

# CNM ANNUAL STUDENT LEARNING ASSESSMENT REPORT

*Due to the Student Academic Assessment Committee by October 15*



## PART 1: REPORT INFORMATION

Report Year and Contact Information			
<u>2018-2019</u> Academic Year	<u>Kevin Divine, Carol Martinez</u> Contact Person	<u>kdivine@cnm.edu, camartinez@cnm.edu</u> CNM Email	<u>52197, 50231</u> CNM Office Extension

  

Subject of this Report
MSE--CHEM_AS--Chemistry Degree

## PART 2: CONTEXT IN WHICH THE ASSESSMENT TOOK PLACE

Program/Area Highlights and Successes
<small>(Wherever applicable, include course completion rates, job placement outcomes, and licensing examination pass rates. See the program information dashboard at <a href="https://livecnm.sharepoint.com/sites/Dashboards/SitePages/Program%20Information%20Dashboard.aspx">https://livecnm.sharepoint.com/sites/Dashboards/SitePages/Program%20Information%20Dashboard.aspx</a> (access restricted to CNM employees) and other reports at <a href="https://www.cnm.edu/depts/opie">https://www.cnm.edu/depts/opie</a>.)</small>
CHEM 1810 had 11 sections with 459 students. The C-pass rate was 61.8 %. CHEM 1892 had 18 sections with 366 students. The C-pass rate was 76.6%. In FY 18/19, there were 155 declared CHEM majors. Two AS degrees in CHEM were awarded during 2017-2018 FY, and both of those students have transferred to a 4-year institution. CHEM 1710 had 966 students in 24 sections during F18 and Sp19.

  

Changes Implemented During the Past Year in Support of Student Learning
We continue to provide extra review on the topics covered on the final by giving quizzes, practice finals and study guides to better prepare students for the exams during the term and for the final exam.

**PART 3: REPORT ON ASSESSMENT OF STUDENT LEARNING**

<b>Assessment Method</b>	<b>Type of Assessment Tool</b>	<b>Population or Course(s) Assessed</b>	<b>Graduate Learning Outcome(s) Assessed</b>	<b>Mastery Level</b> (E.g., "Minimum score of 3 on a rubric scaled 0-4" or "Minimum score of 75%")	<b>Targeted % Achieving Mastery</b>	<b>Outcome</b>
Assess student performance on selected questions on the lab final.	Direct & Internal	CHEM 1892	Demonstrate a mastery of basic chemistry laboratory operations and experimental procedures including laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).	Minimum score of 75% on each of the assessed questions on the lab final.	75%	Target met
Assess student performance on selected questions on the lab final.	Direct & Internal	CHEM 1892	Use basic computational and graphical techniques to perform laboratory related calculations and data analysis.	Minimum score of 75% on each of the assessed questions on the lab final.	75%	Target met
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#### Summary of Assessment Findings

This assessment cycle, the lowest scores that were obtained by the students were on the quantitative questions on the lab final, with 70.8% of the students properly interpreting a graph to obtain a pKa value and then calculating the molar mass of the acid. The highest scores were 92.9% of students properly making a direct reading of a volume from a graph.

#### Interpretation of Assessment Findings

The average for one-step calculations or readings is > 87% correct. For two-step processes, the rate of correct responses falls 15-20%.

**Action Plan in Support of Student Learning** (Describe changes to be made that are based at least in part on the assessment interpretation. If the assessment did not yield useful information, describe changes to be made in the assessment methodology and/or criteria.)

Ask faculty in both lab and lecture courses to focus on multi-step processes and to assess the efficacy of the increased focus in, quizzes, tests and labs.

**Please select all of the following that characterize the types of changes described in the above action plan:**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Assessment criteria revision | <input type="checkbox"/> Assessment methodology revision         | <input type="checkbox"/> Assignment revision     |
| <input type="checkbox"/> Budgetary reallocation       | <input checked="" type="checkbox"/> Change in teaching approach  | <input type="checkbox"/> Course content revision |
| <input type="checkbox"/> Curricular Revision          | <input checked="" type="checkbox"/> Faculty training/development | <input type="checkbox"/> Process revision        |

Recommendations, Proposals, and/or Funding Requests	Budget Needed
N/A	Click or tap here to enter text.

**PART 4: REMAINING YEARS IN CURRENT ASSESSMENT CYCLE PLAN** (including any revisions) – **OR -- UPCOMING ASSESSMENT CYCLE PLAN** (if this was the final year)

<b>Years of Full Cycle</b>	<b>Next Year's Assessment Focus</b> (Describe how the next planned assessment is expected to provide information that can be used toward improving student learning.)
4	For the 19/20 AY, we will continue to assess the same GLO's. We are putting together a committee to assess if we need to refine questions on the final to better serve our interests in data collection and interpretation. Once these recommendations are in decided upon, we will vote on incorporating the refined questions.

<b>Graduate Learning Outcomes to Be Assessed</b>	<b>Years in which Assessment Is Planned</b>	<b>Population/Courses to Be Assessed</b>	<b>Planned Assessment Approach</b>
Employ critical thinking skills to judge the validity of information from a scientific perspective	Fall 2021-Spring 2023	CHEM 1215	Direct/Internal. Assess selected questions on lecture final.
Develop laboratory experimental models that support theoretical chemistry concepts and methodology.	Fall 2021-Spring 2023	CHEM 1215L	Direct/Internal. Assess Beer's Law questions on lab final.
Demonstrate a mastery of basic chemistry laboratory operations and experimental procedures including laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).	Fall 2023-Spring 2025	CHEM 1225L	Direct/Internal. Use lab report or re-written questions on final with provided data for pKa experiment.
Use basic computational and graphical techniques to perform laboratory related calculations and data analysis.	Fall 2019-Spring 2021	CHEM 1225L	Direct/Internal. Assess pKa questions on lab final.
Contribute, as member of a team, to the successful accomplishment of organizational tasks, projects, and goals.	Fall 2019-Spring 2021	CHEM 2130L	Direct/Internal. Students synthesize, characterize, and report their findings on a compound.
Collect, analyze, and report relevant chemistry/experimental information	Fall 2021-Spring 2023	CHEM 1225L	Direct/Internal. Assess kinetics questions on lab final.
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