

Program Plans: Outcomes and Assessment Methods



Program (CEAT) - CIVE - Civil Engineering (PhD) - 049

Program Mission Statement: The School of Civil and Environmental Engineering educates civil and environmental engineers with knowledge and skills for life-long careers; conducts research and scholarly activities; and shares knowledge through outreach activities.

Program Information

2019 - 2020

Program Information

Assessment Coordinator's Name: Kelvin C.P. Wang

Assessment Coordinator's E-mail Address: kelvin.wang@okstate.edu

Number of Students Enrolled in the Program: 30

Total Number of Students Graduated: 5

Number of Student Graduates from Stillwater Campus: 30

Were university assessment funds used by the department/program for assessment activities?: No

If yes, describe how funds were used and the contribution the funds had on the assessment process:

Number of Student Graduates from Tulsa Campus: 0

Annual Executive Summaries

2019 - 2020

Program Assessment Coordinator: Kelvin C.P. Wang

Plan Review and Approval

Date Current Plan Was Reviewed and Approved: 10/01/2020

Date of Future Plan Review and Approval: 10/01/2020

Summary of Assessment Findings

Describe overall assessment findings and faculty members' interpretation of the assessment results: The majority of examining committee members is made up of Civil and Environmental Engineering faculty, but may also include outside members from either other schools or outside groups. As such, the entire assessment of each candidate is entirely faculty-driven. No doctoral student receives his/her degree until the examining committee is satisfied with the student's achievement of these outcomes. The overall conclusion of our assessment activities is that our students in this program are satisfactorily achieving the outcomes. There is always room for improvement and opportunities are being pursued to improve the quality of our students. Control of the degree programs resides within the individual groups and as such, this is where most improvements are made.

Dissemination of Findings

Describe the individual(s) or committee responsible for reviewing and interpreting assessment data: The assessment committee of the School of Civil and Environmental Engineering is responsible for this process.

Describe the process for sharing and discussing assessment findings with program faculty: At the annual faculty retreat, assessment results are shared with the entire faculty group. Results are also discussed at this time.

Program Improvements Based on Assessment

Based on data collected this year, what changes are being considered or planned for the program?: At this time, no program-wide changes have been initiated for the doctoral program. Within each of the specialty areas (water resources, structures, transportation, construction engineering, geotechnical, and environmental) curricular changes are continually occurring. These are seen primarily in changes in course offerings and course content, reflecting changes within the specialty area and

development of new technologies, etc.

CIVE faculty members are proposing to make several modifications to PhD admission requirements and degree requirements that would be submitted in FY2021 for approval.

Based on this year's findings, what (if any) changes are planned for the assessment process?: No

Describe the process for implementing these changes/planned program improvements:

Program Improvements Made in the Last Year: Course Improvements

"Other" Improvements:

Goals for the Coming Year: Improvements in course contents.

Is this Summary Report Complete?: Yes

List all individuals associated with this report preparation: Kelvin C.P. Wang

Outcome: Depth of Knowledge

Graduates of the program will demonstrate an appropriate depth of knowledge in their chosen area of specialization in civil engineering.

Outcome Status: Active

Planned Assessment Year: 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020

Start Date:

Archived Date:

Outcome Type: Knowledge

Reason for Archival:

Assessment Methods

Comprehensive, Certification, or Professional Exam(s) - Students' achievement of this outcome is assessed in part by a qualifying examination given, usually, following the first year or two of doctoral work. This written exam is administered by the student's committee, and may cover a wide range of topics. One of the goals of the examination is to determine the candidate's depth of knowledge in his/her chosen area. Students are also assessed based on a review of the written product of their doctoral research. The examining committee reviews the written product and ensures that it demonstrates the students' achievement of this outcome. The level of achievement is rated in the rubric applied to the student, which includes questions regarding the student's demonstration of depth of knowledge in the area of specialization. Students are assessed further during the dissertation defense. Committee members ask questions regarding the thesis work and, in doing so, can assess the student's depth of knowledge. The committee members then rate the student's success in demonstrating this knowledge on the rubric. In all cases, the assessment must indicate adequate achievement of the expected outcomes before the student is approved for the doctoral degree. Performance in coursework, maintenance of adequate overall GPA in courses, communication (both written and oral) of results of the independent research, and demonstration of mastery of the specific subject area, are all assessed by the examining committee. (Active)

*** Learning Outcome Goal/Benchmark:** Student must demonstrate achievement of this outcome in order to be approved for graduation. Students must perform satisfactorily on the qualifying exam in order to proceed with their program. As such, 100% of students must meet the basic requirements of the outcome for graduation. With respect to the dissertation review, it is expected that 100% of the student evaluations will be at least a "3" on the rubric scale (1-5). That is, every student will be required to at least 'meet expectations' of their examining committee with respect to this outcome.

