

Department/Unit Chemistry and Biochemistry College/School CNSM

Chemistry M.S. programs

NOTE: This is a new document for the Academic year 20010-11. Please contact Bill Simpson or the Provost's office for prior years.

Table 4.1 Outcomes Assessment Implementation Summary		
Complete a separate table for each degree and certificate program		
	Academic Year	
	2010-11	2011-12
Assessment information	<p><i>Graduate program assessment forms were compiled in May/June 2011 and results were analyzed by considering whether students were deficient (below the expected level for their year in program), at expectation, or exceeding expectations. Due to limited numbers in the MS and MA programs, there were only two responses, and all areas had one student at expected level, one exceeding.</i></p> <p><i>One student graduated with an MS degree in the summer of 2010, but our new assessment plan was just being established at that time, so no data was captured.</i></p> <p><i>Publication data was collected and are in</i></p>	<p>We captured data for three M.S. students in the 2011-12 Academic Year. These data were compiled and analyzed in Spring 2012, but the report was not completed at that time. This report includes those data and also discusses changes adopted at the Spring 2013 departmental retreat. Of the three M.S. students for whom we have assessment information, all three were in their second year, and two were captured at M.S. defenses, and one was from an annual meeting.</p> <p>The two graduating students were viewed as being at the expected level for a graduating M.S. student on all assessed areas. The one continuing student was</p>

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	<p><i>departmental records.</i></p> <p><i>Employment: The M.S. graduate in this year is employed.</i></p>	<p>viewed as being ready to graduate in terms of literature, technical abilities, and quantitative skills but needing to advance in writing skills.</p> <p>Employment: One M.S. student is employed in a laboratory job and the other continued education at another institution</p>
<p>Conclusions drawn from the information collected above and how are faculty collectively involved in drawing conclusions</p>	<p>1) <i>Technical abilities and presentation skills: Students scored well on points 3 (Technical) and 1 (Literature) and 5 (Knowledge of field) of the assessment survey. Annual progress reports also indicated students were making progress.</i></p> <p>2) <i>MS grads will contribute to the field, MA grads do not have explicit research required: The assessment survey indicated good performance on critical thinking aspects, points 2 (Critical Literature) and 8 (PhD hypothesis development).</i></p> <p>3) <i>Communications: Students performed well in oral (point 6) and written (point 7) communications.</i></p> <p>4) <i>Employment: The one graduate of the MS program is employed in field.</i></p>	<p>1) <u>Technical abilities and presentation skills:</u> Technical abilities and presentation skills were appropriate for the graduating students and advanced for the continuing student.</p> <p>2) <u>MS grads will contribute to the field, MA grads do not have explicit research required:</u> Each of the graduating students completed their theses and work from those theses were being put into publication format for submission to peer-reviewed journals.</p> <p>3) <u>Communications:</u> Students performed well in oral communications, but written communication of the continuing student was considered below level.</p> <p>4) <u>Employment:</u> Both graduates of the MS program were employed or continuing education in the field.</p>
<p>Curricular changes resulting from conclusions</p>	<p>1) <i>No changes.</i></p>	<p>Again, the small numbers of students in the M.S. program hinders effective assessment of learning</p>

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drawn above	<p>2) <i>No changes.</i></p> <p>3) <i>No changes.</i></p> <p>4) <i>No changes.</i></p>	<p>outcomes, which is discussed below. Overall from these observations, we found that the program was successful, although the writing skills could use work in one case. During our Department's Spring 2013 retreat, we considered unifying all M.S. programs (of which we have three: M.S. Chemistry, M.S. Biochemistry and Molecular Biology, and M.S. Environmental Chemistry) into the Chemistry M.S. degree with two optional concentrations in the areas mentioned above. The department approved of this move, which will increase the number of students in the M.S. Chemistry program and allow better assessment. Most of the program requirements and intended learning outcomes were already similar between these three M.S. degrees (although required core courses for each concentration are different), so this was a relatively straightforward change. We submitted paperwork to make this change. In addition, the department wished to move the M.S. Chemistry comprehensive exams to the end of the first year, during which time the student would write a short on-topic research proposal and defend it orally to their committee. This change will allow us to assess writing and oral skills at an earlier stage and should allow intervention in the case of students with weak writing skills.</p>
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