

Academic Affairs Assessment Overview

AY 2019-2020

Academic Assessment

- Program Learning Outcomes (PLO)
 - Direct evidence (student work)
 - Indirect evidence (campus surveys)
- Guide for Program Stewardship (GPS)
 - UC Merced's electronic assessment management system

GPS: Step 1 - Program plans for collecting evidence

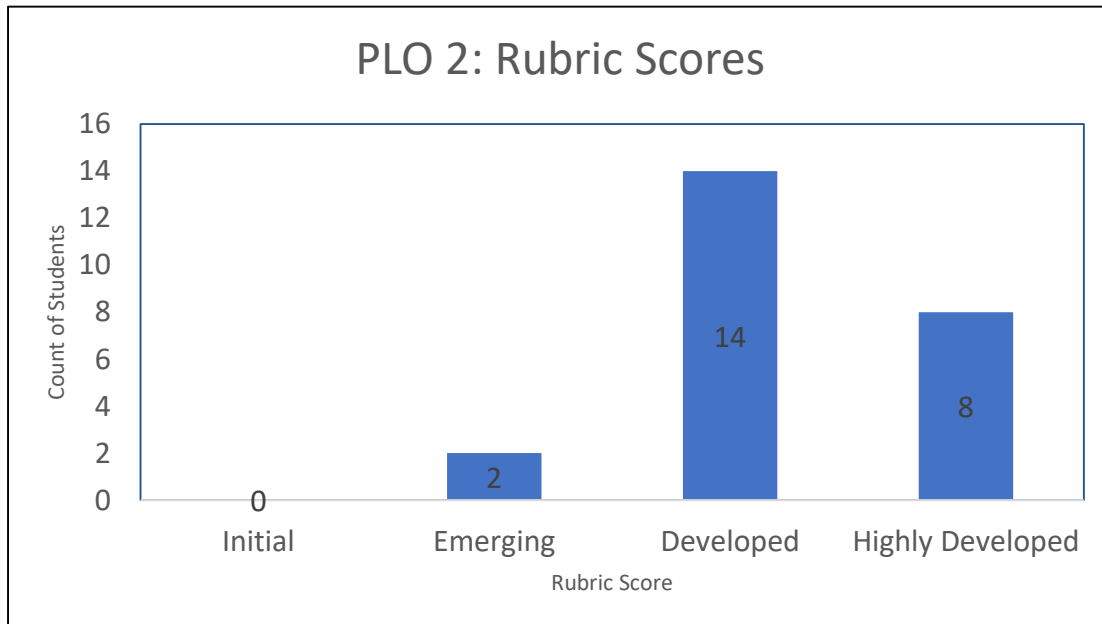
Program Learning Outcome	ENGR045 - Introduction to Materials*	ENGR057 - Statics and Dynamics*	ENGR065 - Circuit Theory*	ENGR097 - Engineering Service Learning*	ENGR120 - Fluid Mechanics*
(A) Apply Knowledge An ability to apply knowledge of mathematics, science, and engineering	✓ A D I M	✓ A D I M	✓ A D I M	✓ A D I M	✓ A D I M
(B) Experiments and Data An ability to design and conduct experiments, as well as to analyze and interpret data			✓ A D I M	✓ A D I M	✓ A D I M
(C) Design An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, soci...				✓ A D I M	✓ A D I M
(D) Teamwork An ability to function on multidisciplinary teams			✓ A D I M	✓ A D I M	
(E) Engineering Problems An ability to identify, formulate, and solve engineering problems	✓ A D I M	✓ A D I M	✓ A D I M		✓ A D I M
(F) Ethics An understanding of professional and ethical responsibility				✓ A D I M	
(G) Communication - oral Ability to communicate effectively (oral presentations)					

23 lab reports will be collected & scored using programmatic rubric...

