OFFICE OF ACADEMIC ASSESSMENT
The UNIVERSITY of OKLAHOMA

Program Assessment Report

2022 - 2023

COE - Environmental Science (PhD)

Program General Information

General Information

Mission

In the Doctor of Philosophy in Environmental Science program the School of Civil Engineering and Environmental Science offers face-to-face program. The School of Civil Engineering and Environmental Science aims to attract quality students consistent with top-tier graduate programs in Environmental Science and maintain a productive graduate research environment that promotes scholarly activity to produce degree recipients who are successful in their academic pursuits.

College

Engineering

Department/School/Division

Civil Engineering and Environmental Science

Assessment Liaison

Dr. KA Strevett

Communication Skills

Student Learning Outcome (SLO)
Upon completion of the Doctor of Philosophy in Environmental Science (PhD ES) degree program, students should be able to effectively communicate technical information to an audience of their peers.

Outcome Status
Active

Direct - Presentation

Assessment Method Description
All PhD ES students are required to successfully complete CEES 5021 Technical Communications. PhD ES students can also elect to take CEES 5114 Aquatic Chemistry CEES 5324 Environmental Biology and Ecology, and/or CEES 5843 Groundwater and Seepage. All students must give a series of presentations in the class, which are recorded.

The student audience and instructor will be given a rubric to evaluate the speaker with the following performance scale: 5 = exceeds expectations, 3 = meets expectations, 1 = does not meet expectations. Ratings of “exceeds expectations” and “meets expectations” will constitute a "pass" while the rating of “does not meet expectation” will be equivalent to “fail.”

Performance Target
90% of all PhD ES students should receive ratings at or above “meets expectations.”

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
08/03/2023

Assessment Results
100% (4/4) of the PhD ES students in CEES 5021 Technical Communications and CEES 5324 Environmental Biology and Ecology received an oral presentation rating of “meets expectations” or higher.

Results Status
Target Met

Number of Students Assessed
4

USE OF ASSESSMENT RESULTS

Curriculum
CEES 5114 Aquatic Chemistry no longer requires a presentation. Request presentation data from CEES 5843 Hydrology instead.

Direct - Project

Assessment Method Description
All PhD ES students are required to successfully complete CEES 5021 Technical Communications. PhD ES students can also elect to take CEES 5114 Aquatic Chemistry, CEES 5324 Environmental Biology and Ecology, and/or CEES 5843 Groundwater and Seepage. All students must write a comprehensive technical document which is graded by the instructor.

A score above 70% will be equivalent to “pass.”

Performance Target
90% of all PhD ES students should receive a score of 70% or higher.

Assessment Results and Use of Results

Reporting Period

2022 - 2023

Assessment Results Entry Date
08/03/2023

Assessment Results
100% (4/4) of the PhD ES students in CEES 5021 Technical Communications and CEES 5324 Environmental Biology and Ecology received a score of 70% or higher on the technical writing component.

Results Status
Target Met

Number of Students Assessed
4

USE OF ASSESSMENT RESULTS

Curriculum
Zero ES PhD students enrolled in CEES 5114 this cycle. Assessment data from CEES 5324 Environmental Biology and Ecology was added to this cycle. Also, the instructor of CEES 5843 Hydrology confirmed they include both a presentation and technical writing document - ask for CEES 5843 Hydrology course data next year.

Methods of Assessment
School of Civil Engineering and Environmental Science has a Technical Writing Requirement of all doctoral students. Doctoral students are required to complete this technical writing requirement prior to apply for the General Examination.

Other
School of Civil Engineering and Environmental Science has a Technical Writing Requirement of all doctoral students. Doctoral students are required to complete this technical writing requirement prior to apply for the General Examination.

Research Skills

Student Learning Outcome (SLO)
Upon completion of the Doctor of Philosophy in Environmental Science (PhD ES) degree program, students should be able to demonstrate knowledge of and proficiency in research skills.

