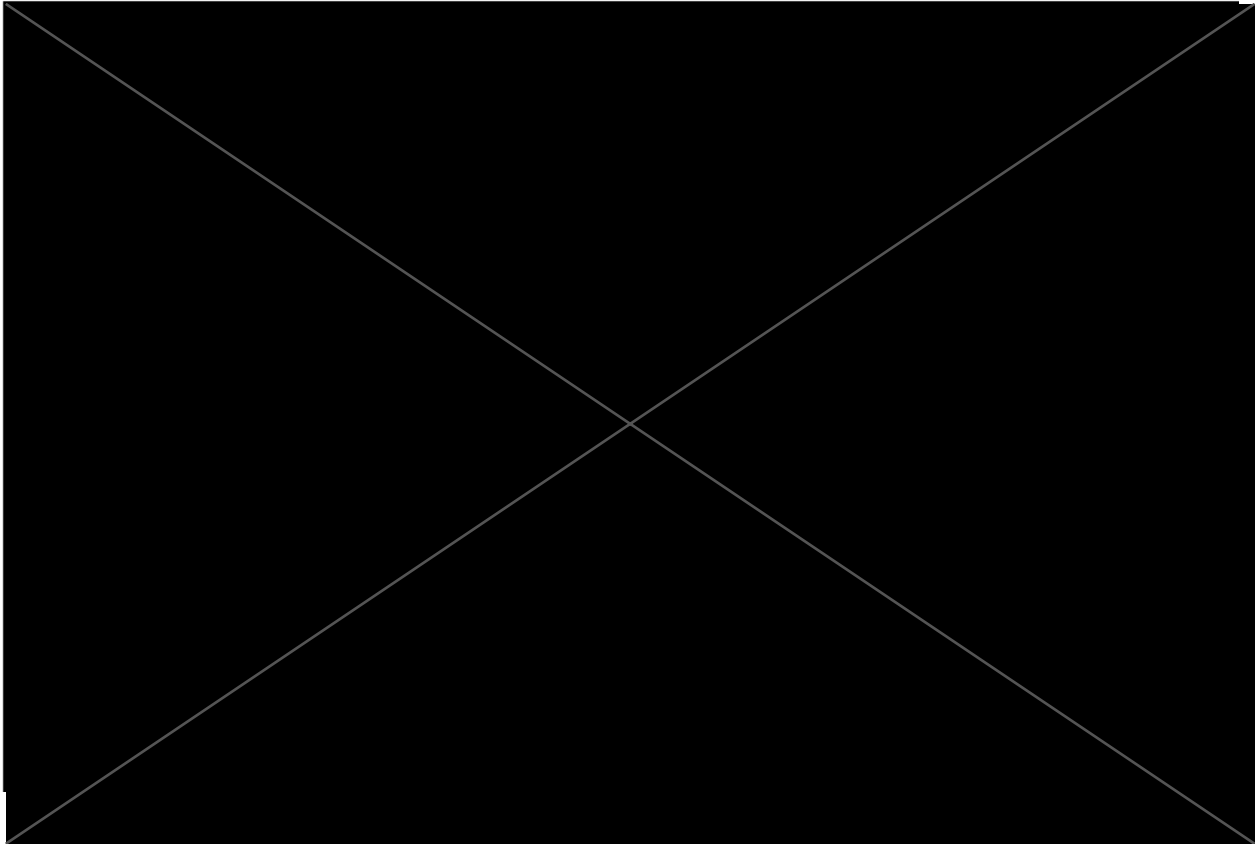
(ii) We are also seeing a shift in the mix of countries from which international students are applying, with declining applicants from China and more applicants from

Nigeria, Ghana, and other African countries. These applicants are motivated to gain skills to address the environmental challenges in their countries, but have greater financial need. [REDACTED]

(iii) We have also seen an increasing share of applicants who are just finishing their undergraduate degree and don't yet have much environmental work experience. The yield on this group is mixed. We get some excellent students who value the applied focus of MSEM and are eager to work with peers who have more experience. But we also lose some of these admitted students if they choose to pursue a more typical day-time research-oriented program with greater funding.

(iv) Another observation is an increase in the number of applicants without a natural science background who want to work in the environmental field. This is a challenging group for admissions decisions. We want to train environmental leaders from a mix of backgrounds – and we want students to succeed in the program. The admissions committee looks for students who are clearly willing to do the preparatory work to launch their studies in environmental management; students who don't meet this criteria cannot be granted admission.

However, the trend in Admissions doesn't track with the trend in Enrollments (i.e., Registration, Census). To better understand MSEM trends in Admissions and Enrollments, we looked at a longer time period, 2013 - 2022 (see Figure 1; Enrolled students in Green).



MSEM worked extra hard during the pandemic years to have high contact with admitted students to encourage them to join the program. Once a student accepted our offer and made a Deposit, MSEM did extra contact during the summer with group advising, individual dialogues, a meet-and-greet event with current students and alumni, plus our usual Orientation and quantitative refresher prior to classes. Nevertheless, yield declined due to a mix of external, university, and program factors.

