1. Program or Unit Description

Program or Unit Mission or Purpose Statement

The Leeward Community College Automotive Technology Program is a 2-year National Institute for Automotive Service Excellence Education Foundation (ASEEF) Master Automobile Service Technology Accredited training program. ASEEF is formerly known as the National Automotive Technician Education Foundation (NATEF). The mission of the program is: (1) to prepare students with the skills and competencies necessary for a successful career as an automotive technician; (2) to instill in students the work habits and attitude to work in a highly competitive field; and (3) to provide the students with the basic skills necessary to become lifelong learners in order to keep abreast of the latest technological changes in the automotive field.

What is the target student or service population?

The target population is comprised of students who are working toward a career position as a technician in the automotive repair industry. However, our student population also consists of students interested in other career opportunities in the automotive industry such as parts counterpersons, service advisors and management.

2. Analysis of the Program/Unit

Demand Indicators: HEALTHY

Demand Indicators continue to remain Healthy.

The number of new and replacement positions for both State and County have remained constant. Our number of majors has decreased slightly (109 to 104), right at the mid-level over the past three years (99 to 109). The increase in Line 8, Total Number of Classes Taught (27 to 37) is due mainly from a change in program course offerings involving adjustment in contact hours and the creation of two new courses allowing Lee CC AMT to align with the course offerings of Maui College and Kauai CC.

The increases in lines 4 and 6 regarding the SSHs is not understood in comparison to the drop in Program majors, Line 3 and 19a, Fall to Fall Persistence.

Efficiency Indicators: HEALTHY
Efficiency Indicators continue to remain Healthy.

Average Class Size, Line 10 has been consistent at 13-14 over the past four years which is quite outstanding considering the Program generally intakes 20 new students each semester. Still, the program continues to experience a steady intake of unprepared or otherwise challenged students. Although all instructors are deeply dedicated to student success, these students are often in life situations that interfere with their abilities to complete their work or to attend classes as needed for success. Some enroll into the Program unaware of the demands of the courses and seek something more suited to their comfortable effort level. Regardless, everyone does all they can to help these students succeed but if the rigors of this industry do not suit their interest, then it’s best they move on to something that suits them. This is a great contributor to Program attrition.

Line 16, Low-enrolled classes has decreased due to the near full enrollment at the start of the current Ford ASSET cohort.

Effectiveness Indicators: CAUTIONARY

Effectiveness Indicators continue to remain Cautionary.

Line 20, the number of certificates and degrees awarded has decreased slightly, (54-51) but with a jump in degrees awarded (19-26) and a large decrease in Certificates of Achievement (30-13). The 13 CAs awarded in FY 2019-2020 may be in error as approximately 25 continuing (non-transferred) LeeCC students attended the third semester of program classes during this period and all should have completed at least 30 credits of coursework. However, it may also be that this “Unhealthy” indicator may have been caused by some students not having completed a general education course, thus accumulating 27 credits at the time of data cutoff. The Program’s recruitment efforts and the possibilities of Early College partnerships may help to increase this indicator to “Healthy” in the future, however, it will not be able to sustain increases of five percent per year without major improvements to Program and facility capabilities.

The Program persistence rates, Lines 19 has increased by 5% (72% - 77%), however line 19a, Fall to Fall persistence has decreased substantially (55% - 42%) which is puzzling considering the significant increases in Student Semester Hours and enrollment, Lines 6 (1680-1914) and 7(56-64), and fill rate, Line 10 (66.1% - 71.6%). Regardless, Line 19, Fall to Spring persistence at 77 percent is “Healthy” and very encouraging.

Not surprisingly, there was a large increase in Withdrawals, Line 18. Several students decided to not continue their classes after Spring Break, 2020.
Perkins Indicators

Perkins Indicators, Line 29, Technical Skills Attainment has decreased further to 76 percent from 85.71 percent in 2019 and 92.98 percent for 2018 and a resulting “Not Met” performance level. We are not able or allowed to screen the incoming students for program or industry suitability and so cannot predict or consistently succeed in this area. Line 31 has increased to 88.89 percent from 80.95 percent in 2019, improving to a “Met” performance level.

Indicators, Line 33 Nontraditional Participation and Line 34 Nontraditional Completion has decreased from 10.58 percent for participators and 10.91 percent for completers to 6.25 percent and 7.84 percent. As stated in previous reports, the goal of over twenty three percent nontraditional students may be somewhat unreasonable considering the history and current state of the industry, but our recruitment efforts will continue to be increased in attempt to meet this goal. This was also reflected in the previous action plan.

ARPD data table:


3. Program Student Learning Outcomes or Unit/Service Outcomes

a) List of the Program Student Learning Outcomes or Unit/Service Outcomes

PSLOs:

1. Demonstrate the professional skills and knowledge required in the automotive industry.
2. Apply safety procedures required in shop practices.
3. Employ principles necessary for practical applications within the automotive industry.

b) Program or Unit/Service Outcomes that have been assessed in the year of this Annual Review.
As stated in prior years, the concepts of our SLOs and PSLOs are constantly taught, monitored and assessed by our strict adherence to the standards of our ASEEF accreditation requirements. In addition to the numerous operational tasks that must be completed, the constant demonstration of professional soft skills by the students are also required and are critically monitored as part of grading requirements.

The Covid campus closure immediately following Spring Break, 2020 created some doubt as to the successful completion of student learning for the courses affected. Although classroom instruction was completed virtually prior to semester end, a return to face-to-face instruction was necessary and permitted during late May through June allowing the students time to complete the hands-on work required for their courses.

c) Assessment Results.

As we do not screen our program students prior to enrollment and some may lack sufficient preparation, maturity, aptitude and talent level required, 100 percent task completion will not be consistently attainable, however it will always be intended. Regarding the SLO and PSLO soft skills, all continuing students have been successful at adhering to the ASEEF guidelines.

d) Changes that have been made as a result of the assessment results.

