



School/College: School of Chemical Engineering/CEAT
Program: Petroleum Engineering
Degree Level: *Master of Science (MS)*
Program Assessment Plan

Date Plan was Approved by Department: 8/11/2018

Please note: Assessment plans must be reviewed/updated and reapproved every five (5) years.

Name of Person Submitting Plan: Runar Nygaard

A. Program Information:

Assessment Coordinator's Name: Runar Nygaard

Assessment Coordinator's Email Address: runar.nygaard@okstate.edu

B. Program Mission Statement

In the box below, provide the mission statement for the program.

The mission statement, educational objectives, and goals for program should guide the assessment process. The mission statement should align with department, college, and institutional mission statements.

Mission Statement for the petroleum engineering program

The mission of the Petroleum Engineering Program at OSU is to engage our graduate students with a quality education and innovative scholarship and through those activities provide value to the candidate, the industry, the State of Oklahoma, and beyond.

C. Student Learning Outcomes

On the pages that follow, list the Student Learning Outcomes associated with the program identified in this assessment form.

1. Graduates of the M.S. program will demonstrate an appropriate depth of knowledge in the petroleum engineering program emphasis on drilling, completion, and production.
2. Graduates of the M.S. program will have the ability to conduct independent study in their area of specialization, demonstrated through thesis research.
3. Graduates of the M.S. program will have the ability to communicate effectively the results of their work.

C1) Student Learning Outcome #1: Graduates of the M.S. program will demonstrate an appropriate depth of knowledge in the M.S. petroleum engineering program emphasis on drilling, completion, and production.

Identify opportunities for students to learn this outcome during the academic program:

For example, include a curriculum map that lists the courses or other learning experiences in which the student learning outcome is taught. Another example is a written narrative that describes how the learning outcome is integrated into the program.

Students are required to complete core courses in M.S. program

- PETE 5313 – Advanced Drilling Modelling and Simulation.
- PETE 5343 – Advanced Stimulation.
- PETE 5333 – Advanced Production and Flow Assurance.

How will students be selected to participate in the assessment of this outcome?

All students entering the graduate program is required to take the core courses and all graduating M.S. students will be included in the assessment.

Assessment Methods

Identify the method(s) used to assess this learning outcome. Check all that apply.

- | | | |
|--|---|---|
| <input type="checkbox"/> Survey | <input type="checkbox"/> Satisfaction Survey | <input type="checkbox"/> Internship |
| <input checked="" type="checkbox"/> Rating of skills (e.g., rubrics) | <input type="checkbox"/> Benchmarking | <input checked="" type="checkbox"/> Interviews |
| <input type="checkbox"/> Analysis of written artifacts | <input type="checkbox"/> Measuring effectiveness relative to professional standards | <input type="checkbox"/> Performance or jury |
| <input type="checkbox"/> Comprehensive, certification, or professional exam(s) | <input type="checkbox"/> Review of thesis/dissertation/ creative component | <input type="checkbox"/> Visual collection (photos, videos, etc.) |
| <input type="checkbox"/> Oral presentation | <input type="checkbox"/> Capstone project | <input type="checkbox"/> Review of student research |
| <input checked="" type="checkbox"/> Course project | | <input type="checkbox"/> Other (please specify): |
- [Click here to specify.](#)

Describe the how the assessment method will be implemented, administered, and/or conducted.

For all students the program will a) track the distribution of student's GPA in core courses, b) course projects in core courses will be evaluated, c) questions during final thesis or class projects will be evaluated to address students' knowledge in core areas.

Does your department/program faculty have a goal set for this learning outcome? Yes No

For example, "80% of students included in the assessment will receive a 4 on the rubric" or "80% of students included in the assessment will achieve a passing score on the certification exam." If yes, please describe the goal below.

All students receiving a grade "b" or higher in the core courses.

Timeline for Planned Assessment

Indicate the timeline for the assessment of this learning outcome. While outcomes assessment must be conducted every year, not all student learning outcomes for a given program must be assessed every year. If the assessment of a particular learning outcome occurs on cycle or rotation, please describe and provide the rationale for the cycle/rotation below.

- Each Semester Yearly Every other year

Other (please specify): If the assessment of Learning Outcome 1 occurs on a cycle or rotation, click here to describe and provide the rationale.

C2) Student Learning Outcome #2: Graduates of the M.S. program will have the ability to conduct independent study in their area of specialization, demonstrated through thesis research.

Identify opportunities for students to learn this outcome during the academic program:

For example, include a curriculum map that lists the courses or other learning experiences in which the student learning outcome is taught. Another example is a written narrative that describes how the learning outcome is integrated into the program.

All students are required to take 6 credits of PETE 5000 research hours and complete a M.S. thesis research project.

How will students be selected to participate in the assessment of this outcome?

All graduating M.S. students will be assessed for this outcome.

Assessment Methods

Identify the method(s) used to assess this learning outcome. Check all that apply.

