College: Honolulu Community College  
Program: Diesel Mechanics Technology

The last comprehensive review for this program was on 2012, and can be viewed at: http://www.hawaii.edu/offices/cc/arpd/preview.php?rev_key=661

Program Description

Program Mission: The Diesel Mechanics Technology program’s mission is to serve the community as a learning-centered, open door program that provides technical training to meet the demands of the diesel mechanics industry and the needs of the individual exploration.

Program Description: The program is designed to provide student with the knowledge of heavy duty truck engines and chassis components and to develop student proficiency in the repair and maintenance of heavy duty truck equipment. Admission is every other Fall semester. Next intake of students will be Fall 2014.

Program Student Learning Outcomes: Upon successful completion of the DSL program, students will be able to:

• Function safely in a heavy equipment shop environment.
• Demonstrate ability to communicate effectively to gather and convey information.
• Apply theory and principles for proper diagnosis, repair, and maintenance in the heavy-duty truck equipment industry.
• Practice the minimum essential mental, physical, and behavioral skills necessary to maintain professional proficiency.
• Work collaboratively with others as well as independently.

Part I. Quantitative Indicators

Overall Program Health: Cautionary  
Majors Included: DISL  
Program CIP: 47.0605

<table>
<thead>
<tr>
<th>Demand Indicators</th>
<th>Program Year</th>
<th>Demand Health Call</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10-11</td>
<td>11-12</td>
</tr>
<tr>
<td>New &amp; Replacement Positions (State)</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>New &amp; Replacement Positions (County Prorated)</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Number of Majors</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>Number of Majors Native Hawaiian</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Fall Full-Time</td>
<td>75%</td>
<td>22%</td>
</tr>
<tr>
<td>Fall Part-Time</td>
<td>25%</td>
<td>78%</td>
</tr>
<tr>
<td>Fall Part-Time who are Full-Time in System</td>
<td>4%</td>
<td>0%</td>
</tr>
<tr>
<td>Spring Full-Time</td>
<td>59%</td>
<td>0%</td>
</tr>
<tr>
<td>Spring Part-Time</td>
<td>41%</td>
<td>100%</td>
</tr>
<tr>
<td>Spring Part-Time who are Full-Time in System</td>
<td>0%</td>
<td>14%</td>
</tr>
<tr>
<td>SSH Program Majors in Program Classes</td>
<td>300</td>
<td>56</td>
</tr>
<tr>
<td>SSH Non-Majors in Program Classes</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>SSH in All Program Classes</td>
<td>312</td>
<td>56</td>
</tr>
<tr>
<td>FTE Enrollment in Program Classes</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Total Number of Classes Taught</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

Efficiency Indicators

<table>
<thead>
<tr>
<th>Efficiency Indicators</th>
<th>Program Year</th>
<th>Efficiency Health Call</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Class Size</td>
<td>6.5</td>
<td>[14.6]</td>
</tr>
<tr>
<td>Fill Rate</td>
<td>37.1%</td>
<td>[60.7%]</td>
</tr>
<tr>
<td>FTE BOR Appointed Faculty</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Majors to FTE BOR Appointed Faculty</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Majors to Analytic FTE Faculty</td>
<td>14.1</td>
<td>18</td>
</tr>
<tr>
<td>Analytic FTE Faculty</td>
<td>1.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Overall Program Budget Allocation</td>
<td>$13,299</td>
<td>$33,976</td>
</tr>
<tr>
<td>General Funded Budget Allocation</td>
<td>$0</td>
<td>$50,376</td>
</tr>
<tr>
<td>Special/Federal Budget Allocation</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>
Part II. Analysis of the Program

I was hired as a lecturer for the Fall 2012 program, and was awarded the instructor position as of January 2013. From my understanding the DISL program was “shut down” a year before I was part of the staff. Before the “shut down,” I have no further information. Many of the negative indicators began due to the previous circumstances before I arrived. Currently I am working on getting the Diesel Program NATEF (National Automotive Technicians Education Foundation) certified. What is NATEF? As per NATEF website: *Founded in 1983 as an independent, non-profit 501(c)(3)organization the mission of the National Automotive Technicians Education Foundation (NATEF) is to improve the quality of automotive technician training programs nationwide at secondary and post-secondary, public and proprietary schools. To accomplish this mission NATEF examines the structure, resources and quality of training programs and evaluates them against standards established by the industry. These standards reflect the skills that students must master to be successful in the industry.*

Currently, the DISL program consists of 16 students and 1 instructor. We are currently into our 3rd Semester. We have adopted the NATEF standard and in the process of looking for an instructor assistant (APT.) We created and are now working closely with the advisory board to bring the program “up to date,” and gain an understanding the current demands involved in the field of diesel technology with actual people and staff directly involved. The current advisory board is excited and motivated to assist the program to grow, and many board members worked with previous graduates, and have many good things to say about the diesel program.

Part III. Action Plan

www.hawaii.edu/offices/cc/arpd/preview.php?rev_key=661
As for the Perkins core indicators: A lot of the negative marks are contributed due to the stop out from the previous year. Currently we have 1 non traditional student. She is doing very well in the diesel program! The program is currently in the revamping stages as set forth from the 2012 year. We are currently running the program as per NATEF standards. We have an advisory committee set into place with active participants who are active in the diesel field. Our first advisory committee was a great success. We are working with the high schools, giving tours of our facility to promote and educate potential students of the diesel program. During verbal surveys after the tour, there are always 1-5 students that have an interest in attending the program.