In seeking to understand this decline in enrollment since 2019, we considered external, University, and internal program factors. We summarize these factors below and elaborate on some of them in the following sections of this report.

External factors:

- Increased cost of living and housing in the Bay Area, relocation expenses.

- Strong job market, weak finances after pandemic.
- Personal and family struggles heightened by the pandemic.
- Larger financial awards from competitor schools, including scholarships, research or teaching positions, tuition waivers, on-campus housing.
- Difficulty in getting visas for international students, due to the pandemic or geopolitics.
- Increase of online programs and low-residency programs.
- Growth of environmental programs at other institutions (i.e. more competition).

These are factors noted by admitted students who declined to come to USF for MSEM and other graduate programs.

University factors:

[Redacted text block]

These are factors noted by MSEM staff, faculty, students and the CAS Deans.

Internal Program factors:

[Redacted text block]



2. Reflect on MSEM Mission and PLOs

In light of the rapidly changing landscape for environmental management and higher education – and the tremendous environmental and social challenges the world is facing – we are reflecting on the MSEM Mission and Program Learning Outcomes (PLOs).

Present version of MSEM Mission and PLOs:

MSEM Mission Statement

The Environmental Management Program will educate graduate students to provide management solutions to environmental problems using innovative, interdisciplinary approaches in an environmentally just manner.

PLOs

1. Demonstrate an interdisciplinary approach in analysis of environmental issues and management strategies.
2. Utilize both theory and applied knowledge to evaluate and recommend management strategies for environmental issues.
3. Choose and apply appropriate tools, techniques, and (or) technologies to analyze environmental issues.
4. Skillfully communicate environmental management issues through written reports, oral, and visual presentations.

We reflected on the following questions about the MSEM Mission and PLOs:

- ❖ How can MSEM Mission and PLOs better connect with the evolving environmental field and workforce needs? How can we bring the language up to date, make it accurate and forward looking?

For example, there is growing attention to regeneration and transformation in the environmental field, moving beyond stopping harm and preventing harm, to actively creating healthy and equitable communities and ecosystems. Restorative justice, ecological regeneration, and systems transformation are growing aspects of the field that we could incorporate into the MSEM Mission and PLOs.

The mission has some confusing language around “environmentally just,” which is not a term used elsewhere. We want our efforts to be “socially just” and we want to center “environmental justice” and “social justice”.

The order of the PLOs could be improved to reflect the research process that we teach: first analyze the environmental issues, then analyze policy and management options to address those issues. Switch the order of PLO 2 and 3. The language could also be streamlined.

❖ How can we better communicate and connect the MSEM Mission and its PLOs? At least one of PLOs should include EJ or social justice that is stated in the Mission; at present, none of the PLOs mention EJ.

❖ How can we better connect MSEM and the USF Mission, Laudato Si' and USF One World initiative?

MSEM is missing an opportunity to make stronger connections with the USF Mission and growing Jesuit university efforts on environmental justice.

3. Curriculum and Course Enrollment Trends

The MSEM curriculum offers a rich mix of natural science courses along with policy and management courses, for an interdisciplinary curriculum in environmental management. To focus the curriculum, MSEM offers the option of a concentration in four areas plus a GIS certificate. Students who declare a concentration must pass 5 courses in that concentration area. The GIS certificate also requires 5 courses. The four concentrations are:

