

# Program Plan and Findings: Four Column Layout



## Program (CEAT) - CHE - Petroleum Engineering (MS) - 506

**Program Mission Statement:** 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.

### Program Information

*2019 - 2020*

#### Program Information

**Assessment Coordinator's Name:** Prem Bikkina

**Assessment Coordinator's E-mail Address:** prem.bikkina@okstate.edu

**Total Number of Students Graduated:** 5

**Number of Students Enrolled in the Program:** 11

**Number of Student Graduates from Stillwater Campus:** 5

**Number of Student Graduates from Tulsa Campus:**

**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:**

### Annual Executive Summaries

*2019 - 2020*

**Program Assessment Coordinator:** Prem Bikkina

#### Plan Review and Approval

**Date Current Plan Was Reviewed and Approved:**

**Date of Future Plan Review and Approval:**

#### Summary of Assessment Findings

**Describe overall assessment findings and faculty members' interpretation of the assessment results:** The overall assessment results showed that the initial goals for the graduating students were met. Students were able to present work at professional societies and get valuable feedback of their research.

#### Dissemination of Findings

**Describe the individual(s) or committee responsible for reviewing and interpreting assessment data:** The graduate program coordinator is responsible for the final report.

**Describe the process for sharing and discussing assessment findings with program faculty:** The assessment data were shared, reviewed, and discussed with the program

faculty during faculty meeting.

The graduate coordinator for the petroleum engineering program is responsible for compiling the final report.

### **Program Improvements Based on Assessment**

**Based on data collected this year, what changes are being considered or planned for the program?:** For the students coming with no petroleum background drilling (PETE 5013) and production (PETE 5023) courses are offered. To improve the graduate program more CHE graduate level electives will be added to curriculum. The PETE graduate program handbook needs to clarify departmental entrance requirements.

**Based on this year's findings, what (if any) changes are planned for the assessment process?:** Exit interviews for the graduate students will be conducted for next school year.

**Describe the process for implementing these changes/planned program improvements:** Potential new courses will be created and submitted following university procedures. All program improvements will be discussed in faculty meetings.

**Program Improvements Made in the Last Year:** Course Improvements

**"Other" Improvements:**

**Goals for the Coming Year:** Hiring a new petroleum faculty member to replace the teaching/research/service assignments of the retired and/or left faculty member(s)

**Is this Summary Report Complete?:** Yes

**List all individuals associated with this report preparation:** Prem Bikkina and Geir Hareland

<i>Outcomes</i>	<i>Assessment Methods</i>	<i>Findings</i>	<i>Use of Findings (Actions)</i>
<p><b>SLO 1 Depth of Knowledge -</b> Graduates of the M.S. program will demonstrate an appropriate depth of knowledge in the petroleum engineering program emphasis on drilling, completion, and production. <b>Outcome Status:</b> Active <b>Planned Assessment Year:</b> 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021, 2021 - 2022 <b>Start Date:</b> 08/20/2017 <b>Archived Date:</b> <b>Outcome Type:</b> Knowledge <b>Reason for Archival:</b></p>	<p><b>General Outcome Observations</b></p> <hr/> <p><b>Rating of Skills -</b> 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.</p>	<p><b>Reporting Period:</b> 2019 - 2020 <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient) All students met all the activities (a – d). All students scored proficient on their oral presentations and thesis writing. In addition, all students participated in writing a scientific paper published at professional societies conferences. (10/05/2020) <b>Number of Students Assessed:</b> 5 <b>Number of Successful Students:</b> 5 <b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment. <b>What do the findings suggest about student achievement of this learning outcome?:</b> Student performance on the learning outcome was met.</p> <hr/> <p><b>Reporting Period:</b> 2019 - 2020 <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient) All students who graduated received "B" or higher. Students who receive a grade of "B" or higher has demonstrated appropriate depth of knowledge in drilling, completion, and production. (10/05/2020) <b>Number of Students Assessed:</b> 5 <b>Number of Successful Students:</b> 5</p>	

Outcomes	Assessment Methods	Findings	Use of Findings (Actions)
	<p><b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> All students receiving a grade “b” or higher in the core courses.  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b>  <b>Course Project</b> - 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.</p> <p><b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> All students receiving a grade “b” or higher in the core courses.  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b>  <b>Interviews</b> - 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.</p> <p><b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> All students receiving a grade “b” or higher in the core courses.  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b></p>	<p><b>How were students selected to participate in the assessment of this outcome?:</b> All students graduated in 2019-2020 were included in the assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Student achievement of this learning outcome was met.</p> <p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students who graduated received “B” or higher. Students who receive a grade of “B” or higher has demonstrated appropriate depth of knowledge in drilling, completion, and production. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5</p> <p><b>How were students selected to participate in the assessment of this outcome?:</b> All students graduated in 2019-2020 were included in the assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Student achievement of this learning outcome was met.</p> <p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students who graduated received “B” or higher. Students who receive a grade of “B” or higher has demonstrated appropriate depth of knowledge in drilling, completion and production. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5</p> <p><b>How were students selected to participate in the assessment of this outcome?:</b> All students graduating in 2019-2020 were included in the assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Student achievement of this learning outcome was met.</p>	
<p><b>SLO 2 Ability to Conduct Independent Study</b> - Graduates of the M.S. program will have the ability</p>	<p><b>General Outcome Observations</b></p>	<p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students met all the activities (a – d). All students scored</p>	

