

Crafton Hills College - Outcomes Assessment Report

Program Learning Outcome 1:

Year Assessed: 2014-2015

Learning Outcomes Statement(s)

Identify the basic areas of Chemistry that are appropriate to each Chemistry course. This content will allow students to continue in successive Chemistry courses, as well as relate the knowledge for matriculation and life-long learning.

Comprehend and use laboratory skills in synthetic, quantitative and instrumental methods as scientific approaches to gathering and verifying knowledge.

Demonstrate critical thinking in Chemistry including interpretation, evaluation, explanation and critical inquiry; how to ask appropriate questions, gather relevant information efficiently and creatively, sort through this information, reason logically from this information and come to reliable and trustworthy conclusions.

Collect, analyze and articulate results clearly and effectively in speech and in writing in an acceptable style of presentation.

Means of Assessment (Measurement Method)

On In-Service Day, August 17, 2015, the Institutional Effectiveness, Accreditation, and Outcomes Committee (IEAOC) with the Professional Development Committee (PDC) organized a campus wide meeting to discuss the results collected from the SLO Cloud tool by program. Approximately 20 faculty from multiple disciplines attended the session and reviewed the process for examining the results from the PLO assessments. Because of a technical glitch, rather than reviewing the results and generating proposed actions for the PLOs, faculty in each discipline that attended completed and emailed the results to the Office of Institutional Effectiveness, Research and Planning.

Summary of Evidence

The OIERP reviewed the process for accessing and discussing the PLO results and the proposed actions. The Chemistry Department reviewed the results of the PLO assessments, discussed the meaning of the results and developed the proposed actions.

Program SLOs

#	Program SLO Statement	# of Students Meeting SLO Rubric				# 3 or higher	% 3 or higher
		1	2	3	4		
1	Identify the basic areas of Chemistry that are appropriate to each Chemistry course. This content will allow students to continue in successive Chemistry courses, as well as relate the knowledge for matriculation and life-long learning.	105	133	250	323	573	70.65%
2	Comprehend and use laboratory skills in synthetic, quantitative and instrumental methods as scientific approaches to gathering and verifying knowledge.	30	29	91	327	418	87.63%
3	Demonstrate critical thinking in Chemistry including interpretation, evaluation, explanation and critical inquiry; how to ask appropriate questions, gather relevant information efficiently and creatively, sort through this information, reason logically from this information and come to reliable and trustworthy conclusions.	45	60	198	233	431	80.41%
4	Collect, analyze and articulate results clearly and effectively in speech and in writing in an acceptable style of presentation.	15	20	68	148	216	86.06%
5	N/A						

[14 Reflection\(s\)](#)

[19 Section\(s\) Reporting](#)

[23 Section\(s\) Not Reporting](#)

Proposed Actions Developed during the Course Assessments

- None

[4 Section\(s\)](#)

- Number 5 is the only area that did not meet the target. This is exam 3, which is given at about 12 weeks into the course, at this point students should have an idea of how exams are administered and what their expectations are in terms of knowledge and rigor of the course. Actions for improvement in this area is to have more worksheets available to students. Another action is to post screen capture video of lectures and have the available throughout the semester. UPDATE: Screen captured videos of lectures was completed and courses that meet in Spring 2015 and later will have them available. (CHEM-102-10 for 2014FA)
- SECTION 70: Number 5: Did not meet the target. This is exam 3, which is given at about 12 weeks into the course, at this point students should have an idea of how exams are administered and what their expectations are in terms of knowledge and rigor of the course. Actions for improvement in this area

is to have more worksheets available to students. Another action is to post screen capture video of lectures and have the available throughout the semester. UPDATE: Screen captured videos of lectures was completed and courses that meet in Spring 2015 and later will have them available. SECTION 70: Number 8: Did not meet the target. This is Experiment 3, given usually week 3 of the course. Students are not yet sure of what their expectations are in terms of knowledge and rigor of the course. Actions for improvement in this area is to have more worksheets available to students, and reminding students to start the work early so they can ask instructor for help before they turn in the report. (CHEM-102-70 for 2014FA)

- Number 4 was the only part that did not meet the target. Exam reviews and more worksheets can be made for students to practice for better result on exams. (CHEM-212-01 for 2014FA)
- none at this time (CHEM-151-15 for 2014FA)
- None at this time (CHEM-151-16 for 2014FA)
- Continue to update student material. (CHEM-123-70 for 2015SP)
- CHEM 102-10 Area 5 target was not met. The overall exams scores are unusually low this semester and I am not sure way. I will emphasize the importance of starting to study for exams early, and to use the worksheets I have developed for better understanding. I can also ask students how they student for exams and see how I can help. (CHEM-102-10 for 2015SP)
- CHEM 102-70 Area 5 target was not met. The overall exams scores are unusually low this semester and I am not sure way. I will emphasize the importance of starting to study for exams early, and to use the worksheets I have developed for better understanding. I can also ask students how they student for exams and see how I can help. (CHEM-102-70 for 2015SP)
- CHEM 213 Area 5 target was barely met. The overall exams scores are unusually low this semester and I am not sure way. I will emphasize the importance of starting to study for exams early, and to use the worksheets I have developed for better understanding. I can also ask students how they study for exams and see how I can help. (CHEM-213-01 for 2015SP)
- It was a weaker class than usual. I will monitor SLO 6 and if it continues at the level, I will need to address with additional problems. In the Fall, I will be using some online tutorials which may help

[2 Section\(s\)](#)

- Using an online tutorial system in the Fall which I hope will help the struggling students.

[2 Section\(s\)](#)

- Students should have more mathematical skills to be able to work problems fluently (CHEM-150-50 for 2015SP)
- Students should be more fluent in mathematics (CHEM-150-51 for 2015SP)

Use of Results/Proposed Actions (Implications for Program Improvement & Planning)

In discussions between faculty regarding Program SLOs and with evaluation of the data for our department, it has been agreed that our goal on all Program SLO's is that they must meet 80% or higher

for Number of Students Meeting SLO Rubric at 3 or above for it to be acceptable. This is met in three of the four SLOs: SLO #2: 87.63%, SLO # 3 80.41%, SLO 4 86.06%.

Program SLO #1 did not meet our goal, and has only a 70.65% of students who met a score of 3 or higher in the SLO Rubric.

"Identify the basic areas of Chemistry that are appropriate to each Chemistry course. This content will allow students to continue in successive Chemistry courses, as well as relate the knowledge for matriculation and life-long learning."

In discussions with faculty, we had decided that the proposed actions for 1 is really difficult, and we came up with two questions; The PLO is so vague how do we propose an action for something that we really don't know what part they are struggling with? We don't even know if one course is lower than the other.

Our proposed action: We need to identify if it is one course that is struggling in this area or if it is all courses. Once we know where the problem is, we can focus in on what exactly the students are not learning well and then add more assignments or more quality lecturing on the material.