1. Ecology
2. Water Management
3. Environmental Health and Hazards
4. Energy and Climate Change

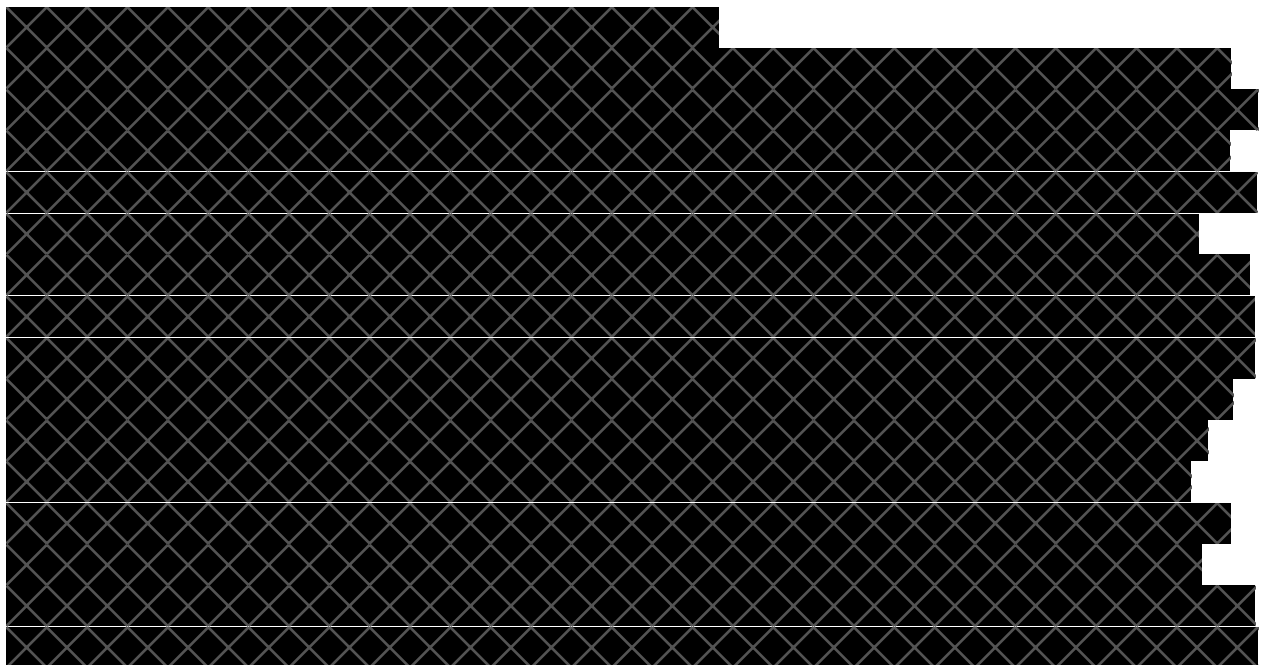
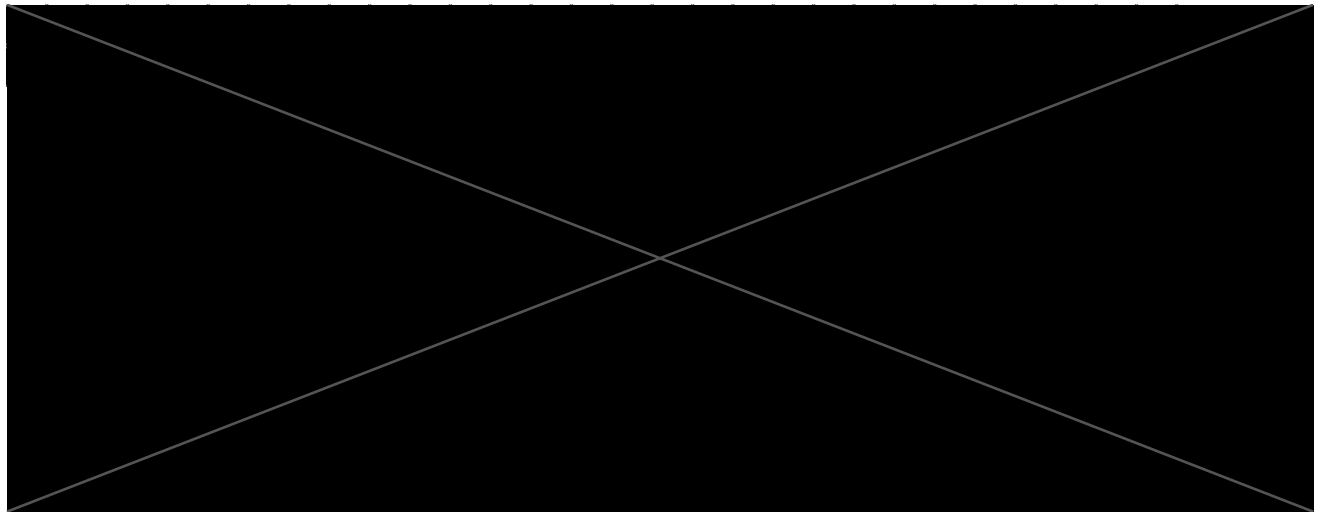
These concentrations are useful for several reasons:

