

Assurance of Student Learning Report 2022-2023

College of Health and Human Services	Department of Public Health
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Graduate Certificate in Environmental Health and Safety (EHS, 0427)

Edrisa Sanyang

Is this an online program? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Please make sure the Program Learning Outcomes listed match those in CourseLeaf . Indicate verification here <input checked="" type="checkbox"/> Yes, they match! (If they don't match, explain on this page under Assessment Cycle)
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Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages. Add more Outcomes as needed.

Program Student Learning Outcome 1: Develop insight into environmental and occupational health exposures and apply appropriate solutions to assess and reduce these exposures.

Instrument 1	Hazard analysis and risk assessment.
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Instrument 2	
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Instrument 3	
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Based on your results, check whether the program met the goal Student Learning Outcome 1.	<input checked="" type="checkbox"/> Met	<input type="checkbox"/> Not Met
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Program Student Learning Outcome 2: Analyse data, interpret results, and present the results in writing.

Instrument 1	Environmental toxicology data analysis report.
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Instrument 2	
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Instrument 3	
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Based on your results, check whether the program met the goal Student Learning Outcome 2.	<input checked="" type="checkbox"/> Met	<input type="checkbox"/> Not Met
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Program Student Learning Outcome 3: Communicate environmental health risks and exchange information through public speaking, written reports, and interpersonal skills.

Instrument 1	Environmental health term paper.
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Instrument 2	
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Instrument 3	
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Based on your results, check whether the program met the goal Student Learning Outcome 3.	<input checked="" type="checkbox"/> Met	<input type="checkbox"/> Not Met
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Assessment Cycle Plan:

All program student learning outcomes for 2022-2023 academic year has been assessed and met. In 2023-2024 academic year, the Graduate Certificate in Environmental Health and Safety will start implementation of a revised program with EOHS 502 and EOHS 550 as new core required courses. The program name will also change to Graduate Certificate in Occupational Safety and Health (0427), to align with the emphasis of the core required courses. SLO 2 will change in 2023-2024 academic year to focus on designing comprehensive, intergrated programs in workplace health protection and health promotion to address priority safety and health issues. EOHS 502 – Health Promotion in the Workplace will be used to develop this skill in the students and assess the SLO (please see attached, the revised curriculum map).

Program Student Learning Outcome 1

Program Student Learning Outcome	Develop insight into environmental and occupational health exposures and apply appropriate solutions to assess and reduce these exposures.		
Measurement Instrument 1	Direct: Students in EOHS 550 Principles of Occupational Safety and Health were required to complete a comprehensive hazard analysis and risk assessment for a workplace hazard. Students developed a spreadsheet to review and rate the hazards and assign risks. The risk assessment required analysis of potential routes of exposure, creation of a risk decision tree, and development of a control strategy to eliminate and manage the hazards. To assess SLO 1 the “Hazard Analysis and Risk Assessment Rubric” was used to score the assignment for each student.		
Criteria for Student Success	Students should score “Competent” or greater on the “Hazard Analysis and Risk Assessment Rubric” for each learning outcome to meet SLO 1.		
Program Success Target for this Measurement	75%	Percent of Program Achieving Target	100%
Methods	Direct: Artifacts from the EOHS 550 Principles of Occupational Safety and Health course was collected the student (N = 1). The Hazard Analysis and Risk Assessment exercise was evaluated according to the “Hazard Analysis and Risk Assessment Rubric” (Appendix 1). The student’s paper was scored from 1 to 4 on each of the SLOs in the rubric. Scores represented the following ranges “Proficient – 6” (90-100), “Competent – 5” (80-89), “Novice – 0” (70-79), and “Incomplete – 0” (60-69). SLO 1 was assessed based on the total score for the rubric. A total score of 80 points or greater on the rubric would indicate “Competent” performance on the exercise. The student student scored “Competent” or greater for SLO 1.		
Measurement Instrument 2	Do you have other measures of assessment for SLO 1? If so, please add those here along with all the information below. If not, you may delete this section and move on to “... whether the program met the goal Student Learning Outcome 1.”		
Criteria for Student Success			
Program Success Target for this Measurement		Percent of Program Achieving Target	
Methods			
Measurement Instrument 3	Do you have other measures of assessment for SLO 1? If so, please add those here along with all the information below. If not, you may delete this section and move on to “... whether the program met the goal Student Learning Outcome 1.”		
Criteria for Student Success			
Program Success Target for this Measurement		Percent of Program Achieving Target	
Methods			
Based on your results, highlight whether the program met the goal Student Learning Outcome 1.		<input checked="" type="checkbox"/> Met	<input type="checkbox"/> Not Met

Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn't, and plan going forward)		
Results: The results is as expected. The Graudate Certificate in Environmental Health and Safety has a small number of students who are either looking into transitioning to the MS in EOHS or need additional skills to add to their major like those in the MPH program. Therefore, they are motivated to do well in the program.		
Conclusions: The assessment method for this important program student learning outcome seems to be working well.		
Plans for Next Assessment Cycle: There is no planned changesfor this SLO. EOHS 550 will still be used to assess the SLO.		

