

# College of Arts and Sciences (CAS) 2016 - 2017 Yearly Assessment Report

If you would like to preview this form before you begin submitting, please follow this link:  
[https://myusf.usfca.edu/sites/default/files/2017\\_Yearly\\_Assessment\\_Report\\_preview.pdf](https://myusf.usfca.edu/sites/default/files/2017_Yearly_Assessment_Report_preview.pdf)

## NOTES:

- **2016-2017 Yearly Assessment Reports** for all CAS Majors, Minors, Graduate Programs, and Non-Degree Seeking Programs are due by 10/28/17; early submissions are welcome.
  - Undergraduate programs (majors and minors) must include two curricular maps – one showing how courses map onto Program Learning Outcomes (PLOs) and one showing how PLOs map onto Institutional Learning Outcomes (ILOs).
  - Graduate programs must include one curricular map showing how courses map onto PLOs.
  - Non-degree seeking programs must include one curricular map showing how PLOs map onto ILOs.
- This form **cannot be saved** once it is in-progress. If you close out of the form before submission, responses will be **discarded**. Please ensure you are ready to fill out the full form once you begin, and/or keep a backup copy of your responses.
- If you encounter any issues while utilizing this form, please contact Corie Schwabenland Garcia, Academic Data and Assessment Analyst, at x4285 or [ceschwabenland@usfca.edu](mailto:ceschwabenland@usfca.edu)

## Identifying Information

Name of Program \*

Master of Science in Environmental Management (MSEM)

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**Type of Program \***

Graduate Program ▼

**College of Arts and Sciences Division \***

Sciences ▼

**Name/Title/E-mail Address of Submitter \***

Stephanie Siehr / Professor, Interim MSEM Director, 17F / sbhshita@usfca.edu

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**Name(s)/E-mail Address(es) of Additional Individual(s) Who Should Receive Feedback**

Allison Luengen / Assoc. Professor, MSEM Director, 18S – 21S / aluengen@usfca.edu  
Sindy Vela / MSEM Program Manager / svela@usfca.edu

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Submissions via the following Google form are strongly encouraged. However, if your department/program wishes to upload its assessment report in lieu of completing this form, you can do so here. Would you like to upload a PDF version of your Yearly Assessment Report?

Yes

No

**Yearly Assessment Report PDF Upload**

If you wish to submit a separate PDF report, please be sure to include all the components listed in this google form (screen shots of the google form are available at [https://myusf.usfca.edu/sites/default/files/2017\\_Yearly\\_Assessment\\_Report\\_preview.pdf](https://myusf.usfca.edu/sites/default/files/2017_Yearly_Assessment_Report_preview.pdf))

Please upload a PDF version of your Yearly Assessment Report here: \*

Please upload your program's PLO x Courses Curriculum map here (all file types allowed) \*

Please upload your program's PLO x ILO Curriculum map here (all file types allowed)

If you would like to upload any other files (i.e. rubrics used to evaluate student work products, scripts/surveys/other indirect methods used to evaluate student work), you may upload them here. Please use descriptive file names (i.e. "SociologyAssessmentRubric").

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## Mission Statement

Please type and/or copy-and-paste directly into the space below:

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

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## Program Learning Outcomes (PLOs)



Please type and/or copy-and-paste directly into the space below:

\*

### PLOs (updated Spring 2016)

Students graduating from the MSEM program will be able to:

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 technologies to analyze environmental issues.
4. Skillfully communicate environmental management issues through written reports and oral and visual presentations.

### Old Outcomes used for exit survey

Students graduating from the MSEM program will be able to:

- Demonstrate an understanding of an interdisciplinary approach to the study of the relationships and interactions of human beings with the natural world
  - Utilize principles and processes of the natural sciences, social sciences and the humanities to provide both theoretical and applied understanding of managing environmental issues
  - Demonstrate understanding of environmental management tools, techniques, and technologies designed to meet the demands of industry, government, and the consulting sector regarding the protection of the environment and the fulfillment of environmental regulations
  - Communicate skillfully through written reports and oral presentations of environmental management issues
  - Critically analyze impacts, both actual and potential, of human activity on the environment and their prevention and mitigation
- 

Curriculum Maps 

Please upload your Curriculum Maps below. All file types (Excel, PDF, etc.) are allowed.

Please upload your PLOs to Courses Curriculum map here \*

Please upload your PLOs to ILOs Curriculum map here \*

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## Assessment Methods

Which of your Program Learning Outcomes did you assess during 2016-2017? \*

Spring 2016: We will evaluate Learning Outcome 4 based on both Master's Project presentations and paper.