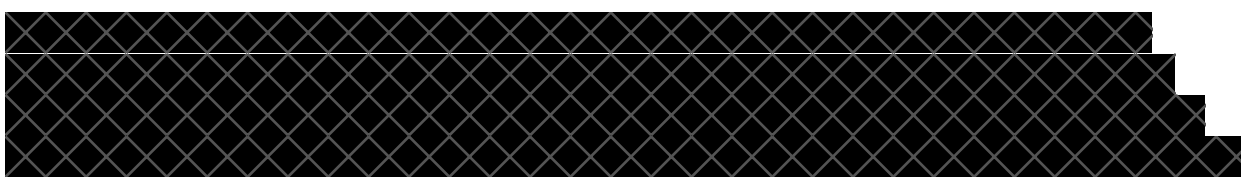
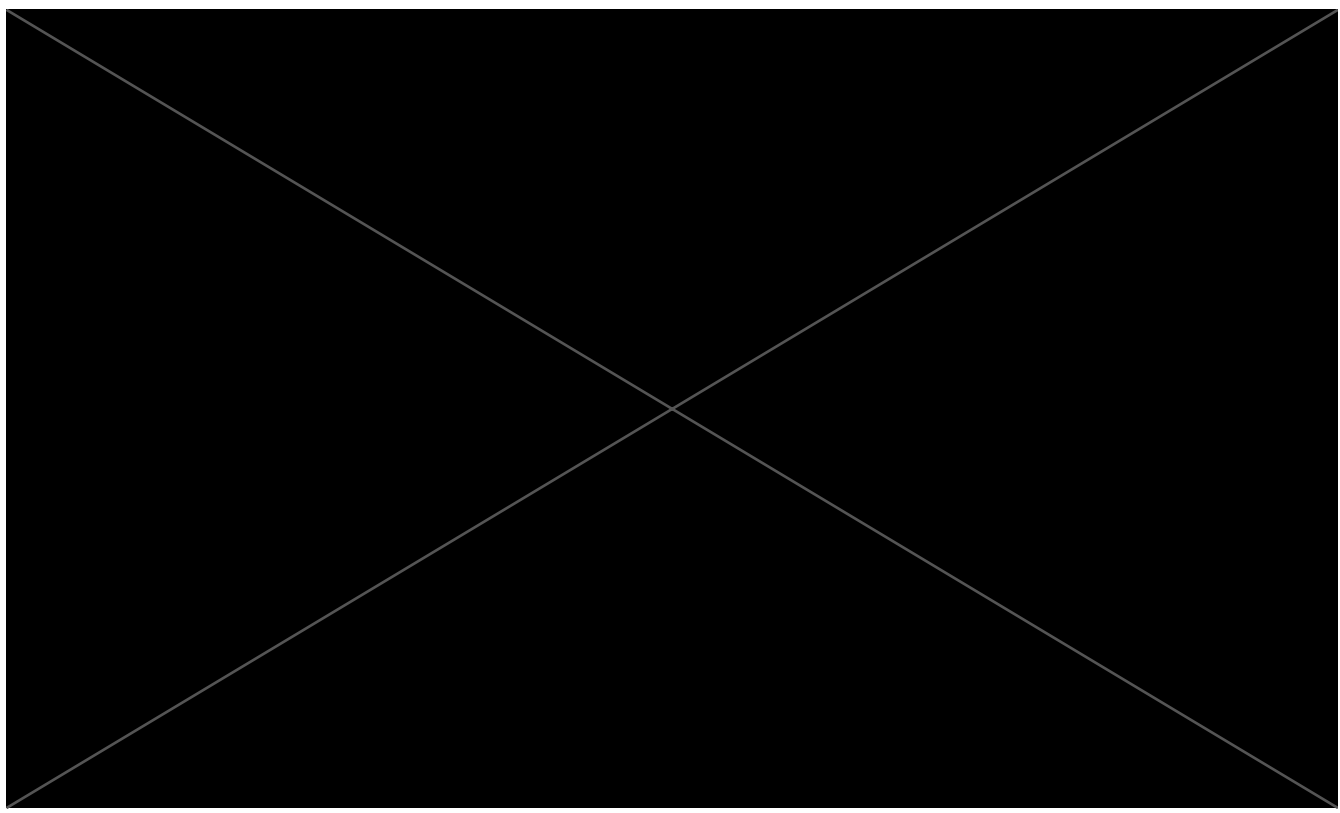
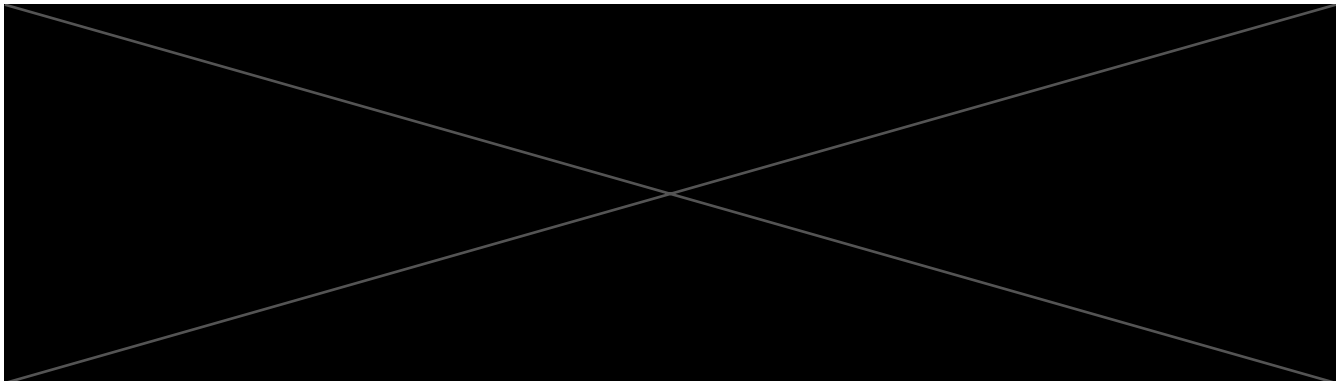
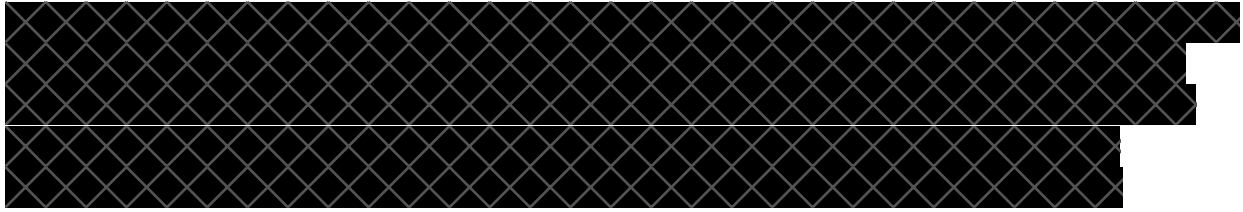
1. They provide students a choice of focus to help them map out their education and meet their career goals. Providing this structure is very useful for many of our students.
2. They offer specificity, showing that the program is connected with professional developments in particular sub-fields of environmental management.
3. They help applicants gain financial support from their employers, by highlighting curriculum relevant to their job. That financial support is crucial to students being able to join the program and for MSEM to increase its number of students.