Program Student Learning Outcome 2			
Program Student Learning Outcome	Design comprehensive, integrated programs in workplace health protection and health promotion to address priority safety and health issues.		
Measurement Instrument 1	Direct: Students in EOHS 577 Environmental Toxicology were required to complete an analysis of an environmental toxicology data set, present the results, discuss the results, and write a technical repport based on the analysis. Students applied Microsoft Excel and a statistical software of their choice to develop, organize, and analyze the dataset. The “Environmental Toxicology Data Report Rubric” (Appendix 2) was used to assess SLO 2.		
Criteria for Student Success	Students should score “Competent” or greater		
Program Success Target for this Measurement	75%	Percent of Program Achieving Target	100%
Methods	Direct: Artifacts from the EOHS 577 Environmental Toxicology were collected from all students ($N = 5$). The Environmental Toxicology Data Report exercise was evaluated according to the “Environmental Toxicology Data Report Rubric” (Appendix 2). Each student report was scored from 1 to 4 on each of the learning outcomes in the rubric. Scores represented the following ranges “Proficient – 5” (90-100), “Competent – 0” (80-89), “Novice – 0” (70-79), and “Incoomplete – 0” (60-69). SLO 2 was assessed based on the total score for the rubric. A total score of 80% or greater on the rubric would indicate “Competent” performance on the exercise. All the 5 students scored “Competent” or greater 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.			<input checked="" type="checkbox"/> Met	<input type="checkbox"/> Not Met
Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn't, and plan going forward)				
<p>Results: The results are what is expected. However, EOHS program faculty and Advisory Board reviewed the SLO, change to new SLO which focuses on designing comprehensive, integrated programs in workplace health protection and health promotion to address priority safety and health issues. This SLO meets industry needs for graduates with a graduate certificate in our field.</p> <p>Conclusions: The assessment method for this important program student learning outcome seems to be working well. However, the SLO will be changed to align to industry needs for the graduate certificate in occupational health and safety.</p> <p>Plans for Next Assessment Cycle: By the next assessment cycle, the new core required course (EOHS 502) will be implemented. The SLO will be assessed with a new rubric.</p>				

Program Student Learning Outcome 3			
Program Student Learning Outcome	Communicate environmental health risks and exchange information through public speaking, written reports, and interpersonal skills.		
Measurement Instrument 1	<p>Direct: Students in PH 584 Principles of Environmental Health, a core required course, were required to complete a comprehensive written term paper that requires synthesis of environmental and occupational health and safety information from the US Healthy People Initiative. Students developed a comprehensive report including information and data synthesis, critique of related-policies, program outcome assessment, and provide conclusions and recommendations. The Term Paper is then orally presented to colleagues students as lay individuals and professionals. To assess SLO 3 the “Environmental Health Term Paper and Presentation Rubric” was used to score the assignment for each student.</p>		
Criteria for Student Success	Students should score “Competent” or greater		
Program Success Target for this Measurement	75%	Percent of Program Achieving Target	100%
Methods	<p>Direct: Artifacts from the course were collected from the students (N = 4). The papers were evaluated according to both the Environmental Health Term Paper Rubric and Presentation Rubric (Appendix 3). Each student paper was scored from 1 to 4 on each of the SLOs in the rubric. Scores represented the following ranges “Proficient - 4” (90-100), “Competent - 5” (80-89), “Novice - 0” (70-79), and “Incomplete - 0” (60-69). SLO 3 was assessed based on the total score for the rubric. A total score of 80% or greater on the rubric would indicate “Competent” performance on both the Term Paper and the Oral Presentation. All 26 students scored “Competent” or greater for SLO 3.</p>		
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.			<input checked="" type="checkbox"/> Met
<input type="checkbox"/> Not Met			
Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn't, and plan going forward)			
<p>Results: The results is what is expected. Students in graduate certificate did well in the SLO as expected of graduate level course.</p> <p>Conclusions: The assessment method seems to be working well and there is need for modifications at this point.</p> <p>Plans for Next Assessment Cycle: There is no planned change for this SLO.</p>			

CURRICULUM MAP – Graduate Certificate (GC) in Environmental Health and Safety

Program Name	Graduate Certificate (GC) in Environmental Health and Safety (EHS, 0427)
Department	Public Health
College	Health and Human Services
Contact Person:	Edrisa Sanyang
Email:	edrisa.sanyang@wku.edu

KEY:

