



Course Assessment Report - 4 Column

Great Basin College

Courses (SCI) - Chemistry

Course Outcomes 1 and ctu.unitid = 658	Means of Assessment & Criteria / Tasks	Results	Action & Follow-Up
<p>CHEM 121 - General Chemistry I - Solving problems having to do with properties of matter - Solving problems having to do with properties of matter (mixtures, atoms, compounds) (Outcomes #1 and #2 in masteringchemistry)</p> <p>Next Assessment: 2018-2019</p> <p>Start Date: 10/19/2015</p> <p>Course Outcome Status: Active</p>	<p>Assessment Measure: Exams and final questions (multiple questions)</p> <p>Assessment Measure Category: Exam</p> <p>Criterion: >70% correct</p>	<p>10/19/2015 - The average scores were 82.2% and 92.2% = 87%</p> <p>Criterion Met: Yes</p> <p>Reporting Period: 2014-2015</p>	<p>10/19/2015 - The students are doing well on these outcomes.</p> <p>One of the density problems on exam 1 was a challenge problem – only 33% of students got it correct. I think that this is the “right” number of students to get this problem correct – on the 1st exam for the year.</p> <p>I will continue with what I am doing for this total outcome.</p>
<p>CHEM 121 - General Chemistry I - Solving problems having to do with properties of atoms, elements, molecules - Solving problems having to do with properties of atoms, elements, molecules (structure and reaction behavior) (Outcomes #7-10 in mastering chemistry)</p> <p>Next Assessment: 2018-2019</p> <p>Start Date: 10/19/2015</p> <p>Course Outcome Status: Active</p>	<p>Assessment Measure: Exams and final questions (multiple questions)</p> <p>Assessment Measure Category: Exam</p> <p>Criterion: >70% correct</p>	<p>10/19/2015 - The average scores were 79.5%, 88.2%, 72.0%, and 88.5% = 82%</p> <p>Criterion Met: Yes</p> <p>Reporting Period: 2014-2015</p>	<p>10/19/2015 - The students are doing well on these outcomes.</p> <p>The problems that are bringing the results down for this outcome are centered on Drawing Lewis structures involving resonance and calculations of lattice energy. Honestly, I think students need more homework in these areas.</p>
<p>CHEM 121 - General Chemistry I - Solving problems using chemical equation-based quantitative reasoning - Solving problems using chemical equation-based quantitative reasoning (balancing equations, reaction stoichiometry, solution stoichiometry) (Outcomes #3, 4, 12 in mastering chemistry)</p> <p>Next Assessment: 2018-2019</p> <p>Start Date: 10/19/2015</p> <p>Course Outcome Status: Active</p>	<p>Assessment Measure: Exams and final questions (multiple questions)</p> <p>Assessment Measure Category: Exam</p> <p>Criterion: >70% correct</p>	<p>10/19/2015 - The average scores were 82.8%, 79.0%, and 96.3% = 86%</p> <p>Criterion Met: Yes</p> <p>Reporting Period: 2014-2015</p>	<p>10/19/2015 - Students have some trouble on Exam 1 with the harder stoichiometry problems. I'm not concerned about this. They are doing pretty well and demonstrate proficiency, in my opinion.</p> <p>I will continue with what I am doing for this total outcome.</p>
<p>CHEM 121 - General Chemistry I - Solving problems involving gases - Solving problems involving gases (gas laws, kinetic molecular theory) (Outcome #5 in mastering chemistry)</p>	<p>Assessment Measure: Exams and final questions (multiple questions)</p> <p>Assessment Measure Category: Exam</p>	<p>10/19/2015 - 90.2%</p> <p>Criterion Met: Yes</p> <p>Reporting Period:</p>	<p>10/19/2015 - Students are familiar with gas law problems (from high school and other courses like physics), so they tend to do</p>

