

Richland College Chemistry Program: The Five-Column Format for Assessment

Fall 2005

Spring 2006

Fall 2006 – Spring 2007

Identify outcomes to assess and design instruments

Conduct assessment and evaluate data

Implement changes to address deficiencies

Expanded Statement of Institutional Purpose	Program-Intended Student-Learning Outcomes	Means of Program Assessment and Criteria for Success	Summary of Data Collected	Use of Results
<p>Mission Statement: The mission of Richland College is teaching, learning, community building.</p>	<p>Students who've completed Chemistry 1411 and 1412 at Richland College should be able to do the following:</p> <ol style="list-style-type: none"> 1. Understand fundamental concepts. 	<p>1a. 70% of selected students will achieve an overall score of 3.0 or better (5.0 rubric) on <u>concentration</u> and <u>solution stoichiometry</u> questions on final exam.</p> <p>1b. No more than 20% of selected students will fail any rubric item.</p>	<p>1a. 95.5% of selected students scored 3.0 or better on concentration assessment and 37.5% scored 3.0 or better on solution stoichiometry assessment.</p> <p>1b. 59% of students failed the significant figure rubric item on the concentration assessment. More than 20% of students failed each rubric item on the solution stoichiometry assessment.</p>	<ol style="list-style-type: none"> 1. Work and assign more problems that utilize mole ratios that are not 1:1. <p>Conduct concentration, solution stoichiometry and significant figure checkpoint activities in lab.</p> <p>Assess stoichiometry and significant figures on Chem 1411 final exam.</p>
<p style="text-align: center;">↓</p>	<ol style="list-style-type: none"> 2. Demonstrate proper laboratory technique. 	<p>2a. 70% of selected students will achieve an overall score of 3.0 or better (5.0 rubric) demonstrating the <u>preparation of a solution</u> of known concentration and weighing</p> <p>2b. Not more than 20% of the selected students will fail any rubric item.</p>	<p>2a. 46.4% of selected students scored 3.0 or better on preparation of solution of known concentration and 71.4% scored 3.0 or better weighing.</p> <p>2b. More than 20% of students failed each rubric item on the solution preparation assessment and each item on the weighing assessment except taring the empty cup.</p>	<ol style="list-style-type: none"> 2. Conduct weighing and solution preparation checkpoint activities in lab. <p>Show weighing video and use weighing rubric during Ex 5, "Empirical Formula"</p> <p>Show CD giving solution preparation instruction during Ex 18, "Electrolytes".</p>
<p>Goal Statement: Enable all students to succeed.</p>	<ol style="list-style-type: none"> 3. Interpret experimental observations. 	<p>3a. 70% of selected students will achieve an overall score of 3.0 or better (5.0 rubric) interpreting experimental data requiring understanding of <u>acid-base stoichiometry</u>.</p> <p>3b. Not more than 20% of the selected students will fail any rubric item.</p>	<p>3a. 56.7% of selected students scored 3.0 or better interpreting experimental observations of acid-base stoichiometry.</p> <p>3b. More than 20% of students failed each rubric item interpreting experimental observations.</p>	<ol style="list-style-type: none"> 3. Use 2005-2006 assessment activity as a Chem 1412 worksheet following Ex 53, "Phosphoric Acid in Colas". <p>Conduct concentration and solution stoichiometry checkpoint activities in lab.</p> <p>Work and assign more problems that utilize mole ratios that are not 1:1.</p>