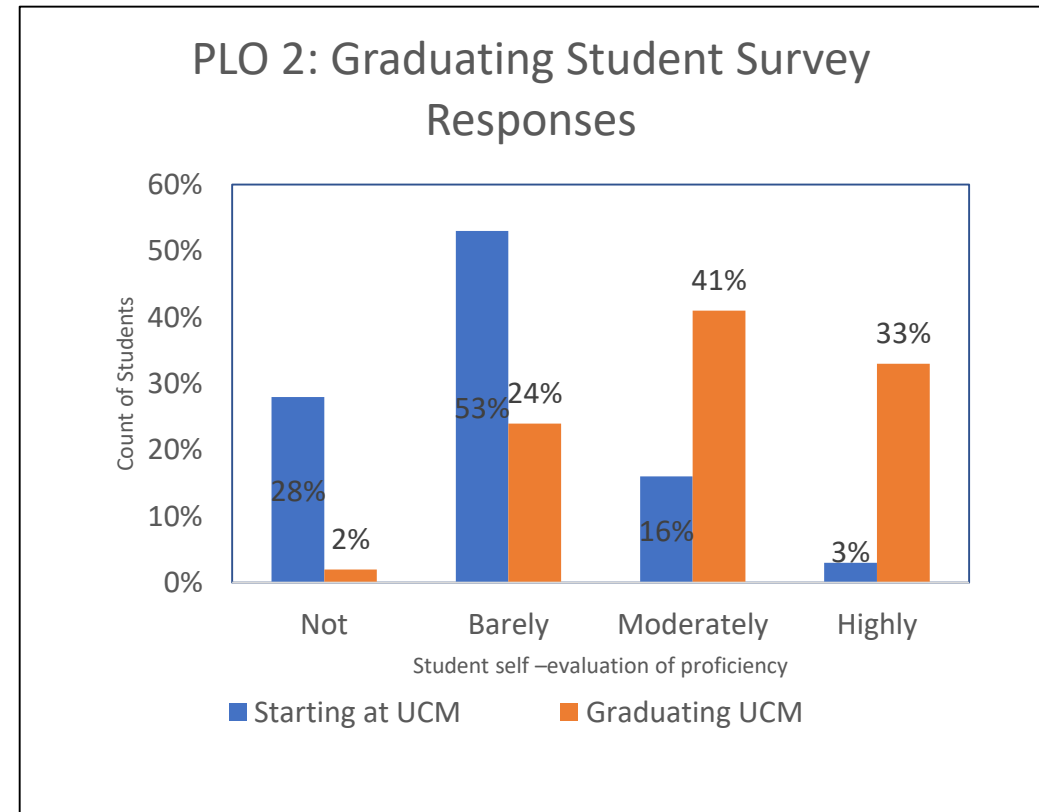
Indirect evidence will be collected from campus survey

GPS: Step 2 - Program collects evidence (direct & indirect) and evaluates student achievement of the program learning outcomes

Direct Evidence



Indirect Evidence



GPS: Step 3 - Program generates assessment report

Assessment: Assessment Unit Planning

UCMERCEd

Program: SNS - Chemistry BS

Program Learning Outcome: PLO 3) Communication and Teamwork Skills

Students are able to write organized and concise reports and present pertinent information using appropriate media, posters and presentations. They have developed the communication and teamwork skills that allow them to work effectively both as leaders and as team members in a group.

Conclusions and Recommendations for PLO

Results & Conclusions

Reporting Year: 2010 - 2017
Submission of Evidence: Summary Report for PLO Summary

Discussion and Recommended Actions

Recommended Actions related to Student Learning: In response to the collected evidence and assessment, it is recommended that current training in writing and other forms of communication in the Chemical Sciences curriculum continue. Additionally, it is recommended that faculty consider additional opportunities (teaching or various stages of the curriculum).

Recommended Actions related to Assessment Methods: Three points of evidence related to the current assessment cycle have been identified: all three relate to the reported direct evidence. First, all of the assessments come from a single source. It may be useful in the future to collect writing samples from students in different classes writing and communicating in different course settings. Second, all of the direct evidence comes from written laboratory reports. It may be useful in the future to collect students communicating in different forms (giving scientific talks, presenting conference-style posters, writing poster proposals, etc.). Third, a single faculty member carried out all of the assessment comprising our direct assessment. It may be useful in the future to have a small panel of faculty assess student writing/communicating or to obtain direct assessment from different sources with assessment carried out by different faculty.

Implications of Proposed Changes (Planning / Budget): Improvements to our assessment strategy discussed above will require planning by the Chemical Sciences program faculty, but we do not anticipate any excessive budget or other resource implications.

Describe the ways in which faculty have been involved in the assessment process: Faculty have collected evidence, read evidence, and participated in discussions regarding the results. While the number of faculty involved was quite small, we plan to share and fully discuss these results with the full program faculty at a future faculty meeting.

Percentage of Faculty Involved in the Assessment Process: ~ 20%

Data report submitted to Dean:

Extension Requested:

Self-Evaluation Rate - Assessable PLO 3 (20-credit):

Self-Evaluation Supporting Comments for Assessable PLO:

Self-Evaluation Rate - Valid Evidence: 0.0

Self-Evaluation Supporting Comments for Valid Evidence:

Self-Evaluation Rate - Reliable Results: 0.0

Self-Evaluation Supporting Comments for Reliable Results:

Self-Evaluation Rate - Results Summary: 0.0

Self-Evaluation Supporting Comments for Results Summary:

Self-Evaluation Rate - Conclusions & Recommendations: 0.0

Self-Evaluation Supporting Comments for Conclusions & Recommendations:

Lines of Evidence

Direct - Lab reports (written) (direct)

Source of Evidence: Chem 150 (2-credit lab)

Relevant to Evidence: All other students in the spring - this is required course for all CHSSE majors