Spring 2017: We will evaluate Learning Outcomes 1 and 2 based on Master's Project papers

2017/2018: We will evaluate Learning Outcome 3 based on final exams from ENVM 601.

The alumni survey will be conducted in fall 2016.

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What student work products did you use to assess your PLO(s)? Pick one or more direct methods from the list below and briefly describe below what specific work product(s) you used. \*

- Published (Standardized) Test (e.g., Major Field Test)
- Class Tests & Quizzes with Embedded Questions
- Class Presentations
- Off-Campus Presentations (NGOs, clients, agencies, etc.)
- Research Projects Reports
- Case Studies
- Term Papers
- Portfolio
- Artistic Performances, Recitals & Products
- Capstone Projects
- Poster Presentations
- Comprehensive Exams
- Thesis, Dissertation
- Pass Rates on Certification or Licensure Exams
- Group Projects
- In-/Out-of Class Presentations
- Competency Interviews (e.g., oral exams)
- Simulations
- Juried Presentations

Other: .....

### Brief description of student work products used to assess PLOs: \*

The MSEM Master's Project report is a 50-80 page research report on an individual research topic of the student's choosing, approved by their instructor. This is the capstone effort of the program.

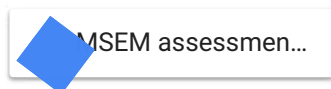
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### What tools did you use to evaluate the student work product(s) (e.g. rubric, test score)? \*

Evaluation rubric

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Please upload any tools used to evaluate student work product(s) here in PDF format only. Please use descriptive file names (e.g. "SociologyAssessmentRubric.PDF").



### Who evaluated the student work product? Check all that apply. \*

FT faculty members who were not instructor(s) of the course(s)

FT faculty members who were instructor(s) of the course(s)

PT faculty members who were not instructor(s) of the course(s)

PT faculty members who were instructor(s) of the course(s)

Other: .....



Describe the calibration procedure you employed, if any (i.e., how did you assure that faculty raters were consistent with each other in how they rated the student work products):

Ideally, we would calibrate responses across faculty, as we do for admissions decisions. Due to the small number of assessments completed, calibration wasn't done for 2016-17.

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What indirect methods did you employ, if any?

- Student Survey
- Student Interview
- Focus Groups
- Reflection Sessions
- Reflection Essays
- Faculty Survey
- Exit (end of program) Survey
- Exit (end of program) Interview
- Alumni Survey
- Employer Survey
- Diaries or Journals
- Data from Institutional Surveys
- Curriculum/Syllabus Analysis
- Other: .....

Please indicate and briefly describe what indirect methods you used (and/or attach the survey/script/interview below).

Self reported attainment of PLOs (based on 2013 PLOs) in the MSEM Exit Survey. As of the close of Spring 2016, 125 exit survey responses were available rating how well the PLOs were achieved. At the close of Fall 2017, a cumulative total of 183 responses were available.

The question wording:

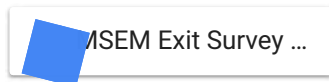
To what extent do you think you attained the following MSEM Learning Outcomes?

- Fully
- Quite a bit
- Somewhat
- Not at all

Alumni survey. Alumni from the program who have been out for three years will be asked the same questions regarding learning outcomes.

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Attach survey/script/interview here as needed



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Results 

## What were the direct data results? \*

In AY 2016-17, capstone Master's Project reports were to have been assessed for PLO #1 and #2. Based on a very small sample, PLO #2 was largely achieved, with an average score of 88% (17.7 out of 20). However, due to the small number of assessments completed, we cannot draw any strong conclusions. Furthermore, PLO #1 was not assessed. The shortcomings in carrying out assessment were due to staffing changes and multiple medical and family leaves of absence in 17S and 17F.

In AY 2015-16, capstone Master's Project Presentations were assessed for PLO #4 by 7 reviewers. There were a total of 31 presentations. 28 presentations received at least one assessment. 49 total reviews were completed. Reviewers were open to which presentations they reviewed. The average was 18.02 out of 20 suggesting that students largely obtained the expected learning outcome based on their presentations.

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## What were the indirect data results? (If applicable)

Outcome A (new PLO #1) about interdisciplinary approach was roughly similar from 2016 to 2017. In AY 2015-16, 42% of respondents felt they had "Fully Attained" PLO #1, while in AY 2016-17, 43% of respondents felt they had "Fully Attained" PLO #1.