The current action plans for 2013 include:
- Hire an APT for support staff
- Pursue NATEF certification in the Master status
- We are currently trying to solicit nontraditional and native Hawaiian students to enter the program
- We are working with the advisory committee for input of the demands in the diesel field

Part IV. Resource Implications

We will continue to work with the Division Chair and Division Dean to request funding, along with seeking with other sources of funding, to complete these items during the spring 2013 semester.

Program Student Learning Outcomes

For the 2012-2013 program year, some or all of the following P-SLOs were reviewed by the program:

<table>
<thead>
<tr>
<th>Assessed this year?</th>
<th>Program Student Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Demonstrate ability to communicate effectively to gather and convey information.</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Function safely in a heavy equipment shop environment.</td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Apply theory and principles for proper diagnosis, repair, and maintenance in the heavy-duty truck equipment industry.</td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Practice the minimum essential mental, physical, and behavioral skills necessary to maintain professional proficiency.</td>
</tr>
<tr>
<td>5</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Practice the minimum essential mental, physical, and behavioral skills necessary to maintain professional proficiency.</td>
</tr>
</tbody>
</table>

A) Evidence of Industry Validation

Below is an actual sample of the assessed module:

Honolulu Community College
Student Learning Outcomes (SLO) Assessment Inventory
Course Level Assessment

Course Title & Number: DISL 36 – Suspension and Steering  Division: Tech 1

Submitted by: Bobby Salvatierra  Date Submitted: 9/5/2013

Course Delivery Method (check one):  ___X_ Face-to-Face   ____ Online   ____ Hybrid

PLO:
1. Function safely in a heavy equipment shop environment.
2. Demonstrate ability to communicate effectively to gather and convey information.
3. Apply theory and principles for proper diagnosis, repair, and maintenance in the heavy-duty truck equipment industry.
4. Practice the minimum essential mental, physical, and behavioral skills necessary to maintain professional proficiency.
5. Work collaboratively with others as well as independently.
<table>
<thead>
<tr>
<th>Course Student Learning Outcomes (as stated on syllabus)</th>
<th>Assessment method used to determine success</th>
<th>Summary of data collected</th>
<th>Assessment used to improve student learning?</th>
<th>Linked to PLO?</th>
</tr>
</thead>
</table>
| Identify and describe the four types of suspension systems used on today’s heavy-duty trucks | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,3 |
| Name the basic suspension parts and their function in a spring, rubber cushion, air bag, equalizing beam, and torsion bar systems | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
| Demonstrate replacement procedures to repair a defective suspension system | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 1,3 |
| Explain the relationship between suspension system alignment and axle equipment | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
| Identify the steering system components on a heavy-duty truck | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
| Describe the procedure to inspect front axle components for wear | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
| Explain how toe, caster, camber, axle inclination, turning radius, and axle alignment affect tire wear, handling and directional stability | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
| Demonstrate how to check and evaluate driveline working angles | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
| List the difference between static and dynamic methods of wheel balancing | • Exams and Quizzes  
• Homework assignments | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
| Describe the components and operation of a recirculating ball and a worm roller type steering gear | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
| Explain how to check and adjust the preload and backlash on a manual steering gear | • Exams and Quizzes  
• Homework assignments  
• Student Lab Projects  
• Rubrics | 90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area. | Results showed that outcome for success was met, although there is always room for improvements. | PLO# 2,4 |
Explain the operation of a power steering system and identify the system's components

- Exams and Quizzes
- Homework assignments
- Student Lab Projects
- Rubrics

90% of students should be able to score 70% or more on a combination of multiple choice and/or performance examination covering this area.

Results showed that outcome for success was met, although there is always room for improvements.

Note: The class as a whole averaged 86.3%

The high was 94% and low was 74%

4 Students ranked at the 90%+ Percentile
8 Students ranked at the 80%+ Percentile
1 Student ranked at the 70+ Percentile

Approved by: ___________________________                          Title: ___________________________

Date: ___________________________

**B) Expected Level Achievement**

Students are required to persistently retain grades of "C" or better. We do not issue out "D" grades. Any "D" grades are considered a failing grade. Students cannot miss more than 10% of the required hours for each semester/module. Any attendance exceeding more than 10% of "no show time" will fail the class. All of the attendance is clearly documented as each student is required to clock in and out as per industry requirements. We fulfill all the curriculum task requirements as set forth per NATEF.

**C) Courses Assessed**

The courses assessed are as follows:

**DISL 20 - Technical Practices**
**DISL 22 - R and R Components**
**DISL 24 - Operator Orientation**
**DISL 27 - Preventative Maintenance**
**DISL 34 - Brakes**
**DISL 36 - Suspension and Steering**
**DISL 56 - Hydraulics**

We are currently in **DISL 41 - Diesel Engines**.

The following classes not yet assessed are:

**DISL 31 - Drive Train**
**DISL 52 - Electrical and Electronic Systems**
**DISL 61 - Heating, Ventilation, and Air Conditioning**

**D) Assessment Strategy/Instrument**

The program currently uses various assessment tools/methods including:

- Rubrics
- Exams and Quizzes
- Homework assignments
- Student lab projects

**E) Results of Program Assessment**

The majority of the students are doing well, overall. By utilizing the assessment data, we can perform adjustments to the program to address any issues that may show up.
F) Other Comments

The college frequently has programs in place for faculty development. NATEF requires a minimum of 20 hours a year for training directly related to the Diesel technology field.

G) Next Steps

The diesel program will work closely with the Division Chair, Division Dean, current advisory committee members, and related staff to keep the program current to standards set forth by NATEF.

Quick links to campus homepages: Manoa  Hilo  West O'ahu  Hawai'i  Honolulu  Kapi'olani  Kaua'i  Leeward  Maui  Windward