Point/Percent: 0% (Number of students) / 0% (Number of students)

Evidence Category: Course Embedded Assessment

Target Date for Collection: Spring 2010, Spring 2011, Spring 2012

Performance Target: 100% for and above, 20% excellent (above used point, for excellent)

CHSSE Core Competency Performance Target: 100% (Written) and above, 20% (Capstone)

Course Type: Required

Level of Student Targeted: All years

Sample Size:

Spring 2010: 20 Chemistry Majors (20 Sections, 2 2000 Major (2 Section))
Spring 2011: 20 Chemistry Majors (20 Sections, 2 Sections, 1 2000 Major (2 Section))
Spring 2012: 40 Chemistry Majors (20 Sections, 2 Sections)

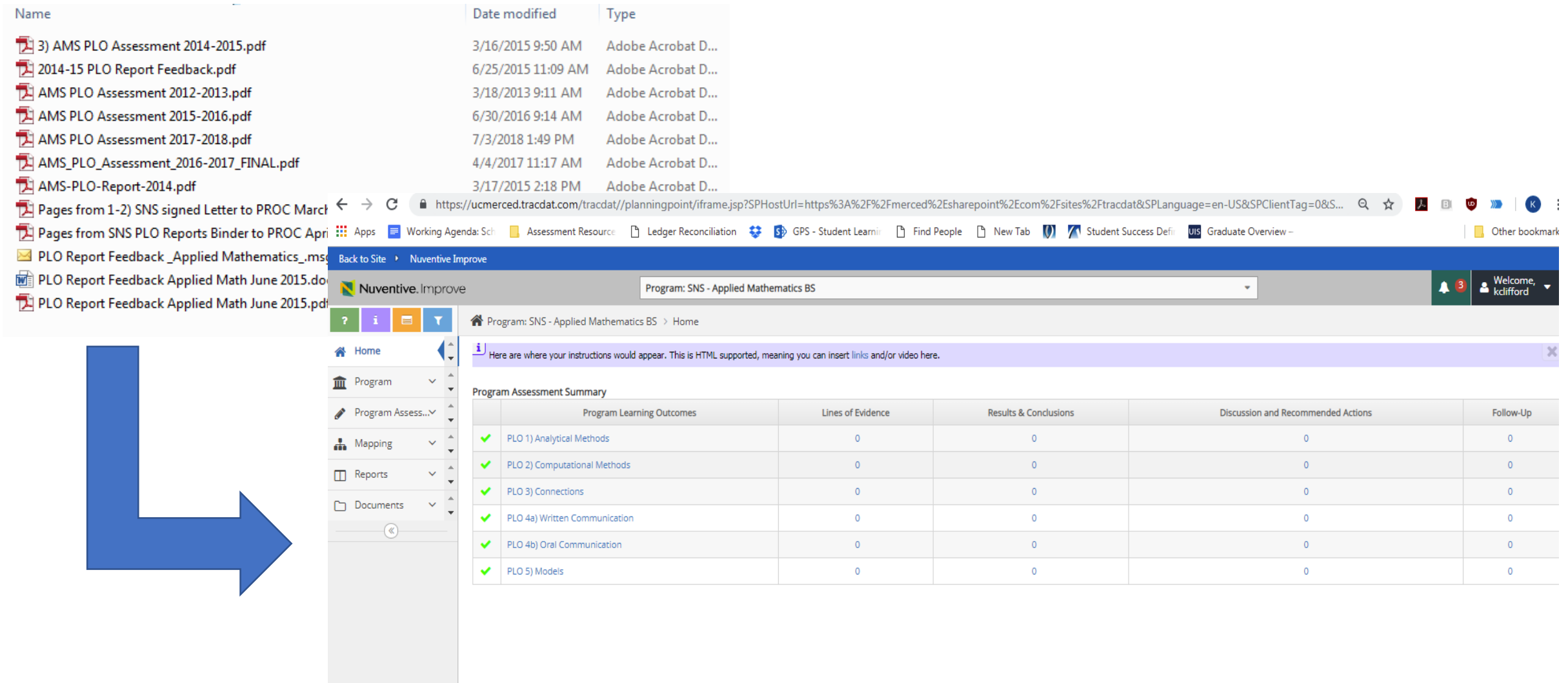
TOTAL: 70 students (70 CHSSE majors, 1 2000 major, 1 4000 major) (70 Sections, 2 Sections), Average 20 students/section

Total Population:

Spring 2010: 210 Chemistry Majors (20 Sections, 20 Sections, 20 Sections, 20 Practicum)
Spring 2011: 220 Chemistry Majors (20 Sections, 20 Sections, 20 Sections, 20 Practicum)
Spring 2012: 200 Chemistry Majors (20 Sections, 20 Sections, 20 Sections, 20 Practicum)

Average class enrollment over 2010-2012 and 2012-2013 is as follows: "M" section/spring, "M" section/spring, "M" section/spring, and "M" section/spring

GPS: Makes assessment data more accessible



The screenshot displays a web application interface for 'Program: SNS - Applied Mathematics BS'. The interface includes a navigation sidebar on the left with options like Home, Program, Program Assessment, Mapping, Reports, and Documents. The main content area shows a 'Program Assessment Summary' table with columns for Program Learning Outcomes, Lines of Evidence, Results & Conclusions, Discussion and Recommended Actions, and Follow-Up. The table lists six learning outcomes, each with a green checkmark and a value of 0 in the 'Lines of Evidence' column.