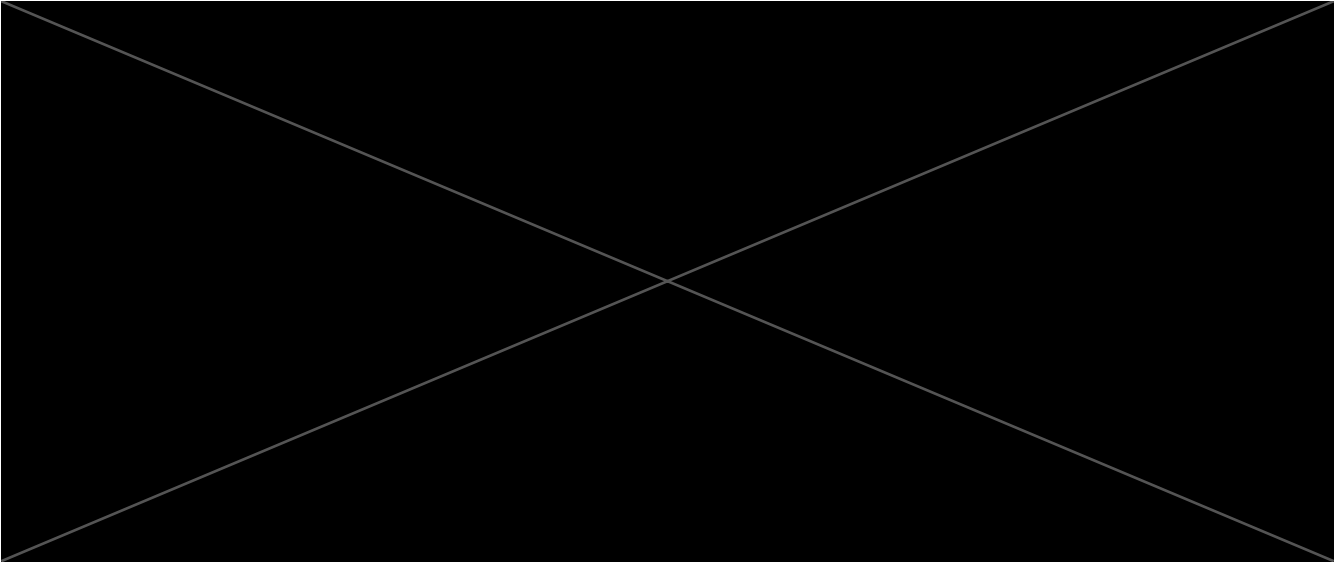
4. The concentrations also help provide connectivity and sequencing of courses in the program.

While the benefits of concentrations are great, they create challenges. With four concentrations and the GIS certificate, MSEM needs a sufficiently large enrollment to offer the necessary courses. [REDACTED]