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<p>Next Assessment: 2018-2019</p> <p>Start Date: 10/19/2015</p> <p>Course Outcome Status: Active</p>	<p>Criterion: >70% correct</p>	<p>2014-2015</p>	<p>very well. KMT problems tend to be harder – nobody likes the first time they see statistical mechanics. They did well, on both types of problems. I will continue with what I am doing for this total outcome.</p>
<p>CHEM 121 - General Chemistry I - Solving problems in thermochemistry - Solving problems in thermochemistry (enthalpy changes in compounds and their reactions) (Outcome #6 in mastering chemistry)</p> <p>Next Assessment: 2018-2019</p> <p>Start Date: 10/19/2015</p> <p>Course Outcome Status: Active</p>	<p>Assessment Measure: Exams and final questions (multiple questions)</p> <p>Assessment Measure Category: Exam</p> <p>Criterion: >70% correct</p>	<p>10/19/2015 - 83.6%</p> <p>Criterion Met: Yes</p> <p>Reporting Period: 2014-2015</p>	<p>10/19/2015 - Students are doing surprisingly well at this outcome. The types of problems they tend to have the most difficulty with involve complicated combustion problems where little info is given. We practised these extensively in class – I can't devote more time to them. I will continue with what I am doing for this total outcome.</p>
<p>CHEM 121 - General Chemistry I - Correct operation of common chemistry lab equipment - Correct operation of common chemistry lab equipment (balance, quantitative glassware)</p> <p>Next Assessment: 2018-2019</p> <p>Start Date: 10/19/2015</p> <p>Course Outcome Status: Active</p>	<p>Assessment Measure: Lab reports (the lab reports cannot be completed without successful operation of equipment)</p> <p>Assessment Measure Category: Assignment - Lab</p> <p>Criterion: >70% on lab reports</p>	<p>10/19/2015 - The average score on lab reports was 82.5%</p> <p>Criterion Met: Yes</p> <p>Reporting Period: 2014-2015</p>	<p>10/19/2015 - I will continue with what I am doing for this total outcome.</p>
<p>CHEM 121 - General Chemistry I - Communications Skills Objective - General Education: Communications Skills Objective (students will clearly communicate scientific information in written form), (students will be able to read about and communicate scientific ideas), (written communication)</p> <p>Next Assessment: 2018-2019</p> <p>Start Date: 10/19/2015</p> <p>Course Outcome Status: Active</p>	<p>Assessment Measure: Students will clearly communicate scientific information in written form (written lab reports) Students will be able to read about and communicate scientific ideas (discussions) Written communication (term paper on a famous chemist)</p> <p>Assessment Measure Category: Assignment - Written</p> <p>Criterion: >70% aggregate score in the assignments above</p>	<p>10/19/2015 - Lab reports: 82.5% Discussions: 91.5% Term paper: 92.2% TOTAL = 88.7%</p> <p>Criterion Met: Yes</p> <p>Reporting Period: 2014-2015</p>	<p>10/19/2015 - I will continue with what I am doing for this total outcome.</p>
<p>CHEM 121 - General Chemistry I - Thinking Objective Quantitative Ability - General</p>			

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<p>Education: Critical Thinking Objective Quantitative Ability- Students will use mathematical principles and quantitative methods to complete the laboratory assignments, online homework assignments and exams. Reasoning and Independent Thought- Students will use reasoning and independent thought to complete laboratory experiments and answer exam questions. Scientific Understanding- Students will comprehend chemistry and the process by which the scientific knowledge is discovered. They will also develop the ability to understand chemistry and how it relates to them.</p> <p>Measurement of this objective: lecture exams (students will be able to answer quantitative questions related to chemistry on exams, many questions on the exams will require the student to examine data and make an independent conclusion), written lab reports (students will calculate and present quantitative results clearly in the lab reports), graded discussions (assesses everything above besides quantitative ability).</p> <p>Next Assessment: 2018-2019</p> <p>Start Date: 10/19/2015</p> <p>Course Outcome Status: Active</p>	<p>Assessment Measure: Measurement of this objective: lecture exams (students will be able to answer quantitative questions related to chemistry on exams, many questions on the exams will require the student to examine data and make an independent conclusion), written lab reports (students will calculate and present (quantitative results clearly in the lab reports), graded discussions (assesses everything above besides quantitative ability), the entire course assesses scientific understanding – so I am using the total grade in the course for this. So, the entire course.</p> <p>Assessment Measure Category: Discussion, homework, papers</p> <p>Criterion: >70% aggregate score in the entire course</p>	<p>10/19/2015 - Average final grade in the entire course = 83.3% Of the 27 students in the course after the drop deadline, all but 1 finished, and 2 others got total % scores below 70%. (This is extra information.)</p> <p>Criterion Met: Yes</p> <p>Reporting Period: 2014-2015</p>	<p>10/19/2015 - The average score on assignments that assess this broad objective is 83.3%. In my professional opinion this does not warrant any substantive changes to the course.</p> <p>Only having 3 students getting below a C (out of 27 students) indicates HUGE student success in first semester general chemistry, especially when you consider the level of outcomes attainment in specific outcomes. Given this information it might be considered malpractice if I tinker too much with this course – it is working.</p>
<p>CHEM 121 - General Chemistry I - Sense of the Past - Sense of the Past- Students will communicate an understanding of how chemical knowledge was discovered and how this knowledge has changed society and their lives</p> <p>Next Assessment: 2018-2019</p> <p>Start Date: 10/16/2014</p> <p>Course Outcome Status: Active</p>	<p>Assessment Measure: term paper on a famous chemist</p> <p>Assessment Measure Category: Assignment - Written</p>	<p>10/19/2015 - 92.2%</p> <p>Criterion Met: Yes</p> <p>Reporting Period: 2014-2015</p> <p>Related Documents: Freistroffer D chem_121_course_assessment.pdf</p>	<p>10/28/2015 - Outcomes #1-5 were measured using exams in masteringchemistry (Pearson's online homework/testing tool). I have attached the aggregated data (screenshot) that was used to prepare this report. There is more detailed data (when you press the “+” you see in the screenshot), which I have not attached, but have used to analyze more precisely what students are having trouble with. This is what I have used in my action plan comments.</p> <p>Comparison with previous year: Last year I did a very similar assessment for this course. The area that I was concerned about last year was their ability to draw Lewis structures (outcome was 56% last year). I made a change for this year --- giving them more homework in this area.</p>

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			10/19/2015 - The students have an adequate sense of the past as it relates to chemistry. No action needed.