Outcome Status
Active

Direct - Presentation

Assessment Method Description
All doctoral Environmental Science students are encouraged to present their research at a conference with external participants or publish a conference paper prior to graduation.

This rubric is self-reported (and corroborated by faculty advisor) at the completion of degree and is simply a “yes” or “no” (and how many) answer. If the student reports that “yes” they did present or publish at a conference, then the title of the paper and/or presentation, as well as the conference, is recorded.

Performance Target
75% of all PhD ES students should be the presenter and author/co-author at a conference.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
08/03/2023

Assessment Results
100% (2/2) of the PhD ES students who responded to the exit survey were the presenter and author/co-author at a conference at least two times prior to graduation.

Results Status

Target Met

Number of Students Assessed
2

USE OF ASSESSMENT RESULTS

Other
Graduate Studies Committee in the School of Civil Engineering and Environmental Science have developed and implemented a new annual survey of graduate students to verify self-reported data.

Indirect - Student Survey

Assessment Method Description
Graduate Student Survey: All graduate students are asked to complete a short survey prior to graduation. One of the questions is “Please circle the most appropriate response to the following statement: Your experience in graduate school helped you acquire the ability to understand and communicate basic research methods?” Strongly Disagree - Disagree - Neutral - Agree - Strongly Agree.

Performance Target
90% of all PhD ES students will strongly agree that the experience helped them acquire the ability to understand and communicate basic research methods.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
08/03/2023

Assessment Results
50% (1/2) of the PhD ES students who responded to the exit survey answered “strongly agree” when asked how their experience helped them acquire the ability to understand and communicate basic research methods.

Results Status
Target Not Met

Number of Students Assessed
2

USE OF ASSESSMENT RESULTS

Overall Program Effectiveness
Survey results showed one ES PhD student 'strongly agreed' with the assessed statement while the other ES PhD student 'agreed'. Low survey data results in 'inconclusive' results. We assumed a conservative assessment of 'target not met'.

Analytical Skills

Student Learning Outcome (SLO)
Upon completion of the Doctor of Philosophy in Environmental Science (PhD ES) degree program, students should be able to demonstrate the ability to identify, analyze, synthesize and present scholarship in their areas of expertise.

Outcome Status
Active

Direct - Examination

Assessment Method Description
All PhD ES students are required to take and pass a general examination. This general examination will be administered and evaluated by a minimum of five committee members.

Using a generic rubric with the following performance scale: 5 = exceeds expectations, 3= meets expectations, 1= does not meet expectations. Ratings of “exceeds expectations” and “meets expectations” will constitute a "pass" while the rating of “does not meet expectation” will be equivalent to “fail.”

Performance Target
80% of all PhD ES should receive ratings at or above “meets expectations.”

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
08/03/2023

Assessment Results
100% (2/2) of the PhD ES students received a score of “meets expectations” at their General Exam.

Results Status
Target Met

Number of Students Assessed
2

USE OF ASSESSMENT RESULTS

No Changes Needed
Graduate Studies Committee is satisfied with the results of this assessment.

Direct - Publication

Assessment Method Description
All PhD ES students are encouraged to write and submit a manuscript to a peer-reviewed journal prior to graduation.

This rubric is self-reported (and corroborated by faculty advisor) at the completion of degree and is simply a “yes” or “no” (and how many) answer. If the student reports that “yes” they did write and submit a manuscript, then the title of the paper, as well as the journal, is recorded.

Performance Target
50% of all PhD ES students should have a peer-reviewed journal article in review prior to graduation as the lead author or co-author.

Assessment Results and Use of Results

Reporting Period
2022 - 2023

Assessment Results Entry Date
08/03/2023

Assessment Results
100% (2/2) of the PhD ES students who responded to the exit survey had at least one peer-reviewed journal article in preparation and two submitted for publication prior to graduation.

Results Status
Target Met

Number of Students Assessed
2

USE OF ASSESSMENT RESULTS

Other
Graduate Studies Committee in the School of Civil Engineering and Environmental Science have developed and implemented a new annual survey of graduate students to verify self-reported data.