Outcome B (new PLO #2) about using theory and applied knowledge, saw a 6 percentage point increase in "fully attained" responses from 2016 to 2017, from 46% to 52%.

Outcome E (also part of new PLO #2) improved the most, by 16 percentage points, in "fully attained" responses from 2016 to 2017, from 46% to 62%.

MSEM saw an improvement in aggregate (across all PLOs), with more students feeling they had "fully attained" the MSEM Program Learning Outcomes, from 45% in AY 2015-16, to 54% in AY 2016-17.

However, we would like to see a greater majority of students feeling they "fully attained" the PLOs. Thus we are examining all aspects of the program, from PLOs and admissions decisions, to curriculum and instruction, to restoring administrative support and staffing.

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## How do you interpret these results? What do they mean? \*

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## Closing the Loop

"Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change: Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and worked at. On such campuses, the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution's planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes is seen as an integral part of decision making, and avidly sought."

--9 Principles of Good Practice for Assessing Student Learning: American Association for Higher Education

**Purpose:** In the current field of higher education today, Assessment of student learning is seen as a critical tool to assist in the mission of student centered education. It is a way for faculty and the other university constituents involved in learning to use data driven results to bring about needed curricular or programmatic changes to improve student outcomes.

In the previous section, you have analyzed the data to get some critical insights into student learning. This section is for our way forward, and touches upon a few core areas:

What might you do as a result of these assessment results? What curricular or programmatic changes might you implement? \*

- Revision of PLOs
- Changes in pedagogical practices
- Revision of program course sequence
- Revision of course(s) content
- Curriculum Changes (e.g. addition and/or deletion of courses)
- Modified program policies or procedures
- Designed measurement tools more aptly suited for the task
- Improved within and across school/college collaboration
- Improved within and across school/college communication
- Revised student learning outcomes in one or more courses
- Modified rubric
- Developed new rubric
- Developed more stringent measures (key assessments)
- Modified course offering schedules
- Changes to faculty and/or staff
- Changes in program modality of delivery
- Other: .....

## Description of the Proposed Changes (as checked above): \*

- i. MSEM faculty revised PLOs in 2016, simplifying from five to four PLOs in number, and improving the clarity and accuracy of the language. However, the MSEM Exit Survey of students (an indirect, self-reported mode of assessment) still used the old PLOs. Consider revising the exit survey to match the current PLOs.
  - ii. MSEM faculty prepared a new rubric to evaluate PLO #2. For assessments completed, the new rubric seemed to work well. However, MSEM needs to create a repository (such as a shared google drive folder) for gathering assessments from faculty. That will help to gather sufficient information and to maintain information even during changes in program staffing. (MSEM program staffing was heavily impacted by staffing changes and multiple medical and family leaves of absence in 17S and 17F.)
  - iii. The MSEM Assessment Plan called for evaluation of PLOs #1 and #2 in 2016-17, yet a rubric for PLO #1 is still needed.
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**Amendments to your assessment plan: If, in course of conducting current assessment, you felt a need to amend the assessment plan itself for future assessments, please discuss it here in a few sentences: \***

- i. Consider revising MSEM Assessment Plan, such that the same PLOs – and same type of student work – are assessed from year to year. This would allow for a longitudinal look at program performance with sufficient frequency to inform program improvements. For example, MSEM assessed capstone presentations with respect to PLO #4 in 2015-16; it would be helpful to do that same assessment the next year, to see if any improvement efforts yielded results. MSEM does conduct a student exit survey each semester, so we are getting a frequent indirect assessment from students. Yet active, direct assessment by faculty on an annual basis offers important information not captured in the student survey.
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Google Forms

**MSEM Assessment Rubric for PLO #2: Utilize both theory and applied knowledge to evaluate research problem and recommend management strategies for environmental issues.**