I = Introduced

R = Reinforced/Developed

M = Mastered

A = Assessed

			Program Student Learning Outcomes		
			LO1	LO2	LO3
			Develop insight into environmental & occupational health exposures & apply appropriate solutions to assess and reduce these exposures.	Analyze data, interpret results, and present the results in writing	Communicate environmental health risks and exchange information through public speaking, written reports, and interpersonal skills.
Course Subject	Number	Course Title			
EOHS	550	Principles of Occupational Safety & Health	IRMA		IR
EOHS	577	Environmental Toxicology	R	MA	R
PH	584	Principles of Environmental Health	I		MA

NOTE 1: If you have a program with multiple tracks, create a curriculum map for each track in a different sheet/tab, and specify the name of the track in addition to the name of the program.

NOTE 2: Your program may have a component or milestone that is important for your learning outcomes, but that you don't associate with a course number. Examples might include independent/mentored research, qualifying exams, a prospectus, defense, clinical rotations, etc. Alternatively, your program may have several components or milestones that fall under one course number that you would like to differentiate in the curriculum map. Feel free to add those details to the curriculum map in order to represent those learning opportunities (Please omit optional extracurricular activities).

REVISED CURRICULUM MAP – Graduate Certificate (GC) in Occupational Safety and Health

Program Name	Graduate Certificate (GC) in Occupational Safety and Health (OSH, 0427)
Department	Public Health
College	Health and Human Services
Contact Person:	Edrisa Sanyang
Email:	edrisa.sanyang@wku.edu

KEY:

I = Introduced

R = Reinforced/Developed

M = Mastered

A = Assessed

			Program Student Learning Outcomes		
			LO1	LO2	LO3
			Develop insight into environmental & occupational health exposures & apply appropriate solutions to assess and reduce these exposures.	Design comprehensive, integrated programs in workplace health protection and health promotion to address priority safety and health issues.	Communicate environmental health risks and exchange information through public speaking, written reports, and interpersonal skills.
Course Subject	Number	Course Title			
EOHS	502	Health Promotion in the Workplace	R	IRMA	R
EOHS	550	Principles of Occupational Safety & Health	IRMA	R	IR
PH	584	Principles of Environmental Health	I	IR	MA

NOTE 1: If you have a program with multiple tracks, create a curriculum map for each track in a different sheet/tab, and specify the name of the track in addition to the name of the program.

NOTE 2: Your program may have a component or milestone that is important for your learning outcomes, but that you don't associate with a course number. Examples might include independent/mentored research, qualifying exams, a prospectus, defense, clinical rotations, etc. Alternatively, your program may have several components or milestones that fall under one course number that you would like to differentiate in the curriculum map. Feel free to add those details to the curriculum map in order to represent those learning opportunities (Please omit optional extracurricular activities).

Appendix 1: Hazard Analysis and Risk Assessment Rubric

Learning Outcomes	Proficient - 4	Competent - 3	Novice - 2	Incomplete - 1	Score
Identify and assess the hazard	The hazard was identified and explained. An explanation was provided that detailed the hazard type and impacts of exposure.	The hazard was identified and explained. An explanation was provided that listed the hazard type and an impact of exposure.	The hazard was identified. The explanation was limited and provided the hazard type and listed some potential impacts.	The hazard was identified.	
Assess the potential routes of entry	Routes of entry were evaluated based on the hazard and the workplace conditions. The evaluation investigated how the hazard was created and the exposure pathways.	Routes of entry were evaluated based on the hazard and the workplace conditions. The evaluation discussed the exposure pathways.	Routes of entry were described based on the hazard and the workplace conditions. The evaluation listed the exposure pathways.	Routes of entry were listed based on the hazard and the workplace conditions.	
Develop a risk assessment	A risk assessment was created based on severity, frequency, possibility, and likelihood. The risk assessment was accurate without errors.	A risk assessment was created based on severity, frequency, possibility, and likelihood. The risk assessment was accurate minimal errors.	A risk assessment was created based on severity, frequency, possibility, and likelihood. The risk assessment had several errors.	A risk assessment was incomplete based on severity, frequency, possibility, and likelihood. The risk assessment if attempted had many errors.	
Create a risk assessment decision tree for hazard reduction	Management of the hazard was developed through a risk assessment decision tree. The decision tree detailed the elimination of the hazard. A thorough justification and discussion was provided.	Management of the hazard was developed through a risk assessment decision tree. The decision tree detailed the reduction of the hazard. A discussion was provided.	Management of the hazard was attempted through a risk assessment decision tree. The decision tree was not clear on how the hazard would be reduced.	The decision tree was incomplete. The student did not provide an indication that the hazard would be reduced.	
Develop a control strategy or method	A control strategy was explained and applied to the workplace hazard. A clear method was developed that would eliminate the hazard and potential exposures.	A control strategy was applied to the workplace hazard. A method was shown that would reduce the hazard and potential exposures.	A control strategy was described for the workplace hazard. A method was listed to reduce the hazard.	A control strategy was listed for the workplace hazard.	