Timeline for Assessment: Each Semester

Other Assessment Type: Rating of Skills; Analysis of Written Artifacts; Oral Presentation; Review of Dissertation

Related Items

Oklahoma State University Strategic Plan

Core Goal 1: Academic Excellence - A. Provide support for effective approaches in the teaching of undergraduate, graduate, and professional students.

Core Goal 1: Academic Excellence - B. Provide support for research, scholarship, and creative activities

Core Goal 1: Academic Excellence - C. Effectively assess student learning and provide resources for improving outcomes at the undergraduate, graduate, and professional levels

Program (CEAT) - CIVE - Civil Engineering (PhD) - 049

Outcome: Research Methodologies

Graduates of the program will demonstrate mastery of research methodologies, including design and execution of an original, creative research program.

Outcome Status: Active

Planned Assessment Year: 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020

Start Date:

Archived Date:

Outcome Type: Skills

Reason for Archival:

Assessment Methods

Review of Student Research - Students' achievement of this outcome is assessed at both the oral defense of the qualifying exam, proposal defense, as well as at the dissertation defense. The committee reviews the written proposal as well as the student's presentation and determines if they have adequately demonstrated achievement of this outcome. If a student meets expectation with respect to this outcome, they proceed with the work. If not, it is at the discretion of the examining committee to determine the next steps. At the dissertation defense, the level of achievement is rated in the rubric applied to the student, which includes questions regarding the student's demonstration of their design, conduct, analyze, and present original research. Each member of the committee will be asked to use the rubric to rate the level of achievement. (Active)

*** Learning Outcome Goal/Benchmark:** Students must demonstrate achievement of this outcome in order to be approved for graduation. As such, 100% of students must meet the basic requirements of the outcome. With respect to the dissertation thesis review, it is expected that 100% of the student evaluations will be at least a '3' on the rubric scale (1-5). That is, every student will be required to at least 'meet expectations' of their examining committee with respect to this outcome.

Timeline for Assessment: Each Semester

Other Assessment Type: Rating of Skills; Analysis of Written Artifacts; Comprehensive, Certification, or Professional Exam(s); Review of Thesis/Dissertation/Creative Component; Presentation/Performance; Supervisor Evaluation.

Related Items

Oklahoma State University Strategic Plan

Core Goal 1: Academic Excellence - A. Provide support for effective approaches in the teaching of undergraduate, graduate, and professional students.

Core Goal 1: Academic Excellence - B. Provide support for research, scholarship, and creative activities

Core Goal 1: Academic Excellence - C. Effectively assess student learning and provide resources for improving outcomes at the undergraduate, graduate, and professional levels

Core Goal 2: Student Success - D. Advocate and utilize a student development model that enhances academic success, leadership, service, and civic engagement; helps students discover their purpose and passions; broadens their horizons through art, music, cultural exploration, and international travel, service, and study; and strengthens wellness

Outcome: Effective Communication

Graduates of the program will have the ability to communicate effectively the results of their work.

Outcome Status: Active

Planned Assessment Year: 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020

Start Date:

Archived Date:

Outcome Type: Skills

Reason for Archival:

Program (CEAT) - CIVE - Civil Engineering (PhD) - 049

Assessment Methods

Presentation/Performance - Students are assessed based on a review of the written product of the research proposal and dissertation. The examining committee reviews these documents and ensures that they demonstrate the students' achievement of this outcome. The level of achievement is rated in the rubric applied to the student, which includes questions regarding the student's demonstration of effective communication, both in writing and graphical representation of data. Students are assessed further during the review of the thesis and during the defense. The student gives an oral presentation, including, generally, presentation software requiring graphical representation of data. The committee members then assess the student's success in demonstrating these communication skills with the rubric. (Active)

* **Learning Outcome Goal/Benchmark:** Students must demonstrate achievement of this outcome in order to be approved for graduation. As such, 100% of students must meet the basic requirements of the outcome. With respect to the dissertation thesis review, it is expected that 100% of the student evaluations will be at least a '3' on the rubric scale of (1-5). That is, every student will be required to at least 'meet expectations' of their examining committee with respect to this outcome.

Timeline for Assessment: Each Semester

Other Assessment Type: Rating of Skills; Analysis of Written Artifacts; Oral Presentation; Review of Thesis/Dissertation/Creative Component; Supervisor Evaluation;

Related Items

Oklahoma State University Strategic Plan

Core Goal 1: Academic Excellence - A. Provide support for effective approaches in the teaching of undergraduate, graduate, and professional students.

Core Goal 1: Academic Excellence - B. Provide support for research, scholarship, and creative activities

Core Goal 1: Academic Excellence - C. Effectively assess student learning and provide resources for improving outcomes at the undergraduate, graduate, and professional levels

Core Goal 2: Student Success - E. Create and nurture a climate of acceptance, respect, trust, and comfort that fosters the success of individuals