

CENTRAL NEW MEXICO COMMUNITY COLLEGE
ASSESSMENT REPORT
Due to SAAC by October 15

PART 1: CONTACT & PROGRAM IDENTIFICATION

Report Year and Contact Information			
<u>2016-2017</u> Academic Year	<u>Philip Lister</u> Contact Person	<u>plister@cnm.edu</u> Email	<u>X50325</u> Phone Number

Subject of this Assessment Report		
Program: _____ <input type="checkbox"/> Certificate <input type="checkbox"/> AA <input type="checkbox"/> AS <input type="checkbox"/> AAS	Gen Ed Area: <u>Lab Science: Biology</u> Applicable to: <input checked="" type="checkbox"/> AA/AS <input type="checkbox"/> AAS	Non-Award, Non-Gen-Ed Discipline Area: _____

PART 2: THE YEAR IN RETROSPECT

Program/Area Highlights (Including, wherever applicable, course completion, job placement, and licensing examination information)
<p>Our pre-health science related General Education courses are on track for preparing students. Our non-majors course will likely show the same once the assessment questions are re-written to more directly reflect current curriculum.</p>

Changes Made in Support of Student Learning
<p>A request to remove BIO 1610/1692, BIO 2110/2192, BIO 2410/2492, and BIO 2510/2592 from the General Education matrix was submitted. At the time of this report, those courses have not been removed as there is a delay in the process at the state level. Nevertheless, we are no longer assessing those courses for the General Education Lab Sciences.</p> <p>We are still in a waiting period for HED to finalize the new assessment protocol for General Education degrees.</p> <p>A new 5 year assessment cycle plan has been included in this report. This new plan represents suggestions from SAAC representatives to spread our assessment over the 5 year period, and removes the upper level courses that will no longer be part of the General Education Lab Sciences assessment.</p>

PART 3: REPORT ON RECENT ASSESSMENT OF STUDENT LEARNING

Student Learning Outcome(s) Assessed <i>To add rows: right-click in cell below and select "Insert," "Insert Rows Above"</i>	Classes/Cohorts Assessed
GE2 Apply the scientific method to formulate questions, analyze information/data and draw conclusions GE3 Properly operate laboratory equipment to collect relevant and quality data	GE2 BIO 1092 and BIO 1492 GE3 BIO 1492

Measurement Tool(s) Used <i>To add rows: right-click in cell below and select "Insert," "Insert Rows Above"</i>	<i>Enter X's for type of tool</i>				Initial Achievement Target or Expectation
	Internal	External	Direct	Indirect	
Final Exam (BIO 1092 and BIO 1492)	X				70% correct responses for each question

Assessment Findings
<p>GE2 Apply the scientific method to formulate questions, analyze information/data and draw conclusions.</p> <p>BIO 1092: Oxygen Consumption on 2 sets of rats.</p> <ol style="list-style-type: none"> 1. What is the independent variable? F16=49%; SP17=51% 2. What is the dependent variable? F16=56%; SP17=58% 3. What is one controlled variable? F16=65%; SP17=72% <p>BIO 1092: Genotype analysis of tongue rolling? F16=65%; SP17=56%</p> <p>BIO 1492: Interpret DNA fingerprint to determine most likely adult to be parent. F16=91%; S17=95%</p> <p>BIO 1492: Interpret and solve pedigree chart relating to blood types. F16=76%; S17=78%</p> <p>BIO 1492: Interpolation of heart rate from graph. F16=91%; SP1=90%</p>

GE3 Properly operate laboratory equipment to collect relevant and quality data.

BIO 1492: Use microscope to identify a state of mitosis in cells F16=87%; SP17=86%

Analysis and Interpretation of Assessment Findings

GE2 Apply the scientific method to formulate questions, analyze information/data and draw conclusions.

This outcome is being assessed with several tools in 2 courses (BIO 1092 and BIO 1492). Students in BIO 1492 surpassed the 70% success mark for all assessment questions. Students in BIO 1092 still struggle with identification different variables associated with a scientific experiment and analysis of genetic cross data.