Outcomes	Assessment Methods	Findings	Use of Findings (Actions)
<p>to conduct independent study in their area of specialization, demonstrated through research thesis.  <b>Outcome Status:</b> Active  <b>Planned Assessment Year:</b> 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021, 2021 - 2022  <b>Start Date:</b> 08/20/2017  <b>Archived Date:</b>  <b>Outcome Type:</b> Skills  <b>Reason for Archival:</b></p>	<p><b>General Outcome Observations</b></p>	<p>proficient on their oral presentations and thesis writing. In addition, all students participated in writing a scientific paper published at professional societies conferences. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5  <b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Students developed their ability to conduct independent study including, prepare a problem statement, execute a research plan, and report research results. With these results the students achievement of this learning outcome was met.</p>	
	<p><b>Oral Presentation</b> - 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.  <b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> 100% of students must have accepted thesis report by M.S. committee before graduating.  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b></p>	<p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students passed oral thesis defense and got thesis approved by their committees. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5  <b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Students developed their ability to conduct independent study including, prepare a problem statement, execute a research plan, and report research results. With these results the students achievement of this learning outcome was met.</p>	
	<p><b>Review of Thesis/Dissertation/Creative Component</b> - 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.  <b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> 100% of students</p>	<p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students passed oral thesis defense and got thesis approved by their committees. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5  <b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Students developed their ability</p>	

Outcomes	Assessment Methods	Findings	Use of Findings (Actions)
	<p>must have accepted thesis report by M.S. committee before graduating.  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b>  <b>Interviews</b> - 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.  <b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> 100% of students must have accepted thesis report by M.S. committee before graduating. ?  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b></p> <hr/> <p><b>Review of Student Research -</b>  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.  <b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> 100% of students must have accepted thesis report by M.S. committee before graduating. ?  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b></p>	<p>to conduct independent study including, prepare a problem statement, execute a research plan, and report research results. With these results the students achievement of this learning outcome was met.</p> <p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students passed oral thesis defense and got thesis approved by their committees. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5  <b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Students developed their ability to conduct independent study including, prepare a problem statement, execute a research plan, and report research results. With these results the students achievement of this learning outcome was met.</p>	
<p><b>Effective Communication</b> - Graduates of the M.S. program will have the ability to communicate effectively the results of their work.  <b>Outcome Status:</b> Active</p>	<p><b>Rating of Skills</b> - Graduate coordinator will keep track of all events to ensure all students fulfills requirements and that rubrics are used to assess these skills.</p>	<p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students met all the activities (a – d). All students scored proficient on their oral presentations and thesis writing. In addition, all students participated in writing a scientific</p>	

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<p><b>Planned Assessment Year:</b> 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021, 2021 - 2022  <b>Start Date:</b> 08/20/2017  <b>Archived Date:</b>  <b>Outcome Type:</b> Skills  <b>Reason for Archival:</b></p>	<p><b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> 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.  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b>  <b>Oral Presentation</b> - ?Graduate coordinator will keep track of all events to ensure all students fulfills requirements and that rubrics are used to assess these skills.</p>	<p>paper published at professional societies conferences. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5  <b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Student performance on the learning outcome was met.</p>	
	<p><b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> 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.  <b>Timeline for Assessment:</b> Each Semester  <b>Other Assessment Type:</b></p>	<p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students met all the activities (a – d). All students scored proficient on their oral presentations and thesis writing. In addition, all students participated in writing a scientific paper published at professional societies conferences. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5  <b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Student performance on the learning outcome was met.</p>	
	<p><b>Course Project</b> - ?Graduate coordinator will keep track of all events to ensure all students fulfills requirements and that rubrics are used to assess these skills.  <b>* Learning Outcome</b>  <b>Goal/Benchmark:</b> 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.  <b>Timeline for Assessment:</b> Each</p>	<p><b>Reporting Period:</b> 2019 - 2020  <b>Conclusion:</b> 3 - Meets Program Expectations (Proficient)  All students met all the activities (a – d). All students scored proficient on their oral presentations and thesis writing. In addition, all students participated in writing a scientific paper published at professional societies conferences. (10/05/2020)  <b>Number of Students Assessed:</b> 5  <b>Number of Successful Students:</b> 5  <b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment.  <b>What do the findings suggest about student achievement of this learning outcome?:</b> Student performance on the</p>	

Outcomes	Assessment Methods	Findings	Use of Findings (Actions)
	<p>Semester</p> <p><b>Other Assessment Type:</b></p> <p><b>Review of Thesis/Dissertation/Creative Component</b> - Graduate coordinator will keep track of all events to ensure all students fulfill requirements and that rubrics are used to assess these skills.</p> <p><b>* Learning Outcome</b></p> <p><b>Goal/Benchmark:</b> 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.</p> <p><b>Timeline for Assessment:</b> Each Semester</p> <p><b>Other Assessment Type:</b></p>	<p>learning outcome was met.</p> <p><b>Reporting Period:</b> 2019 - 2020</p> <p><b>Conclusion:</b> 3 - Meets Program Expectations (Proficient) All students met all the activities (a – d). All students scored proficient on their oral presentations and thesis writing. In addition,all students participated in writing a scientific paper published at professional societies conferences. (10/05/2020)</p> <p><b>Number of Students Assessed:</b> 5</p> <p><b>Number of Successful Students:</b> 5</p> <p><b>How were students selected to participate in the assessment of this outcome?:</b> All graduating M.S. students were included in this outcome assessment.</p> <p><b>What do the findings suggest about student achievement of this learning outcome?:</b> Student performance on the learning outcome was met.</p>	