Appendix 2: Environmental Toxicology Data Report Rubric

Learning Outcomes	Proficient - 4	Competent - 3	Novice - 2	Incomplete - 1	Score
Develop background on the problem	A background analysis of the environmental toxicology problem was developed and thoroughly discussed. The student developed a detailed research question.	A background analysis of the environmental toxicology problem was developed and discussed. The student developed a research question.	A background analysis of the environmental toxicology problem was discussed.	A background analysis of the environmental toxicology problem was insufficient.	
Explanation of the dataset and methods of data analysis	Environmental toxicology dataset was explained. The methods for data analysis were correct and constructed for each step of the analysis.	Environmental toxicology dataset was explained. The methods for data correctly discussed.	Environmental toxicology dataset was described. The methods for data analysis were incorrectly discussed.	Environmental toxicology dataset was described.	
Results	Results of the analysis were presented as a series of tables and graphs. Tables and graphs were correctly formatted and complete. The analysis had no errors. Tables and graphs were described.	Results of the analysis were presented as a series of tables and graphs. Tables and graphs were correctly formatted and complete. The analysis had few errors. Tables and graphs were described.	Results were presented as a series of tables and graphs. Tables and graphs were incorrectly formatted and not complete. The analysis had several errors.	Results were presented as in a few tables and graphs. Tables and graphs were incorrectly formatted and not complete. The analysis had many errors.	
Discussion	A discussion was authored that addressed the research questions. Results were explained and applied to evaluate the environmental toxicology problem.	A discussion was authored that addressed the research questions. Results were explained.	A discussion was authored yet did not address the research questions. Results were not fully explained.	A discussion was authored that did not address the research questions or results.	
Conclusion	Conclusions and recommendations were developed that provided a comprehensive solution to the environmental toxicology problem.	Conclusions and recommendations were discussed that provided a solution to the environmental toxicology problem.	Conclusions and recommendations were presented, but did not provide a solution to the environmental toxicology problem.	A Conclusion was presented, without recommendations, and it did not include a solution to the environmental toxicology problem.	

Appendix 3: Environmental Health Term Paper Rubric

Competencies	Proficient - 4	Competent - 3	Novice - 2	Incomplete - 1	Score
Reflection	Ability to proficiently demonstrate reflection and deep thinking of acquired knowledge and concepts, and integrate them into different issues from a wide range of perspectives (e.g. different contexts, cultures, disciplines, etc.); demonstrate critical thinking skills in writing.	Showing satisfactory ability to relate acquired knowledge to the chosen State’s healthy people 2020 initiative; demonstrating attempt to analyze from a number of different perspectives.	Only includes mere description of theoretical knowledge; no reflection is demonstrated beyond description.	No critical analysis of the written report is demonstrated.	
Analysis & Integration	Points well articulates and supported by figures and charts analyzed from secondary data. Ideas /concepts are well articulated with a common ‘thread’ from beginning to end. Succinct strategy provided coherently supported by data on the chosen objective.	Concepts are generally Connected, and supported by secondary data to show the state of progress made in achieving the chosen objective. Still able to observe how the student develops during the learning process.	Little or no analysis and poorly integrated. No data presented to show the progress made in achieving the chosen objective or goal areas.	No analysis is demonstrated, merely copying and pasting primary source data tables and not fully intergrating in the work.	
Presentation	Slides are professionally prepared with tables, charts and pictures. Coherent flow if information linking different sections of the talk. Presenter manages time efficiently, maintains eye contact with audience, show mastery of slides, and professionalism in handling audience questions.	Presentation professionally prepared with tables, charts, and pictures. Information not well coordinated. Presenter evidently seen struggling to communicate well prepared slides, and audience questions not well handled.	Presentation poorly organized filled with text mostly from the term paper. Presenter uses numerous technical jargons not easily understood by lay audience, mostly reading slides or notes, and audience questions not well handled.	Presenter only reading slides without discussing them.	
Format & Professionalism	Writing is well focused; arguments and perspectives are precisely defined; coherent in developing an insightful idea is demonstrated. Paper well cited using APA referencing format, and few to no typos or grammatical errors.	Arguments and perspectives are clearly stated; some indication of efforts to organize the paper but not deep enough to be very insightful. Paper cited using APA referencing format, and few typos or grammatical errors.	Do not show any original thinking or perspectives; chaotic on organization and presentation of ideas. Paper not cited with many typos and grammatical errors. Abstract not provided.	Basic structure of the paper is not met.	