

# Crafton Hills College - Outcomes Assessment Report

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Course: CHEM-101

Term:  
Date: XXXX

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## 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 for moles of gases, solids and solutions	1,4
Solve and perform molarity calculations	1,4
Solve stoichiometry problems involving gases, solids and solutions.	1,2,4
Solve stoichiometry problems involving limiting reagents	1,2,4
Solve chemistry problems involving gas laws	1,2,4
Lab Assessment	3,5

## 2. Means of Assessment (Measurement Method)

Individual topics are evaluated each semester, and changes made by instructors, through discussion with other faculty members.

## 3. Criteria for Success (Benchmark)

Students will achieve a score of 80% or higher on the SLO questions.

#### *4. Summary of Evidence*

We noticed a steady increase in the percent of students with 80% or higher until spring 2010. In spring 2012, additional modifications were made to the lecture material (mainly exam review sheets) and the numbers then began to increase again. The changes also affected the percent of students who answered only 20% or less of the questions correctly.

#### *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, in class assessment using “Learning Checks”, exam review sheets, and additional homework problems assigned are examples of some of the techniques instructors have used.