

Department of Math, Science, and Technology

Oglala Lakota College

Life Science Assessment Plan

2014-2015



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OGLALA LAKOTA COLLEGE

MATH, SCIENCE AND TECHNOLOGY DEPARTMENT

Associate of Arts in Life Science

Assessment Plan

Associate of Arts in Life Science

Program Outline Summary

Program Information

Organization Oglala Lakota College

Instructional Level Associate of Science

Instructional Area Math, Physical and Biological Sciences

Program Manager Karla Witt

Original Developer(s) Jason Funk, Karla Witt, Merle Brave, Sandra Byrd

Last Revision Date May 14, 2015

Reviewed Date May 14, 2015

Revised by Jason Funk, Karla Witt, Merle Brave, Sandra Byrd

Target Population

Community members wishing to pursue a health profession

Purpose

Health issues are a major concern on the Pine Ridge reservation. Students in Life Science are encouraged to explore the connections between health-related issues and the environment and complete Baccalaureate and graduate degrees in the areas of biology, physiology, biochemistry, or medicine. The purpose of the Life Sciences associate's degree is to prepare students to transfer into accredited Nursing and Secondary Education baccalaureate programs at OLC and elsewhere.

Mission

The Math, Science, and Technology learning philosophy emphasizes a constructivist frame-work, a hands-on approach to improve the quality of life on the Reservation through science and technology

Indirect Measures

Career/Job Titles

1. Hazardous Waste Management
2. Laboratory Technician

3. Professional Field Entry
4. Pre-Nursing
5. Pre-Dental
6. Pre-Pharmacy
7. Pre-Med

Entry Requirements

Oglala Lakota College pursues an open door policy in which all qualified students will be admitted without regard to race, religion, origin or political belief. Enrollment in the college does not guarantee admission to any specific program, nor to any and all courses of study. To qualify for full access to college level course, students must demonstrate minimum 10.1 grade level of reading comprehension as indicated by college readiness assessment (see policy 70-300).

A. Admission

All applicants seeking admission to Oglala Lakota College must send each of the items listed below BEFORE, he/she will be admitted:

- 1 Complete application and declare a major. Students may only declare one major at time while attending OLC.
- 2 Furnish a copy of your high school transcript, or certificate of high school equivalency (GED Diploma) MANDATORY. A student with a Bachelor's Degree or higher will be required to submit documentation verifying the degree awarded.
- 3 Transfer students must send official college transcripts.
- 4 Verification of Tribal Enrollment if the student is a tribal member of a Federally Recognized Tribe.
- 5 Complete College Readiness Assessment (see policy 70-300). Transfer students who do not have approved transfer college credit for English Composition or Algebra must be complete by the college readiness assessment. Any student falsifying information is subject to being dropped from all classes. Oglala Lakota College does not admit under the Ability to Benefit criteria.

Program outcomes

1. The ability to demonstrate basic knowledge of mathematics, biology and chemistry in situations encountered by a Life Science Major.

Direct measure Pre/Post test exams

Criteria

1. Use of assigned reading materials
2. Notes from lectures
3. Hands in assignments on time
4. Responds fully to what the assignment asks
5. Is focused, well organized, and unified in presenting explanation of facts

2. Demonstrate good laboratory skills

Direct Measures

By completing a lab report

Criteria

1. lab report includes a title page with the title of the experiment, the date it was performed, and the names of the people who conducted the experiment
2. lab report includes an overview of the procedure used for the lab
3. lab report includes a list of the materials, equipment, and steps used to conduct the experiment
4. lab report includes a summary of the results
5. lab results are presented in a chart, graph, or drawing if applicable
6. lab report includes a description of the conclusions you drew and why
7. lab report includes an appendix of supporting documentation
8. lab report is word processed
9. lab report is well organized: sections are clearly marked with appropriate headings
10. lab report uses appropriate scientific vocabulary

3. Critically review and communicate scientific data in a qualitative and quantitative manner through oral and written formats

Direct measure Team/group projects and presentations

Criteria

1. Student/students correctly use various measurements, data-gathering techniques, sampling and statistics to support presentation.
2. Oral presentations scored using a rubric.

