Assurance of Student Learning 2018-2019	
College of Health and Human Services	Department of Public Health
Occupational Safety and Health Certificate (1705)	

Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages.			
Student Learning Outcome 1: Identify and compile relevant information sources to assess an environmental health problem			
Instrument 1	**Direct: Term Paper**		
Instrument 2			
Instrument 3			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 1.		**Met**	**Not Met**
Student Learning Outcome 2: . Interpret and communicate occupational safety and health regulations			
Instrument 1	**Direct: Analysis of Occupational Safety and Health Standard**		
Instrument 2			
Instrument 3			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.		**Met**	**Not Met**
Student Learning Outcome 3: Apply appropriate field methods to collect environmental health data.			
Instrument 1	**Direct: Comprehensive lab report**		
Instrument 2			
Instrument 3			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.		**Met**	**Not Met**

Program Summary (Briefly summarize the action and follow up items from your detailed responses on subsequent pages.)

This assessment indicates that the mean scores for all SLOs meets program success targets. Adjustments in course offerings have helped strengthen program goals and outcome and are better preparing students for jobs in the field, as indicated by a greater than 95% employment rate in the field. Changes will be proposed to core course requirements in Spring 2020 to meet the current accreditation standards for National Environmental Health Science and Protection Accreditation Council. This includes demonstrated assessment of SLOs in the overarching competencies of communication, assessment, and management. Currently, SLOs 1, 2, and 3 meet these overarching competencies. The following recommendations came out of this year's assessment:

- Examination of learning outcomes for the core course and program outcomes:
  - Do learning outcomes in core courses align with core competencies of the program? Curriculum mapping will take place in Spring/Summer 2020.
  - Are the learning outcomes measurable? Faculty in the program will use the curriculum mapping and ensure measurable outcomes.
- Establish a more comprehensive rubric to measure learning from the comprehensive laboratory reports in senior level courses:

- Establish a rotating block assessment method with three faculty members in the EOHS program.
- Reevaluate rubrics to assess measuring on a 5-point scale rather than a 4-point scale while controlling for inter-rater reliability.
- Evaluate program changes needed to meet accreditation and student learning outcome requirements. Revisit the program on an annual basis to ensure core course SLOs are aligned with program competencies and EHAC accreditation standards. The evaluation will assess student opportunities to attain required competencies in core course.
- Review EHAC accreditation standards.
- Review program mission, competencies and outcomes.
- Review SLOs and outcomes for core courses.
- Ensure program competencies and SLOs are met through core courses.

Student Learning Outcome 1			
Student Learning Outcome	Identify and compile relevant information sources to assess an environmental health problem		
Measurement Instrument 1	Direct measure of student learning: Students in ENV 480 Hazardous and Solid Waste, an online senior level course in the certificate, were required to complete a term paper that required them to assess a hazardous waste issue by collecting background information, reviewing pertinent references, and providing a detailed discussion. The report was broken into five parts to evaluate each program SLO. To assess SLO 1 the introduction of the report, that included a literature review and background, was evaluated.		
Criteria for Student Success	Students should score "Proficient" or greater on the Environmental Health Reports Rubric for SLO 1. Scores on the rubric item for this SLO ranged from "Exemplary" (90-100), "Proficient" (Upper 80-89), "Apprentice" (70-79), and "Novice" (60-69).		
Program Success Target for this Measurement	75%	**Percent of Program Achieving Target**	75%
Methods	Direct: Artifacts from the ENV 480 Hazardous and Solid Waste course were collected from all students in the course (N = 8). The papers were evaluated according to the Environmental Health Reports Rubric (Appendix 1). Each student paper was scored from 1 to 4 on each of the SLOs in the rubric. Scores represented the following ranges "Exemplary - 4" (90-100), "Proficient - 3" (Upper 85-90) and (Lower 80-84), "Apprentice - 2" (70-79), and "Novice - 1" (60-69). SLO 1 was assessed based on the lab report learning outcome of "Compile Environmental Health Information". A total of 6 of 8 students scored "Proficient" or greater for SLO 1.		
Measurement Instrument 2			
Criteria for Student Success			
Program Success Target for this Measurement		**Percent of Program Achieving Target**	

Methods			
Measurement Instrument 3			
Criteria for Student Success			
Program Success Target for this Measurement		**Percent of Program Achieving Target**	
Methods			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 1.		**Met**	**Not Met**
Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)			
To provide a more comprehensive evaluation of SLO 1 we will establish a blind assessment method with three faculty members in the EOHS program. This will be instated for the 2019-2020 program assessment. Additionally, the rubrics for SLO 1 will be assessed by a team of three EOHS faculty to evaluate measuring on a 5-point scale rather than a 4-point scale while controlling for inter-rater reliability. Changes will be made to the certificate to include PH 385 in the program. This course will provide a background in Environmental Health to students in the certificate.			
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)			
Changes to the program will be proposed by the end of the Spring 2020 semester.			

