

WITC General Studies Course Assessment Report: Chemistry (10-806-140)
Assessment year/time-period: 2015-6

Course Assessed	Chemistry – 10-806-140
Dates(s)	First assessment period was Spring 2014 semester. This is the second full-year all-campus report for this assessment (Summer and Fall, 2015, and Spring 2016 semesters).
Participating faculty members	Lori Cypher, Mary Goldsmith, Jodie Karr and Dave Stanley (Wendy Dusek was also instructing this course in Fall and Summer of 2015).
Assessment Process/Design	All of the health science faculty members worked collaboratively to design this common assessment. This assessment addresses all of the course competencies and learning objectives using carefully designed multiple choice or true/false type questions. Therefore, it is consistent for all students, regardless of which instructor they had, or which campus they attended. All WITC students taking this course were expected to take this assessment, regardless of course delivery mode. Utilizing software for test analysis that is already in Blackboard allowed for statistical analysis on a question-by-question basis, allowing instructors to identify specific areas where teaching/learning improvement may be needed.
Results and Analysis – from 2015-16 year	<p>*This is the third implementation of this common assessment for Chemistry, so there is 1 full year plus 1 additional semester (Spring 2014) of prior data available for comparison.</p> <p>Overall average score for all students across all modes of delivery was 85.3%.</p> <p>Total number of students in 2015-16 assessment: # Online students: 91 – with the average test score for these students: 85.8% # Web-enhanced students: 42 – average test score for these students: 84.7% # Blended students: 24 - average test score for these students: 85.6%</p> <p>Results indicate that students excelled at the following competencies:</p> <ul style="list-style-type: none"> • Competency #1 (Use appropriate scientific equipment, methods, and safety precautions.) • Competency #2 (Demonstrate use and understanding of basic mathematical, chemical, and physical concepts.) • Competency #7 (Explain the characteristics and reactions of acids, bases, and salts.) <p>• Students excelling at these competencies were taking the class in all modes of delivery.</p> <p>Results indicate that students need improvement with the following competencies:</p> <ul style="list-style-type: none"> • Competency #3 (Explain the structure, makeup, and uses of atoms, molecules, and compounds.) • Competency #4 (Summarize pressure and the gas laws.)

	<ul style="list-style-type: none"> Competency #5 (Explain the structure, properties, and uses of water and different types of liquid mixtures). Students needing improvement were taking the class in all modes of delivery. <p>In particular, there were 3 competencies where we noticed particular strengths (Competency # 1, 2, & 7) and 3 where we noticed opportunities (Competency #3, 4, & 5).</p>
<p>Action Plan relative to results</p>	<p>Based upon this assessment of Chemistry over the past year (Fall and Summer 2015, Spring 2016):</p> <p>-We excelled in the areas of Competency # 1, 2, & 7; we will keep doing what we are doing, in general, in these areas. Where students excelled, best practices were shared and our success was celebrated.</p> <p>-In earlier iterations of this test, we reworded question # 9 (which addressed Competency #3), as students, in general, did poorly on the original question. This time, student scores improved, though evidence suggests there is still room for improvement. We did best practice sharing on how to better address this course content while teaching this subject material.</p> <p>-Last year, we agreed to address Competency #4 by emphasizing in classes the need be familiar with the gas laws by name. We will continue to share best practices regarding how this unit is taught, as there continues to be room for improvement regarding this unit.</p> <p>-In earlier iterations of this test, we reworded question #15 (which addressed Competency #5), as students, in general, did poorly on the originally worded question. Students improved in this area (on this iteration of the test).</p> <p>Best practices were shared and new strategies developed to enhance student learning. These include:</p> <p>-Competency #3-Action Plan: Continue to spend more time on clarifying this topic (chemical bonding) in class. We shared best practices on how to approach this unit, including explanatory diagrams and web animation links that we can all incorporate into our course materials.</p> <p>-Competency #4-Action Plan: Emphasize in class the need for students to know the gas laws BY NAME (versus just emphasizing the concepts, as we have previously done in class) and further explain each concept using real-life examples. We will also incorporate online animated videos addressing this content material.</p> <p>-Competency #5-Action Plan: Continue to utilize animated videos in class demonstrating modes of transport (diffusion, osmosis, active transport, etc.), as this seemed to work well, however, there remains to be room for improvement. We will also emphasize this topic in lecture and lab materials.</p>