SUNY CANTON

Science Department
School of Science, Health and Criminal Justice
Fall 2016 Assessment Report

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Student learning outcomes list:

- SLO 1: Communication Skills: Demonstrates the ability to effectively present, organize, and articulate thoughts, ideas, and conclusions.
- SLO 2: Critical Thinking: Demonstrate the ability to interpret/analyze to provide a conclusion or recommendation.
- SLO 3: Professional Competence: Demonstrate knowledge and ability to apply professional standards.

SLO 1 : Communication Skills
How was the assessment accomplished?

- Biology 150 College Biology
  - Student lab reports. Provided Rubric. N=82
- Biology 325 Biology in Society
  - Magazine Article Group Project. Provided Rubric. N=32
- Chemistry 430 Biochemistry
  - Oral Presentation. Provided Rubric N = 7
- ESCI 102 Environmental Science Lab
  - Lab report. Provided Rubric. N = 23
- ESCI 101 Introduction to Environmental Science
  - Student Paper. Provided Rubric. N = 48

SLO 1 Communication Skills Data

SLO 1: Communication Skills: Demonstrates the ability to effectively present, organize, and articulate thoughts, ideas, and conclusions.

	Measures	Not Met		Met		Exceeded	
	N	N	%	N	%	N	%
All Courses	5	1	20%	2	40%	2	40%
BIOL 150	1	0	0%	1	100%	0	0%
BIOL 325	1	0	0%	1	100%	0	0%
CHEM 430	1	0	0%	0	0%	1	100%
ESCI 101	1	1	100%	0	0%	0	0%
ESCI 102	1	0	0%	0	0%	1	100%

Assessment results: What have the data told us?

- Instructors used the rubric provided and shoe-horned it into current assignments in the class
- In the future assignments will be tweaked to better fit the rubric, a strategy which has both pros and cons.
- In the Upper Level classes the students were all Juniors and Seniors and the work that was graded was similar to past assignments. They knew what was expected.

SLO 2 : Critical Thinking Skills
How was the assessment accomplished?

- Biology 150 College Biology
  - Student lab reports. Provided Rubric. N=82
- Biology 209 Microbiology
  - Exam. Provided Rubric. N = 58
- Biology 325 Biology in Society
  - Magazine Article Group Project. Provided Rubric. N=32
- Biology 335 Pathophysiology
  - Client Teaching Materials. Provided Rubric. N=26
- Chemistry 150 – College Chemistry
  - Lab Practical Exam. Provided Rubric. N = 100
- ESCI 102 Environmental Science Lab
  - Lab report. Provided Rubric. N = 23
- ESCI 101 Introduction to Environmental Science
  - Student Paper. Provided Rubric. N = 48

SLO 2 Critical Thinking Skills Data

SLO 2: Critical Thinking: Demonstrate the ability to interpret/analyze to provide a conclusion or recommendation.

	Measures	Not Met		Met		Exceeded		No Findings	
	N	N	%	N	%	N	%	N	%
All Courses	35	6	17%	5	14%	7	20%	17	49%
BIOL 150	3	0	0%	3	100%	0	0%	0	0%
BIOL 209	4	3	75%	0	0%	1	25%	0	0%
BIOL 325	1	0	0%	1	100%	0	0%	0	0%
BIOL 335	5	2	40%	1	20%	2	40%	0	0%
CHEM 150	1	1	100%	0	0%	0	0%	0	0%
ESCI 101	3	0	0%	0	0%	3	100%	0	0%
ESCI 102	1	0	0%	0	0%	1	100%	0	0%

Assessment results: What have the data told us?

- Instructors used the rubric provided and shoe-horned it into current assignments in the class
  - In the future assignments will be tweaked to better fit the rubric, a strategy which has both pros and cons.
- In the Upper Level classes the students were all Juniors and Seniors and the work that was graded was similar to past assignments. They knew what was expected.
- Some chose assignments that weren't really a good measure of individual critical thinking –ex. group projects and exams.

SLO 3 : Professional Competence
How was the assessment accomplished?

- Biology 150 College Biology
  - Student lab grades. N=82
- Biology 209 Microbiology
  - Student Lab Grades. N = 58
- Biology 218 Anatomy and Physiology II
  - Student Lab Grades. N = 26
- Biology 325 Biology in Society
  - Discussion Board Posts. N=32
- Biology 335 Pathophysiology
  - Client Teaching Materials. N=26
- Chemistry 150 – College Chemistry
  - Lab Practical Exam. N = 100
- Chemistry 430
  - Student Oral Report. N = 7
- ESCI 102 Environmental Science Lab
  - Lab report. N = 23
- ESCI 101 Introduction to Environmental Science
  - Student Paper. N = 48

SLO 3 Professional Competence

SLO 3: Professional Competence: Demonstrate knowledge and ability to apply professional standards.

	Measures	Not Met		Met		Exceeded		No Findings	
	N	N	%	N	%	N	%	N	%
All Courses	44	10	23%	9	20%	9	20%	16	36%
BIOL 150	6	1	17%	4	67%	1	17%	0	0%
BIOL 209	5	2	40%	1	20%	2	40%	0	0%
BIOL 218	5	5	100%	0	0%	0	0%	0	0%
BIOL 325	1	0	0%	1	100%	0	0%	0	0%
BIOL 335	4	1	25%	2	50%	1	25%	0	0%
CHEM 150	1	1	100%	0	0%	0	0%	0	0%
CHEM 430	1	0	0%	0	0%	1	100%	0	0%
ESCI 101	5	1	20%	1	20%	3	60%	0	0%
ESCI 102	2	0	0%	0	0%	2	100%	0	0%

Assessment results: What have the data told us?

- Instructors will be looking at their teaching methods to better improve performance on this SLO.
- Teaching circles and shared best practices would help with learning new methods of delivery that might help

Data-driven decisions: How the department has or plans to “close the loop” based on these results.

- Instructors all felt the need for more training on incorporating these SLOs into their classes.
  - Proper ways to design assignments to get to the crux of these SLOs instead of taking current assignments and bending them to fit the rubric
- Instructors will be changing assignments to better fit the rubric in the future or redesigning the rubric to better fit their assignments and what they are measuring.
- Microbiology was able to see a yearly failure in student’s professional competence to recognize bacteria in lab. A lab assistant would help provide more individual time with students to help with this task

What resources were used or have been requested to close the loop?

- Microbiology requested a lab assistant (Cost estimated at $4500) to provide more individual time with students to help with professional competence