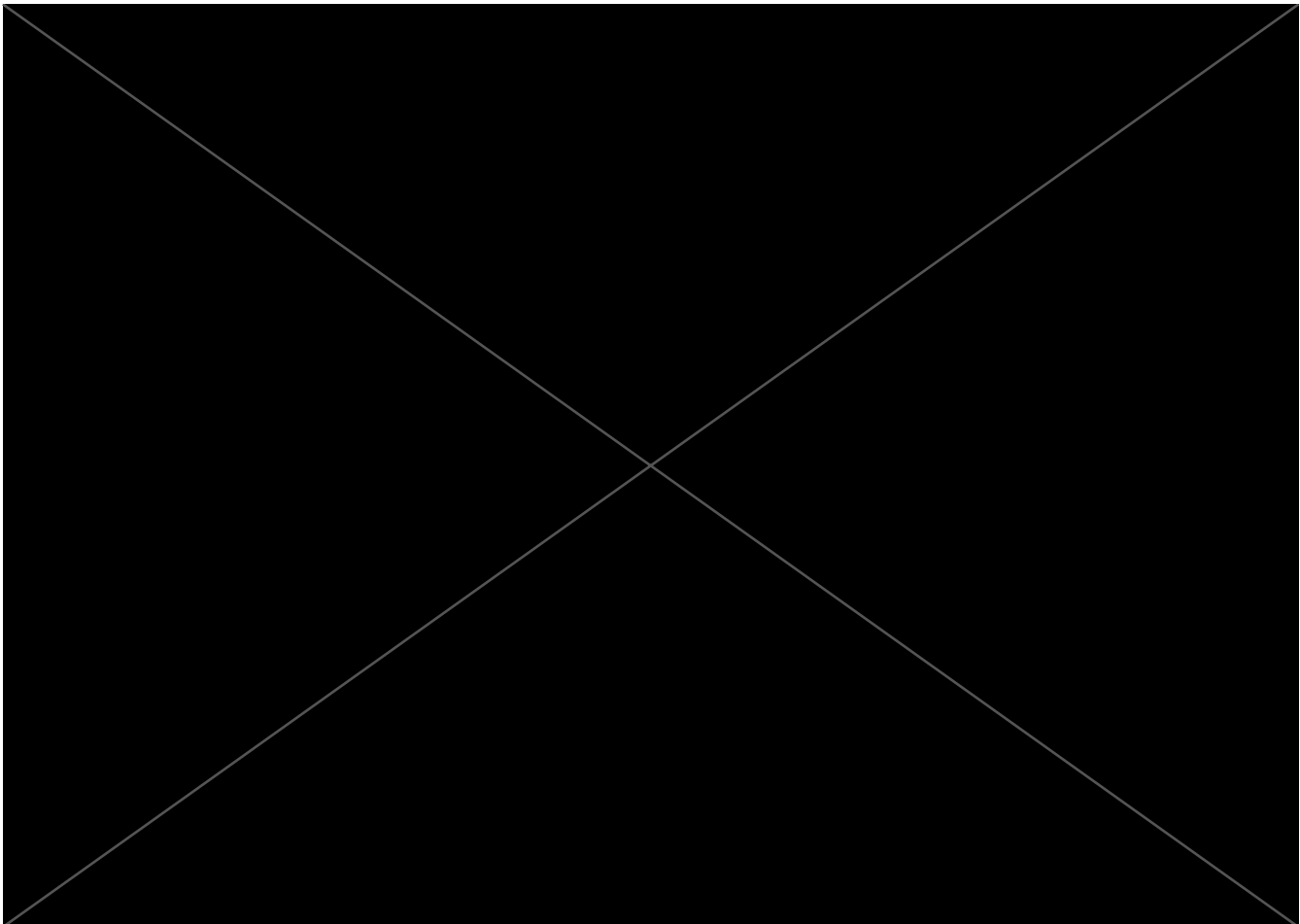
[REDACTED] By offering a wider variety of courses, MSEM attracted more students and higher profit for the university. Word of mouth marketing, which is so crucial to our program, was very positive and we had many students joining the program based on what they heard from colleagues who had graduated.

