

# Program Plans: Outcomes and Assessment Methods



## Program (CEAT) - CIVE - Civil Engineering (MS) - 048

**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 Wang

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

**Number of Students Enrolled in the Program:** 41

**Total Number of Students Graduated:** 13

**Number of Student Graduates from Stillwater Campus:** 13

**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:**

#### 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 the School of Civil and Environmental Engineering faculty. As such, the entire assessment of each candidate is entirely faculty-driven. No graduate student receives his or 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 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

#### 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 changes are generally made at the group level. Within each group, curricular changes are suggested and, if chosen by group members, implemented.

#### Program Improvements Based on Assessment

**Based on data collected this year, what changes are being considered or planned for the program?:** No program-wide changes have been initiated for the graduate programs. 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.

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

**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 Wang

## Outcome: Depth of Knowledge

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

**Review of Student Research** - The assessment process varies for students in the thesis option versus those in the non-thesis option (creative component). Students in both options are assessed by their graduate committee to ensure that they are making adequate progress in their plans of study. Their plans of study are approved by the examining committee to ensure that their coursework provides an appropriate depth in their area of specialization. Students in both options are also assessed based on a review of the written product of their independent research (thesis or creative component report). Either the examining committee (for thesis students) or the primary advisor alone (for non-thesis option students) review the written product and ensure 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 in the thesis option are assessed further during the review of the thesis and during the 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. The assessment must indicate adequate achievement of the expected outcomes before the student is approved for the graduate degree. Performance in coursework, maintenance of adequate overall GPA in courses, communication (both written and oral) of results of the independent study or research, and demonstration of mastery of the specific area, are all assessed by the examining committee. (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 thesis/creative component 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:**

### 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

## Outcome: Independent Study

Graduates of the program will have the ability to conduct independent study in the their area of specialization, demonstrated either

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through thesis research or creative component project.

**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 Thesis/Dissertation/Creative Component** - The assessment process varies for students in the thesis option versus those in the non-thesis option. Students in both options are assessed based on a review of the written product of their independent research (thesis or creative component report). Either the examining committee (for thesis students) or the primary advisor alone (for non-thesis option students) review the written product and ensure 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 in the thesis option are assessed further during the review of the thesis and during the defense. Committee members ask questions regarding the thesis work and, in doing so, can assess the student's ability to conduct independent research. The committee members then rate the student's success in demonstrating this ability on 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 thesis/creative component 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:**

## Related Items

Oklahoma State University Strategic Plan

**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

## 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:**

## Assessment Methods

**Presentation/Performance** - The assessment process varies for students in the thesis option versus those in the non-thesis (creative component) option. Students in both options are also assessed based on a review of the written product of their independent research (thesis or creative component report). Either the examining committee (for thesis students) or the primary advisor alone (for non-thesis option students) review the written product and ensure it demonstrates the students' achievement

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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 in the thesis option 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 presentation 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 thesis/creative component 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:**

### *Related Items*

Oklahoma State University Strategic Plan

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