- | | | |
|--|---|--|
| <input type="checkbox"/> Survey | <input type="checkbox"/> Satisfaction Survey | <input type="checkbox"/> Internship |
| <input type="checkbox"/> Rating of skills (e.g., rubrics) | <input type="checkbox"/> Benchmarking | <input checked="" type="checkbox"/> Interviews |
| <input type="checkbox"/> Analysis of written artifacts | <input type="checkbox"/> Measuring effectiveness relative to professional standards | <input type="checkbox"/> Performance or jury |
| <input type="checkbox"/> Comprehensive, certification, or professional exam(s) | <input checked="" type="checkbox"/> Review of thesis/dissertation/ creative component | <input type="checkbox"/> Visual collection (photos, videos, etc.) |
| <input checked="" type="checkbox"/> Oral presentation | <input type="checkbox"/> Capstone project | <input checked="" type="checkbox"/> Review of student research |
| <input type="checkbox"/> Course project | | <input type="checkbox"/> Other (please specify):
Click here to specify. |

Describe the how the assessment method will be implemented, administered, and/or conducted.

Student complete a M.S. thesis project and thesis has to be evaluated by the student's committee. The petroleum program director will conduct exit interviews. Oral thesis defense will be evaluated by the committee.

Does your department/program faculty have a goal set for this learning outcome? Yes No

For example, "80% of students included in the assessment will receive a 4 on the rubric" or "80% of students included in the assessment will achieve a passing score on the certification exam." If yes, please describe the goal below.

100% of students must have accepted thesis report by M.S. committee before graduating.

Timeline for Planned Assessment

Indicate the timeline for the assessment of this learning outcome. While outcomes assessment must be conducted every year, not all student learning outcomes for a given program must be assessed every year. If the assessment of a particular learning outcome occurs on cycle or rotation, please describe and provide the rationale for the cycle/rotation below.

- Each Semester Yearly Every other year
- Other (please specify): If the assessment of Learning Outcome 2 occurs on a cycle or rotation, click here to describe and provide the rationale.

C3) Student Learning Outcome #3: Graduates of the M.S. program will have the ability to communicate effectively the results of their work.

Identify opportunities for students to learn this outcome during the academic program:

For example, include a curriculum map that lists the courses or other learning experiences in which the student learning outcome is taught. Another example is a written narrative that describes how the learning outcome is integrated into the program.

Students will (a) present their class project, (b) give an oral presentation of their thesis, (c) give an oral or poster presentation at a university research event or external conference / seminar / or company presentation, and (d) their thesis writing will be reviewed.

How will students be selected to participate in the assessment of this outcome?

All graduating M.S. students will be included in this outcome assessment.

Assessment Methods

Identify the method(s) used to assess this learning outcome. Check all that apply.

- | | | |
|--|---|---|
| <input type="checkbox"/> Survey | <input type="checkbox"/> Satisfaction Survey | <input type="checkbox"/> Internship |
| <input checked="" type="checkbox"/> Rating of skills (e.g., rubrics) | <input type="checkbox"/> Benchmarking | <input type="checkbox"/> Interviews |
| <input type="checkbox"/> Analysis of written artifacts | <input type="checkbox"/> Measuring effectiveness relative to professional standards | <input type="checkbox"/> Performance or jury |
| <input type="checkbox"/> Comprehensive, certification, or professional exam(s) | <input checked="" type="checkbox"/> Review of thesis/dissertation/ creative component | <input type="checkbox"/> Visual collection (photos, videos, etc.) |
| <input checked="" type="checkbox"/> Oral presentation | <input type="checkbox"/> Capstone project | <input type="checkbox"/> Review of student research |
| <input checked="" type="checkbox"/> Course project | | <input type="checkbox"/> Other (please specify): |
- [Click here to specify.](#)

Describe the how the assessment method will be implemented, administered, and/or conducted.

Graduate coordinator will keep track of all events to ensure all students fulfill requirements and that rubrics are used to assess these skills.

Does your department/program faculty have a goal set for this learning outcome? Yes No

For example, "80% of students included in the assessment will receive a 4 on the rubric" or "80% of students included in the assessment will achieve a passing score on the certification exam." If yes, please describe the goal below.

All students (100%) needs to perform required activities (a to d listed above) and 80 % of the students included in the assessment will score proficient, or above for their oral communication skills.

Timeline for Planned Assessment

Indicate the timeline for the assessment of this learning outcome. While outcomes assessment must be conducted every year, not all student learning outcomes for a given program must be assessed every year. If the assessment of a particular learning outcome occurs on cycle or rotation, please describe and provide the rationale for the cycle/rotation below.

- | | | |
|---|---------------------------------|---|
| <input checked="" type="checkbox"/> Each Semester | <input type="checkbox"/> Yearly | <input type="checkbox"/> Every other year |
|---|---------------------------------|---|
- Other (please specify): If the assessment of Learning Outcome 3 occurs on a cycle or rotation, click here to describe and provide the rationale.