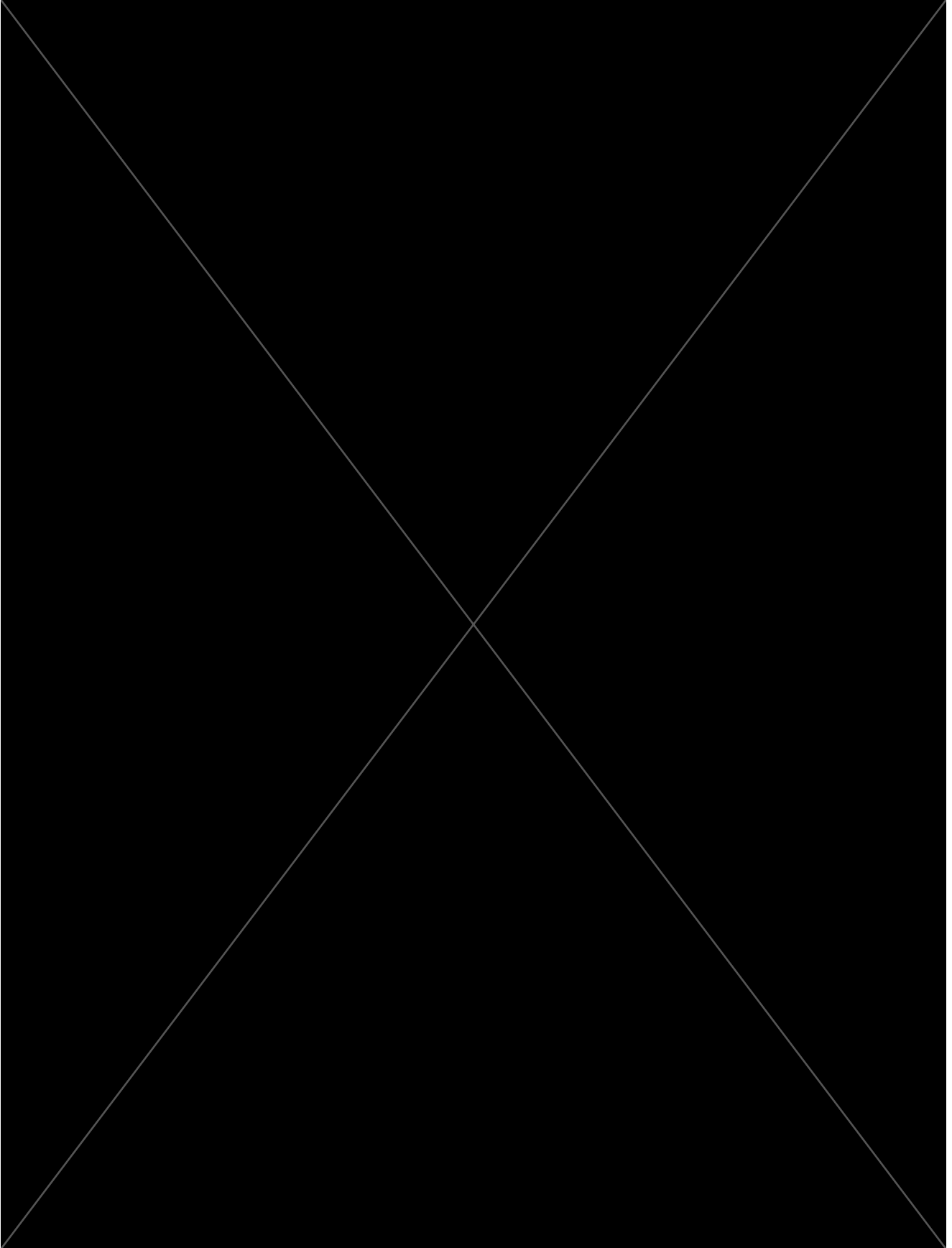


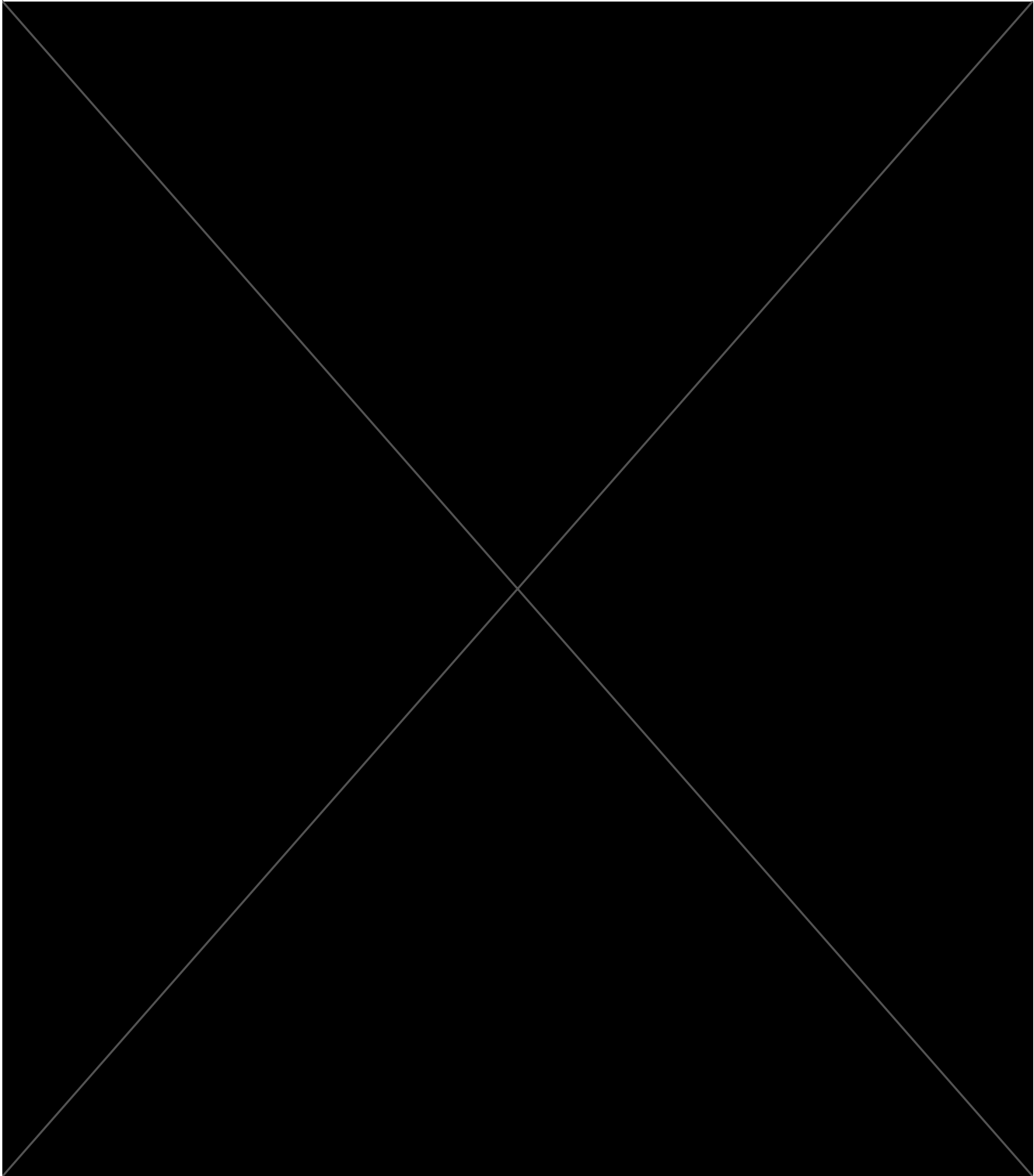






4. Trends in Faculty and Staffing







5. Assess and Reflect on Feedback from Students

In this section, we reflected on feedback from admitted students   and on exit surveys of graduating students.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Most of the students who did enroll in MSEM are working students who value the option of working while pursuing their Master's degree; our weeknight and Saturday classes make this possible and distinguish us from other environmental management programs. Students who did enroll also value the applied nature of our program, the connections they can make between their work and studies, and the professional networking opportunities with their peers as well as faculty. More direct recruiting with alumni and employers and through professional conferences could help us target this group of potential students. And improved funding options from USF, along with supporting a mix of curriculum and class sizes, will help as well.

MSEM conducts an exit survey with all of its graduates. Here we highlight responses to the question:

Do you feel that the MSEM prepared you for work in your area of interest? Please explain.

Most students responded that they were satisfied with the program:

Yes, it opened a lot of opportunities for work, particularly, when it comes to networking and job searching.

Going into MSEM I didn't have a clear idea of what I wanted to do career wise. I had no experience in the environmental field, and my undergraduate degree was in a field I didn't really have interest for. In these two years and after taking many different courses, it helped me figure out what my true career interests are, and taught me skills and knowledge that I would bring into a professional working environment.

Yes I believe it prepared me for the work in my area of interest because it taught me various concepts, theories, frameworks and tools that can be very useful in my career. The MSEM program has a good curriculum and choice of courses which helped me develop skills in GIS , data analysis, policy analysis, etc. that really helps in the industries.

Yes! I am interested in interdisciplinary environmental work, combining aspects of policy, environmental justice, and communication with natural science topics, technical writing, lab/research skills, and more. The education provided by MSEM prepared me very well for this type of work, as it made me a well-rounded environmental scholar and researcher.

What was more helpful for me was the project based learning, summarizing complex articles and ideas, and using a variety of course material to create management recommendations.