GE3 Properly operate laboratory equipment to collect relevant and quality data

Students continue to exceed the 70% success target for this outcome.

Action Plan in Support of Student Learning

For Bio 1092, it was felt that the presentation of the experimental design questions were too complex and confusing for students. This question is being revised to be more clear. No changes are proposed for Bio 1492.

Please indicate with an X all of the following that characterize the types of changes described in the above action plan:

- | | | | |
|---|---|---|---|
| <input type="checkbox"/> Pedagogical change | <input type="checkbox"/> Course revision | <input type="checkbox"/> Process revision | <input type="checkbox"/> Curricular revision |
| <input type="checkbox"/> Budgetary reallocation | <input type="checkbox"/> Faculty training/development | <input type="checkbox"/> Assessment criteria revision | <input checked="" type="checkbox"/> Assessment methodology revision |

Recommendations, Proposals, and/or Funding Requests

Not Applicable

PART 4: ASSESSMENT CYCLE PLAN UPDATE (Copy and paste from original plan if unchanged)

Cycle Years	Description of Changes Made (if applicable)
2016-2021	Based on discussions with and advice from members of SAAC, the 5 year cycle plan submitted Fall 2016 has been revised. Rather than assess all 5 Gen Ed outcomes each of the 5 years, Outcomes GE2 and GE3 will be assessed Fall 2016-Spring 2017 and Fall 2017-Spring 2018, Outcomes GE1 and GE4 will be assessed Fall 2018-Spring 2019 and Fall 2019-Spring 2020, and Outcome GE5 and GE6 will be assessed Fall 2020-Spring 2021.

This assessment plan will initially be implemented with the assessment tools developed in BIO 1092 and BIO 1492. However, we will work to bring additional courses into the assessment strategy.

New guidelines from the HED will likely result in development of a new cycle plan.

Student Learning Outcomes	When Measured	Where Measured	How Measured
1. GE1 Employ critical thinking skills to judge the validity of information from a scientific perspective.	Fall 2018-Spring 2019 Fall 2019-Spring 2020	BIO 1092 BIO 1492	Final exam
2. GE2 Apply the scientific method to formulate questions, analyze information/data and draw conclusions.	Fall 2016-Spring 2017 Fall 2017-Spring 2018	BIO 1092 BIO 1492	Final exam
3. GE3 Properly operate laboratory equipment to collect relevant and quality data.	Fall 2016-Spring 2017 Fall 2017-Spring 2018	BIO 1492	Final exam
4. GE4 Utilize mathematical techniques to evaluate and solve scientific problems	Fall 2018-Spring 2019 Fall 2019-Spring 2020	BIO 1092 BIO 1492	Final exam
5. GE5 Communicate effectively about scientific ideas and topics, in both oral and written forms	Fall 2020-Spring 2021	BIO 1092 BIO 1492	Final exam
6. GE5 Communicate effectively about scientific ideas and topics, in both oral and written forms	Fall 2020-Spring 2021	BIO 1092 BIO 1492	Final exam

CNM Gen Ed Lab Science	NM State Gen Ed Area III: Laboratory Science
1 Employ critical thinking skills to judge the validity of information from a scientific perspective.	5 Apply scientific thinking to real world problems
2 Apply the scientific method to formulate questions, analyze information/data and draw conclusions.	2 Solve problems scientifically 1 Describe the process of scientific inquiry
3 Properly operate laboratory equipment to collect relevant and quality data.	2 Solve problems scientifically
4 Utilize mathematical techniques to evaluate and solve scientific problems.	2 Solve problems scientifically 4 Apply quantitative analysis to scientific problems
5 Communicate effectively about scientific ideas and topics, in oral and/or written formats.	3 Communicate scientific information
6 Relate science to personal, social or global impact.	5 Apply scientific thinking to real world problems