Program Learning Outcomes	Lines of Evidence	Results & Conclusions	Discussion and Recommended Actions	Follow-Up
✓ PLO 1) Analytical Methods	0	0	0	0
✓ PLO 2) Computational Methods	0	0	0	0
✓ PLO 3) Connections	0	0	0	0
✓ PLO 4a) Written Communication	0	0	0	0
✓ PLO 4b) Oral Communication	0	0	0	0
✓ PLO 5) Models	0	0	0	0

GPS: Improves ability to look across multiple programs for campus-level academic planning

Written Communication: AY 2018-2019		
Satisfaction for WSCUC Core Competency: Written Communication	Unit Name	Discussion & Conclusions related to Student Learning
Pleased	Program: SNS - Applied Mathematics BS	Relevant text from annual learning outcomes report here
Pleased	Program: SNS – Earth Systems Science BS	Relevant text from annual learning outcomes report here
Very Pleased	Program: SNS - Physics BS	Relevant text from annual learning outcomes report here
Somewhat Pleased	Program: SNS – Biological Sciences BS	Relevant text from annual learning outcomes report here
Somewhat Displeased	Program: SNS – Chemical Sciences BS	Relevant text from annual learning outcomes report here

Engagement in Assessment - Undergraduate

- 17 undergraduate programs (15 majors and 2 stand-alone minors) submitted annual assessment reports in AY 2018-2019
 - SSHA: 14 Majors
 - SOE: 5 Majors
 - SNS: 5 Majors
- Direct evidence
 - 2 programs were able to re-use a rubric that had been created for a past year's assessment
 - 2 programs created a rubric that can be used in future years
 - 6 programs had multiple faculty members (range 2-8) share responsibility for scoring student work
 - One program embedded scoring of student work into the grading done by class TAs

Engagement in Assessment - Undergraduate

- Indirect evidence
 - 12 out of 17 programs used some form of indirect evidence
 - 8 out of 17 used the Graduating Senior Survey (responses ranged from 2 to 554 students)
 - Programs that did not use institutional surveys: 1 program conducted its own survey via email (6 students), 1 conducted an in-class survey (5 students), and 1 surveyed alumni (65 alumni)
- Campus Surveys: Response Rates

Survey	AY15-16	AY16-17	AY17-18	AY18-19
New Student Survey	48%	48%	41%	39%
UCUES	43%	NA	33%	NA
NSSE	NA	33%/32%	NA	17%/15%
Grad Student Survey	63%	52%	66%	TBD
Graduating Senior Survey	41%	41%	37%	32%
UG Alumni Survey	NA	27%	25%	NA

NILOA

National Institute for Learning Outcomes Assessment (NILOA)

Why Are We Assessing - April 16, 2018

We the undersigned have all dedicated a portion of our careers to helping our institutional colleagues assess student learning. Many of us are or have been teaching faculty, and it's our passion for teaching and helping students learn that drew us to this work.

We work at all kinds of institutions, large and small, public and private, research universities and two-year colleges. Our common bond is a conviction that, as good as American higher education is, today's students—and society—need not just a good but the best possible education. We see assessment as a vital tool to making that happen.

We've found that assessment, when done well, can benefit students, faculty, co-curricular staff, and higher education institutions in a number of ways, including contributing to better learning.

NILOA

National Institute for Learning Outcomes Assessment (NILOA)

Why Are We Assessing - April 16, 2018

But we have learned that assessment is most effective under the following circumstances:

- Students, faculty, and co-curricular staff share responsibility for student learning.
- Institutional leaders make student learning a valued priority.
- Faculty and co-curricular staff are respected leaders and partners in the assessment process.
- Everyone takes a flexible approach to assessment.
- Assessment respects and builds on what faculty and staff are already doing well.
- Everyone focuses on collecting information that's genuinely useful in understanding and improving student learning.
- Assessment is kept as cost-effective as possible.
- Everyone recognizes that the perfect can be the enemy of the good.
- Disappointing outcomes are viewed as opportunities for improvement and are addressed fairly, supportively, and compassionately.
- There is an institution-wide commitment to innovation and improvement.

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