

Assessment: Assessment Plan

Degree Program - ENG - Petroleum Engineering (BSPE)

CIP Code: 14.2501.00

Degree Program Coordinator: Lloyd Heinze

Degree Program Coordinator Email: lloyd.heinze@ttu.edu

Degree Program Coordinator Phone: +18068347784

Degree Program Coordinator Mail Stop: 43111

Program Purpose Statement: The mission of the Bob L. Herd Department of Petroleum Engineering has four elements:

To provide excellent instruction and design experience essential for graduates to enter their practice of petroleum engineering and pursue lifelong professional development.

To provide research opportunities for students that generate, communicate, and apply new knowledge for the betterment of society. To foster a spirit of service and leadership among students and faculty and assist the public in addressing issues concerning using our resources, protecting our environment, and developing our infrastructure.

The department fulfills an obligation to the people of the state of Texas and the nation in making available the technical expertise for the safe and efficient development, production and management of petroleum reserves.

Modality: Face-to-Face

Student Learning Outcome: ABET Criterion 3.1

an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 08/23/2018

Assessment Methods

Student Exit Survey - Senior Exit Survey Responses (Active)

Criterion: Average of 4/5 should be obtained in the survey responses to ensure students attainment of this outcome

Schedule: every spring semester

Faculty Assessment - Each faculty member teaching a course used for assessing this outcome is filling up a course evaluation form to assess the attainment of this outcomes based on student`s performance in exams, HW, or reports. (Active)

Criterion: More than 80 % of students should attain the outcome(s) base on the teacher`s defined performance indicators(final report & presentation)

Schedule: Every summer I semester (annually)

Student Learning Outcome: ABET Criterion 3.2

an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 08/23/2018

Degree Program - ENG - Petroleum Engineering (BSPE)

Assessment Methods

Student Exit Survey - senior exit survey (Active)

Criterion: Average of 3.75/5 responses, (75%), should be obtained in the survey responses to ensure students attainment of this outcome

Schedule: annually

Capstone Assignment/Project - Each faculty member teaching senior design I & II courses (about 4 teachers) is filling up a course evaluation form to assess the attainment of this outcomes based on students final projects including analyzing and interpreting oil and gas reservoirs data (Active)

Criterion: More than 70 % of students should attain the outcome(s) base on the teacher`s defined performance indicators(final report & presentation, exams, and HW)

Schedule: Every summer I semester (annually)

Student Learning Outcome: ABET Criterion 3.3

An ability to communicate effectively with a range of audiences.

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 08/23/2018

Additional Assessment Component: Communication Literacy

Assessment Methods

Student Exit Survey - Senior Exit Survey (Active)

Criterion: Average of 3.75/5 should be obtained in the survey responses to ensure students attainment of this outcome

Schedule: annually

Senior Exit Interview - Focus group exit interview Responses (Active)

Criterion: More than 75 % of students should agree on attaining this the outcome

Schedule: Annually

Capstone Assignment/Project - Students give two oral presentations, one special report and one final written report. Deliverable for each presentations are set out by teaching staff (Active)

Criterion: >3.5

Schedule: Fall 2016 and spring 2017

Student Learning Outcome: ABET Criterion 3.4

an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 08/23/2018

Assessment Methods

Student Exit Survey - Senior Exit Survey (Active)

Degree Program - ENG - Petroleum Engineering (BSPE)

Criterion: Average of 4/5 should be obtained in the survey responses to ensure students attainment of this outcome
Schedule: annually

Capstone Assignment/Project - Each faculty member teaching senior design I & II courses (about 4 teachers) is filling up a course evaluation form to assess the attainment of this outcomes based on students final project including analyzing and interpreting oil and gas reservoirs data (Active)

Criterion: More than 80 % of students should attain the outcome(s) base on the teacher`s defined performance indicators(final report & presentation)
Schedule: annually

Participation - Participation in student chapters meetings and related conferences and activities _copy (Active)

Criterion: more that 50 % of the undergraduate students engage and attend workshops, conferences, or other events related to oil and gas industry
Schedule: annually

Student Learning Outcome: ABET Criterion 3.5

an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 08/23/2018

Additional Assessment Component: Communication Literacy

Assessment Methods

Capstone Assignment/Project - Teamwork Project Report from two senior design courses. (Active)

Criterion: More than 80 % of students should attain the outcome(s) base on the teacher`s defined performance indicators(final report & presentation, exams, and HW)
Schedule: very summer I semester (annually)

Student Exit Survey - senior exit survey (Active)

Criterion: Average of 4/5 should be obtained in the survey responses to ensure students attainment of this outcome
Schedule: Annually

Faculty Assessment - Core and Drilling Lab courses are used to evaluate this student outcome attainment. students are divided into groups to conduct a series of experiments. They are asked to function effectively as a team, plan tasks, and meet the experiments objectives. (Active)

Criterion: More than 75 % of students should attain the outcome(s) base on the teacher`s defined performance indicators(final group weekly reports).
Schedule: Every summer I semester (annually)

Student Learning Outcome: ABET Criterion 3.6

an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 08/23/2018

Degree Program - ENG - Petroleum Engineering (BSPE)

Assessment Methods

Student Exit Survey - Senior Exit Survey (Active)

Criterion: Average of 4/5 should be obtained in the survey responses to ensure students attainment of this outcome
Schedule: Every spring semester

Capstone Assignment/Project - Each faculty member teaching senior design I & II courses (about 4 teachers) is filling up a course evaluation form to assess the attainment of this outcomes based on students final reports including analyzing and interpreting oil and gas reservoirs data (Active)

Criterion: More than 75 % of students should attain the outcome(s) base on the teacher`s defined performance indicators(final report & presentation, exams, and HW)
Schedule: Every summer I semester (annually)

Faculty Assessment - Using students performance in the two lab courses offered in the junior year. The students performance evaluated by teaching assistants and faculty who are teaching these courses. Students conduct experiment weekly in these courses_copy (Active)

Criterion: 75 % of students in the two lab courses offered in the junior year should be at or above satisfactory level base on the teaching assistant and faculty course assessment report. These are the first course were student conducted experiments related to petroleum engineering.
Schedule: Every Fall and Spring semesters in each year

Student Learning Outcome: ABET Criterion 3.7

an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 08/23/2018

Assessment Methods

Student Exit Survey - Senior Exit Survey (Active)

Criterion: Average of 4/5 should be obtained in the survey responses to ensure students attainment of this outcome
Schedule: annually

Capstone Assignment/Project - Final student report and presentation (Active)

Criterion: >3.5
Schedule: annually