

University of Louisiana at Lafayette

Detailed Assessment Report 2015-2016 Petroleum Engineering BS

As of: 11/18/2016 10:58 AM CENTRAL

(Includes those Action Plans with Budget Amounts marked *One-Time, Recurring, No Request.*)

Mission / Purpose

The Department of Petroleum Engineering educates a diverse population of students to become petroleum engineers to perform applied research that benefits petroleum exploration and production, and to provide service to the industry and public. The mechanism for achieving this mission is through a strong foundation to prepare students for international careers, continued education, public service and lifelong learning. The program emphasizes applied and multi-disciplinary teamwork in instruction and in research.

Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: Knowledge of Fundamentals

Student will demonstrate the breadth of knowledge in engineering fundamentals.

Related Measures

M 1: Core Course Exam PETE 481

Assessment Exam of Core Course 1 – PETE 481 (minimum 80% assessment rate required). The instrument of Assessment Exam of Core Course 1 – PETE 481 is used at the end of each Spring semester.

Source of Evidence: Comprehensive/end-of-program subject matter exam

Target:

The successful attainment of result for Goal 1 (student will demonstrate the breadth of knowledge in engineering fundamentals) is that at least 90% of students are evaluated with an average score of greater than 70%.

Finding (2015-2016) - Target: Met

Number of students assessed = 136 (100% assessed). This year 100% of the graduating students were evaluated by faculty members. The average score is 74.30%, which is considered to be successful in achieving the goal.

SLO 2: Designing of Systems

Student will demonstrate the skills of applying the knowledge of engineering fundamentals to designing of systems in petroleum engineering.

Related Measures

M 2: Core Course Exam PETE 486

Assessment Exam of Core Course 2 – PETE 486 (minimum 80% assessment rate required). The instrument of Assessment Exam of Core Course 2 – PETE 486 is used at the end of each Fall semester.

Source of Evidence: Comprehensive/end-of-program subject matter exam

Target:

The successful attainment of result for Goal 2 (student will demonstrate the skills of applying the knowledge of engineering fundamentals to designing of systems in petroleum engineering) is that at least 90% of students are evaluated with an average score of greater than 70%.

Finding (2015-2016) - Target: Met

Number of students assessed = 95 (100% assessed). This year 100% of the graduating students were evaluated by faculty members. The average score is 85.00%, which is considered to be successful in achieving the goal.

Related Action Plans (by Established cycle, then alpha):

New Requirement for Project

The success score for Goal 2 is 73.88%. This relatively low score is believed to be due to the inadequate exercises on solving example problems. A new requirement for class project will be implemented.

Established in Cycle: 2009-2010

Implementation Status: In-Progress

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Core Course Exam PETE 486 |

Outcome/Objective: Designing of Systems

SLO 3: Ability to Analyze Data

Student will demonstrate the skills of analyzing data from petroleum engineering systems.

Related Measures

M 3: Core Course Exam PETE 489

Assessment Exam of Core Course 3 – PETE 489 (minimum 80% assessment rate required). The instrument of Assessment Exam of Core Course 3 – PETE 489 is used at the end of each Spring semester.

Source of Evidence: Comprehensive/end-of-program subject matter exam

Target:

The successful attainment of result for Goal 3 (student will demonstrate the skills of analyzing data from petroleum engineering systems) is that at least 90% of students are evaluated with an average score of greater than 70%.

Finding (2015-2016) - Target: Met

Number of students assessed = 95 (100% assessed). This year 100% of the graduating students were evaluated by faculty members. The average score is 83.06%, which is considered to be successful in achieving the goal.

SLO 4: Problem Solving

Student will demonstrate the skills of solving problems in petroleum engineering systems.

Related Measures

M 4: Core Course Exam PETE 491

Assessment Exam of Core Course 4 – PETE 491 (minimum 80% assessment rate required). The instrument of Assessment Exam of Core Course 4 – PETE 491 is used at the end of each Spring semester.

Source of Evidence: Comprehensive/end-of-program subject matter exam

Target:

The successful attainment of result for Goal 4 (student will demonstrate the skills of solving problems in petroleum engineering systems) is that at least 90% of students are evaluated with an average score of greater than 70%.

Finding (2015-2016) - Target: Met

Number of students assessed = 136 (100% assessed). This year 100% of the graduating students were evaluated by faculty members. The average score is

78.60%, which is considered to be successful in achieving the goal.

Related Action Plans (by Established cycle, then alpha):

New Requirement for Project

In previous cycles, the success score for Goal 2 was 73.63%. This relatively low score is believed to be due to the inadequate exercises on solving example problems. A new drilling simulator has been used as part of the instruction to enhance students' hands-on capabilities. Real-life (field) cases have also been used to enhance students' problem-solving capabilities. A new requirement for a class project has also been implemented. The average score is 85.00%, which is considered to be successful in achieving the goal.

Established in Cycle: 2009-2010

Implementation Status: In-Progress

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Core Course Exam PETE 491 |

Outcome/Objective: Problem Solving

SLO 5: Potential for Masters Programs

Student will demonstrate the potential or readiness for success in MS programs in the Petroleum Engineering.

Related Measures

M 5: Core Course Exam PETE 494

Assessment Exam of Core Course 5 – PETE 494 (minimum 80% assessment rate required). The instrument of Assessment Exam of Core Course 5 – PETE 494 is used at the end of each Fall semester.

Source of Evidence: Comprehensive/end-of-program subject matter exam

Target:

The successful attainment of result for Goal 5 (student will demonstrate the potential or readiness for success in MS programs in the Petroleum Engineering) is that at least 90% of students are evaluated with an average score of greater than 70%.

Finding (2015-2016) - Target: Met

Number of students assessed = 95 (100% assessed). This year 100% of the graduating students were evaluated by faculty members. The average score is 85.25%, which is considered to be successful in achieving the goal.

Analysis Questions and Analysis Answers

How were assessment results shared and evaluated within the unit?

Assessment results were shared during a Departmental Meeting. Results were evaluated using a "goal assessment matrix" developed in the department for each of the evaluated courses.

Identify which action plans [created in prior cycle(s)] were implemented in this current cycle. For each of these implemented plans, were there any measurable or perceivable effects? How, if at all, did the findings appear to be affected by the implemented action plan?

A new drilling simulator has been used as part of the instruction to enhance students' hands-on capabilities. Real-life (field) cases have also been used to enhance students' problem-solving capabilities. A new requirement for a class project has also been implemented. The average score is 85.00%, which is considered to be successful in achieving the goal.

What has the unit learned from the current assessment cycle? What is working well, and what is working less well in achieving desired outcomes?

Unit learned that class instruction has to be complemented by labs. Students have developed hands-on capabilities, a better understanding of concepts with real-life drilling simulators, some used on rig floors, and worked on real-life problems. The integration of classes and labs have benefited dramatically the students' comprehension.