3. Express their own ideas coherently, as well as work collaboratively with others in a responsible manner.
4. Generate ideas for writing and speaking, then select, arrange, express, evaluate, and revise the ideas to ensure effective communication.
5. Construct and present a convincing argument.
6. Evaluate the use of information and sources efficiently.

4. Distinguish how alterations to the human body systems can contribute to disease.

Direct measure: Students discuss disease processes and how they affect the body in the form of a research paper.

Criteria:

1. Research Topic to be assessed.
2. Identify and introduce topic; support their research paper with evidence from their readings.
3. Reason for choice of disease process
4. Discuss how the disease affects the human body, overall health and the health of a population.
5. Discuss how the disease process may affect them personally, their family and their society.
6. Discuss the genetic predisposition of the disease process within certain populations or ethnic groups.
7. Correctly documents and cites sources correctly.

5. Identify and relate research methods and protocols

Direct measure: Students write a literature review

Criteria:

1. Define or identify the general topic, issue, or area of concern, thus providing an appropriate context for reviewing the literature.
2. Express their opinions effectively by using a proper research writing skills and assessment techniques in a five page essay.
3. The students determine the significance and value of the research topic.
4. The student will appraise and assess the content of the literature review.
5. Evaluate the validity and limitations of theories and scientific claims in literature review.

Oglala Lakota College
Math, Science, Technology and Engineering
Program Assessment Strategy Form

This form should be completed each fall and a copy of the completed form sent to the Department Chair. A copy of this completed form should be placed in the respective program book located in the designated area.

Please use the fields below to provide background information about your degree program.

Degree Program: Associate of Arts

Year:

Degree: Life Science

Program reviewed by: Jason Funk, Misty Brave, Sandra Byrd, Karla Witt

Date of last Program Review submission: May 14, 2015

or Date of last Annual Report submission:

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1. What are the program assessment outcomes?
 1. The ability to demonstrate basic knowledge of mathematics, biology and chemistry in situations encountered by a Life Science Major.
 2. Demonstrate good laboratory skills
 3. Critically review and communicate scientific data in a qualitative and quantitative manner through oral and written formats
 4. Distinguish how alterations to the human body systems can contribute to disease.
 5. Identify and relate research methods and protocols

 2. Which outcome(s) will be assessed?
 1. The ability to demonstrate basic knowledge of mathematics, biology and chemistry in situations encountered by a Life Science Major.
 2. Demonstrate good laboratory skills

 3. What assessment strategies or methods will be used to assess the outcome(s)? What is the target goal? (Ex. 75% of the students will achieve 3 or higher on a 4 point rubric.)

 4. What is the timeline?
 - When will the data be collected? At the end of the semester
 - When will the data be analyzed for conclusions? At the end of the semester during assessment days.

 5. Additional comments or information.

OGLALA LAKOTA COLLEGE

PUT DEGREE NAME HERE

COURSE/s NAME HERE

Center:	Semester/year:	Mode of deliver: Online, hybrid, traditional, or other	Are you and adjunct or OLC faculty member?	Total number of students in DEGREE Program	Total number students enrolled in course.	Total number Students Withdraw:	Total number students Successfully complete with B or better:

Number	Program Goals	Nature of assessment methods: i.e., Direct or Indirect measures of student learning	Outcome result: No of SLO in each Rubric Rating					Possible Explanatio n (if Results are desirable or undesirabl e)	Propose d changes or strategi es (if any) to improve outcom e.	Recommendatio ns for Planning and Budgeting (if any) to improve outcome.
			Rubric Rating							
			Exemplary	Competent	Satisfactory	Needs Improvement.	Unacceptable			

Example Rubric for Evaluating Program Outcomes (PLO)

Response	Criteria	Rating
Exemplary	Approaches problem logically. Shows understanding and correctly applies all mathematical processes. Mathematical computations accurate and without flaw.	5
Competent	Approaches problem logically. Uses the correct mathematical processes to solve all problems but makes minor computational errors.	4
Satisfactory	Approaches problem logically. Almost always uses correct mathematical processes to solve problems. Makes minor computational errors	3
Needs improvement	Approaches problem logically. Generally uses correct mathematical processes to solve problems. Makes computational errors	2
Unacceptable	Approach to the problems is not logical. Fails to apply correct mathematical processes to solve the problem.	1

1. Assessment Methods

The Math and Science program uses a Program Strategy Form filled out at the beginning of the semester to determine what program outcome will be assessed and what course or courses will be used. A program learning outcome (PLO) form is completed at the end of the semester. A student learning outcomes (SLO) form is used to assess courses within the department. A faculty course feedback form is completed for all courses taught during the semester. Additionally, we coordinate with the General Education director to assess courses for general education outcomes. The Student Course Assessment Form is completed by the students on Jenzabar. The PLO and SLO results are organized and aggregated into the Institutional Effectiveness Plan (IEP) and the annual report.