Yet there are aspects of the student experience that can be improved and that should be addressed. The biggest issue was limited course offerings in some semesters and concentrations. Students also mentioned variable levels of the coursework: some courses have too heavy workload for an 8-week course, while others need more depth or structure. While most students enjoy team-based, project-based learning, some commented that there were too many group projects, and they felt they spent too much time on group dynamics rather than getting into depth in a project. Finally, some students want to see more events and social gatherings, while others find it hard to squeeze in more events on top of classes, full-time work, and other aspects of their lives. Active communication and engagement with students – about expectations for the program, professional opportunities, their interests and struggles – is vital for student satisfaction.

6. Plans for Improvement

Based on these reflections and other strategic planning underway in MSEM, we highlight the following plans for improvement of our program:

❖ Rebuild Faculty

Hire needed Full-Time faculty to replace losses and grow. We must have the faculty to offer necessary – and new – curriculum. Explore scheduling and modality shifts to alleviate burn-out of full-time faculty. Re-engage and hire Practitioner Instructors to replace losses.

❖ Revive & Update Curriculum

Offer a necessary range of courses now, even if a small cohort. Improve sequencing and communication about curriculum. Choose curriculum to revive or add, based on faculty survey, dialogues with alumni and external organizations.

❖ Highlight our Features

We ask OMC and OGA to utilize the specific language and content and photos that we suggest, to accurately and compellingly communicate about MSEM. Internally, through faculty survey and updating of materials, we aim to better highlight the innovative curriculum and professional skills offered by the program.

❖ Pursue Targeted Recruiting

The working professionals that we want to recruit typically do not go to academic events about grad school. MSEM would benefit from targeted recruiting with alumni, employers, industry associations, non-profits, and government agencies.

❖ Enhance Professional Engagement

We need support to document and communicate how the skills developed in our courses connect to particular jobs and career paths. Developing a lunch-time speaker series, and leveraging guest speakers in individual courses, would help us make more active connections. Supporting and leveraging faculty research and professional connections would also help. Encouraging our students to volunteer at conferences and join professional groups is another step. More actively engaging our alumni would help, through dialogues and social media.

❖ Enhance Community Experience

MSEM would do well to more fully engage our valuable practitioner instructors, by actively seeking their input and including them in more program communications. We could also more actively engage our students in organizing social gatherings, contributing blog and media posts, interviewing guest speakers.

In terms of future assessment, we aim to refine our Mission and PLOs, especially regarding environmental justice (EJ). We plan on conducting a survey of course syllabi to highlight environmental justice in the existing curriculum. We also look forward to dialogues with the MSEM community – students, alumni, and faculty – about ways to enhance EJ and anti-racism, diversity, equity, and inclusion (ADEI) in our program operations and curriculum.