Student Learning Outcome 2				
Student Learning Outcome	Interpret and communicate occupational safety and health regulations			
Measurement Instrument 1	Direct measure of student learning: Students in ENV 120 Occupational Safety and Health, a required course in the certificate, were required to complete an analysis of an occupational safety and health regulation. This required each student to interpret the regulation and communicate the regulation through a discussion. The assignment met SLO 2 by requiring students to analyze a scenario at a workplace and develop a discussion based on interpretation and application of the regulation.			
Criteria for Student Success	Students should score "Lower Distinguished" (80%) or greater on the assignment.			
Program Success Target for this Measurement	75%	**Percent of Program Achieving Target**	69%	
Methods	Direct: Artifacts from the Occupational Safety and Health course were collected from all students in the course (N = 13). Analyses were evaluated according to the rubric in the course. Each student analysis was scored from Novice, Competent, and Distinguished. on each of the SLOs in the rubric. SLO 2 was assessed based on score for the assignment, based on the rubric. Results of the assessment indicated that 9 of 13 students met the criteria for SLO 2.			
Measurement Instrument 2				
Criteria for Student Success				
Program Success Target for this Measurement		**Percent of Program Achieving Target**		
Methods				
Measurement Instrument 3				
Criteria for Student Success				
Program Success Target for this Measurement		**Percent of Program Achieving Target**		
Methods				
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.			**Met**	**Not Met**
Actions				
To provide a more comprehensive evaluation of SLO 2 we will establish a blind assessment method with three faculty members in the EOHS program. This will be instated for the 2019-2020 program assessment. Additionally, the rubrics for SLO 2 will be assessed by a team of three EOHS faculty to evaluate measuring on a 5-point scale rather than a 4-point scale while controlling for inter-rater reliability. The target for meeting SLO 2 was not achieved. Changes will be made to include PH 385 in the program. This course will provide a broader overview of environmental health and regulations. This will increase the ability of students to interpret and communicate regulations.				
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)				
Follow-up will occur by end of Spring 2020.				

Student Learning Outcome 3				
Student Learning Outcome	Apply appropriate field methods to collect environmental health data.			
Measurement Instrument 1	Direct measure of student learning: Students in ENV 321 Industrial Hygiene, a senior level course, were required to complete a final exercise to develop a presentation of methods to conduct a noise assessment for an industry. The presentation was designed to evaluate SLO 3.			
Criteria for Student Success	Students should score 80% or greater on the final exercise. Possible scores on the rubric item for this SLO ranged from Novice, Competent, and Proficient. A score of 80% was Lower Proficient.			
Program Success Target for this Measurement	75%	**Percent of Program Achieving Target**	89%	
Methods	Direct: Artifacts from ENV 321 Industrial Hygiene course were collected from all students in the course (N = 9). The presentations were evaluated according to the course rubric. Each student presentation was scored from on each of the SLOs in the rubric. Scores represented the following ranges "Proficient (80-100), "Competent" (70-79), and "Novice" (Less than 70). SLO 3 was assessed based on the presentation of methods to conduct the noise assessment.			
Measurement Instrument 2				
Criteria for Student Success				
Program Success Target for this Measurement		**Percent of Program Achieving Target**		
Methods				
Measurement Instrument 3				
Criteria for Student Success				
Program Success Target for this Measurement		**Percent of Program Achieving Target**		
Methods				
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.			**Met**	**Not Met**
Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)				
To provide a more comprehensive evaluation of SLO 3 a blind assessment method will be established with three faculty members in the EOHS program. This will be instated for the 2019-2020 program assessment. Additionally, the rubrics for SLO 3 will be assessed by a team of three EOHS faculty to evaluate measuring on a 5-point scale rather than a 4-point scale while controlling for inter-rater reliability. Additionally, the faculty will determine another direct measurement instrument for SLO 3 from PH 385, as ENV 321 is being removed from the certificate.				
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)				
Follow-up will occur by the end of the Fall 2020 semester.				

APPENDIX 1

Environmental Health Reports Rubric

Learning Outcomes	Exemplary - 4	Proficient - 3	Apprentice - 2	Novice - 1	Score
Compile environmental health information	Information was collected from relevant sources in a manner that provided interpretation of the environmental health issue, problem, or methods applied.	Information was collected from relevant sources in a manner that provided synthesis of the environmental health issue, problem, or methods applied.	Information was collected from relevant sources with some interpretation, but a synthesis of the environmental health issue, problem, or methods applied was not provided.	Information was collected from relevant sources with no interpretation or synthesis of the environmental health issue, problem, or methods applied was not provided.	
Explanation of the environmental health problem	Environmental health issue or problem was comprehensively stated and explained.	Environmental health issue or problem was clearly stated and explained.	Environmental health issue or problem was clearly stated but not explained.	Environmental health issue or problem was not clearly stated or explained.	
Apply methods to assess the environmental health problem or issue	Field and laboratory methods were applied correctly in a manner that provided a comprehensive analysis of the problem.	Field and laboratory methods were applied correctly in a manner that provided an analysis of the problem.	Field and laboratory methods were applied correctly, yet not in manner that provided an analysis of the problem.	Field and laboratory methods were not applied correctly, and did not provide an analysis of the problem.	
Analyze data, present results, and discuss the findings	Data analysis was correct and presented through a series of graphs and tables that were explained in the report.	Data analysis was correct and presented through a graph or table that that was explained in the report.	Data analysis had errors and a table or graph was presented, yet it was not explained in the text of the report.	Data analysis had errors and a table or graph was not presented nor explained the report.	
Develop conclusions and recommendations of the assessment	Conclusions and recommendations were developed that provided a comprehensive solution to the environmental health problem.	Conclusions and recommendations were discussed that provided a solution to the environmental health problem.	Conclusions and recommendations were presented, but did not provide a solution to the environmental health problem.	A Conclusion was presented, with not recommendations, and it did not include a solution to the environmental health problem.	