2. Type of Feedback

Math, Science and Technology will review assessment results to make improvements to the programs.

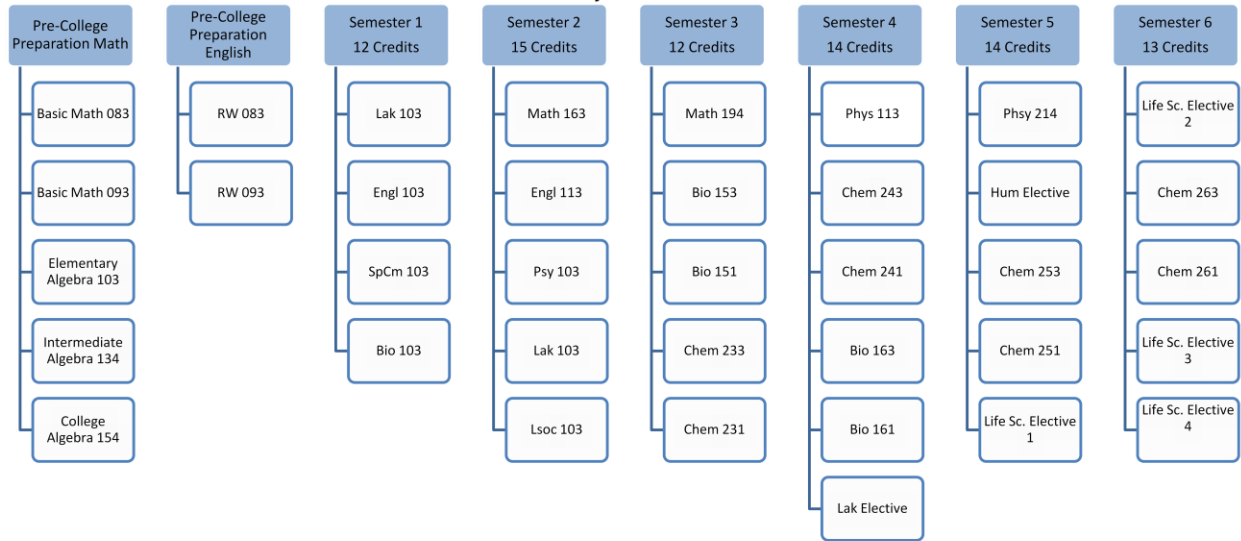
The Student Course Assessment Form and Faculty Feedback Form will be used to make improvements to courses.

3. How data will be used to improve program or revise curricula

Data will be utilized to update curriculum and course content. We will also use results to make program improvements.

Plan of Study

Math, Science and Technology Department Associate of Arts in Life Science Tentative Plan of Study – Two Year Plan



*Life Science Faculty reserves the right to design and implement individual plans of study to specific cohorts of information technology students. Individualized cohort plans of study reckon the cooperation and assistance of the students for whom the cohort plan is developed.

Course Rotation

TENTATIVE LIFE SCIENCE COURSE COURSE ROTATION SCHEDULE

COURSE CODE	COURSE TITLE	FALL SEMESTER	SPRING SEMESTER	COLLEGE CENTER(S)
Math 194	Calculus I	X		
Phys 214	Physics I		X	
Bio 153	Biology I	X		
Bio 151	Biology I Lab	X		
Bio 163	Biology II		X	
Bio 161	Biology II Lab		X	
Chem 233	General Chemistry I		X	
Chem 231	General Chemistry Lab I		X	
Chem 243	General Chemistry II	X		
Chem 241	General Chemistry Lab II	X		
Chem 253	Organic Chemistry I		X	
Chem 251	Organic Chemistry Lab I		X	
Chem 263	Organic Chemistry II	X		
Chem 261	Organic Chemistry Lab II	X		

