Crafton Hills College - Outcomes Assessment Report

Course: CHEM-150 (General Chemistry I) **Term:**

Date: XXXX

---

1. Learning Outcomes Statement

1. The ability to apply mathematics to chemical measurements.
2. The ability to do problems involving reaction stoichiometry.
3. Comprehension and use of laboratory skills in synthetic, quantitative and instrumental methods as scientific approaches to gathering and verifying knowledge.
4. 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.
5. The ability to collect, analyze, and articulate results clearly and effectively in speech and in writing in an acceptable style of presentation. The ability to follow directions given both in written and verbal form.

Specific Outcomes assessed for the data presented	SLO measured
Solve Clausius Claperyon equation problems	1,4
Interpret and generate Lewis Structures of atoms or molecules	4
Solve stoichiometry of gas problems	1,2,4
Solve molarity problems	1,2
Solve limiting reactant problems	1,2,4
Laboratory assessment such as laboratory skills, and reports	3,5

2. Means of Assessment (Measurement Method)

(left blank by respondent)

3. Criteria for Success (Benchmark)

(left blank by respondent)

4. Summary of Evidence

The results show that the students' outcomes have been fairly consistent over the last 4 years in the areas of SLOs 1, 2, & 4. In the area of Lab assessment, students' scores on Exp 10 report were used to evaluate

their success. Students have shown an increase over time in student success, with 50 % or higher consistently since spring 2012.

5. Use of Results (Implications for Program Improvement & Planning)

Instructors have analyzed the results, discussed results with other faculty and staff, and made appropriate changes to the course to improve the outcome results for students. Changes such as, revised lecture notes, revised PowerPoint presentations, additional problems worked out in class, review sessions, review sheets, and additional homework problems assigned are examples of some of the techniques instructors have used. For the lab assessment, students were given a grading rubric for the experiment, starting fall 2006, this explains the difference in grades for the students.

Changes: To better help students with laboratory skills and reports (SLOs 3 & 5), new experiments have been written and implemented using an electronic data collection system that is used with computers. Results of these changes will be assessed once more data can be collected.