Project Report # \_\_\_\_

Reviewer\_\_\_\_\_

Total      /20

<b>Exceptional (5)</b>	<b>Proficient (4)</b>	<b>Approaching proficient (3)</b>	<b>Below proficient (2)</b>
Theory is used to evaluate environmental problem, drawing upon multiple disciplines and relevant literature/information from different disciplines.	Paper provides an adequate use of theory from various disciplines to evaluate issue and make recommendation.	Evaluation of problem inaccurate or incomplete. Limited evidence of theoretical understanding of problem used.	No evidence of use of theory or for evaluating problem or recommendations.
Applied knowledge is used to evaluate environmental problem, drawing upon multiple disciplines and relevant literature/information from different disciplines.	Paper provides an adequate use of applied knowledge and presents significant level of relevant information from various disciplines.	Evaluation of problem inaccurate or incomplete. Limited evidence of applied knowledge used.	No evidence of use of applied knowledge for evaluating problem or recommendations.
Research methods used to evaluate problem and results are clear. A full explanation of the results is presented.	Evaluation results and research methods are explained but explanation for response is not as robust.	Methods for evaluating problem are not clear or do not clearly follow from explanation of problem.	Problem evaluation weak or problematic.
Management strategy recommendations are appropriate and complete for the question being asked and problem being analyzed.	Recommendations are less robust but still appropriate for topic. Recommendations follow from results.	Some recommendations are provided but do not clearly connect with results presented.	Few recommendations are provided. Management recommendations are problematic and are not related to problem evaluated and evidence presented.

Comments:





## Exit Survey Results (Fall 2016 – Spring 2017)

To what extent do you think you attained the following MSEM Learning Outcomes?

New PLO	Old PLO		Fully	Quite a bit	Somewhat	Not at all	#
			%	%	%	%	#
1	A	Demonstrate an understanding of an interdisciplinary approach to the study of the relationships and interactions of human beings with the natural world.	43%	50%	7%	0%	30
2	B	Utilize principles and processes of the natural sciences, social sciences and the humanities to provide both theoretical and applied understanding of managing environmental issues.	52%	41%	7%	0%	29
3	C	Demonstrate understanding of environmental management tools, techniques, and technologies designed to meet the demands of industry, government, and the consulting sector regarding the protection of the environment and the fulfillment of environmental regulations.	52%	39%	6%	3%	31
4	D	Communicate skillfully through written reports and oral presentations of environmental management issues.	62%	28%	10%	0%	29
2	E	Critically analyze impacts, both actual and potential, of human activity on the environment and their prevention and mitigation.	62%	31%	7%	0%	29
<b>TOTAL AVG</b>			<b>54%</b>	<b>38%</b>	<b>7%</b>	<b>1%</b>	<b>29</b>

## Curriculum-PLO Map (modified in 2017)

**Key** I = Introduced with minimal coverage

M = Moderate Coverage

C = Comprehensive Coverage

\* Course #s are old, from Spring 2016; awaiting Dean's approval of # updates submitted by MSEM.

Program Learning Outcomes (PLOs)	Economics and Policy	Energy & Climate	Environmental Health	Physical Sciences	Ecology	Masters Project
	607, 613, 614, 661*	651, 671, 672	644, 647, 648	601, 630, 631, 633, 654, 655, 656	602, 620, 621, 622, 626, 627, 628	698
1. Demonstrate an interdisciplinary approach in analysis of environmental issues and management strategies.	M	M	I	M	M	C
2. Utilize both theory and applied knowledge to evaluate and recommend management strategies for environmental issues.	M	M		M		C
3. Choose and apply appropriate tools, techniques, and technologies to analyze environmental issues.	M	M	I	I	I	C
4. Skillfully communicate environmental management issues through written reports and oral and visual presentations.	M	M	M		M	C

## Institutional Learning Outcomes vs. Program Learning Outcomes Grid

Institutional Learning Outcomes X Program Learning Outcomes	PLO #1: Demonstrate an interdisciplinary approach in analysis of environmental issues and management strategies.	PLO #2: Utilize both theory and applied knowledge to evaluate and recommend management strategies for environmental issues.	PLO #3: Choose and apply appropriate tools, techniques, and technologies to analyze environmental issues.	PLO #4: Skillfully communicate environmental management issues through written reports and oral and visual presentations.
Institutional Learning Outcomes				
1. Students reflect on and analyze their attitudes, beliefs, values, and assumptions about diverse communities and cultures and contribute to the common good.		<b>X</b>		
2. Students explain and apply disciplinary concepts, practices, and ethics of their chosen academic discipline in diverse communities.	<b>X</b>			
3. Students construct, interpret, analyze, and evaluate information and ideas derived from a multitude of sources.	<b>X</b>		<b>X</b>	
4. Students communicate effectively in written and oral forms to interact within their personal and professional communities.				<b>X</b>
5. Students use technology to access and communicate information in their personal and professional lives.			<b>X</b>	<b>X</b>
6. Students use multiple methods of inquiry and research processes to answer questions and solve problems.	<b>X</b>	<b>X</b>	<b>X</b>	
7. Students describe, analyze, and evaluate global interconnectedness in social, economic, environmental and political systems that shape diverse groups within the San Francisco Bay Area and the world.	<b>X</b>			