Although instructors have adopted some virtual delivery of classroom instruction, no changes have been made to the required face-to-face hands-on instruction except for attention to social distancing. The Automotive Program continues to meet all requirements and expectations of ASEEF. In addition, the Program Advisory Committee, which is comprised of industry partners that employ our students, will apprise us when new employees do not meet their expected level of professional skill or behavior.

4. Action Plan

The Automotive Program will continue to seek improvements in student recruitment, facilities and equipment supporting high-quality education and training as stated in the College Mission and as required by our ASEEF accreditation.

The Program Advisory Committee has stated concern about the future of the industry as all large employers have numerous vacancies that go unfilled and an increase in the number of employable graduates is needed. In addition, Automotive related industries have asked that we explore any opportunity to provide program improvements that assist
their industry needs. These industries include heavy equipment and diesel and motorcycle repair. We currently have no room to expand and so are of no assistance to them. Three years ago, the Program met with administration and began drafting a plan to modernize the facilities and increase Program capabilities. Industry demand for employees outweigh our rate of graduation by a factor of ten and there is little that can be done to increase the number of graduates without increasing the capabilities of the Program. Some items discussed and suggested were the updating and addition of new shop space and classrooms and a new arrangement of parking and storing the many practice vehicles the program uses. Happily, the VCAS announced at the Spring 2020 Convocation as well as the Financial Management Group at the January 15 meeting, the placement of the Automotive Building Modernization project at Campus Priority number 2 on the Minor CIP Program Priority list. The four million dollar funding is still to be attained, and with the fiscal challenges the State is facing the next several years, the launch of this project is unknown. However, a plan has been proposed and that’s forward movement since this time last year. Completion of this project will greatly enhance Program Performance, Efficiency and Effectiveness. Please refer to slide 23, line 2:


In effort to increase student enrollment, the Automotive Program began an Early College Partnership with James Campbell High School in the Fall of 2019. However, the conflicts of teacher duty periods and student activities resulted in low enrollment and Campbell HS had cancelled the Spring 2020 session of AMT 100. However, EC AMT100 is planned for Campbell HS in Spring 2021. Also, a new partnership has been established with Leilehua High School and EC AMT100 is planned for Spring 2021 also. There were past conversations with Castle High School and also Waianae and Waipahu High Schools involving Early College partnerships, applying course schedules and strategies in ways to avoid the challenges that Campbell HS experienced. However, since Covid this Spring, these talks have not continued.

The AMT Program is working with Marketing and EMC to participate in their initiative to promote and highlight one program per month for all of 2021. The AMT Program will be spotlighted in video for the four weeks of January featuring all the current and newest industry technology the Program employs in training the students. Later in 2021, video promotion will focus on four non-traditional students, one per week, and their background stories and current industry successes. AMT will also be one of the showcased programs during CTE month in February. These marketing promotions all aim to increase public awareness of the existence of the Leeward’s AMT Program and help to fuel future Program demand for all student types.

In further addressing Perkins Indicators 5P1 and 5P2 concerning the number of non-traditional students and completers, the Program will continue to increase efforts to recruit female students in addition to the marketing promotions previously mentioned. This is
quite a daunting task as the disfavor of Automobile repair is an attitude toward the industry and not necessarily one toward the Program. We will increase our efforts with the creation of additional entertaining and non-gender directed activities to be utilized at recruitment functions.

5. Resource Implications

Although funding will be a greater issue than in the past, the AMT Program will continue several resource requests from years past plus one new addition.

Two health and safety items appear on the Leeward’s 2021 Operational Expenditure Plan at Priorities 1a and 1b on the Repair and Maintenance Planning List. They are repeated here since these requests are not completed:

A recommendation from the program’s last ASEEF reaccreditation inspection not yet addressed is that of not having emergency electrical cut-off switches for the vehicle hoists in each shop. The circuit breakers for the high voltage circuits of the hoists are in storage rooms in the modules and too remote to be quickly accessed in the event an immediate shutoff is needed. It was recommended that easily reachable and accessible safety switches be installed in all shops for each circuit powering the hoists. Estimated cost for contractor is $25,000.

The plastic, portable eyewash stations located in each shop were purchased in year 2000 and are neither designed nor intended to be a permanent safety installation. The purchase was for the intention of meeting the immediate safety requirements of ASEEF and OSHA. The best solution for the twenty-year-old stations is the installation of plumbed, permanently mounted eyewash stations which are cleaner, safer and always available. In addition, emergency showers can be installed over head to them, minimizing the need for additional plumbing work in those installations. The existing emergency showers are original to the buildings, almost forty years ago, and currently exist over and adjacent to high voltage electrical outlets. The need for replacement is immediate, ludicrous in location, possibly illegal and obviously not to current building codes. Conversion to permanent eyewash stations with overhead emergency showers is estimated to cost $12,000.

Other recurring health and safety concerns are:

We continue to request the replacement of the aging and very noisy (90db in classroom) shop air compressor located adjacent to Module 4. The instructor and students have difficulty communicating in class whenever the compressor is running, and the high noise levels are a health concern. Vendor recommends that all air lines and plumbing be replaced also because of age related deterioration. Energy savings with compressors of
modern, efficient technology and engineering will not be realized unless the air lines are replaced. Estimated cost of the compressor is $26,000. Cost of plumbing replacement is not determined as a structural engineer must be contracted just for assessment and estimate.

Additional shop air, water and electrical concerns are the retractable reels that spool air and water hoses and electrical extension cords from the ceilings of the shops and labs. All of these fixtures are original to the building, almost forty years old, and are not functioning properly. All either leak or do not hold position when hose or cord is extended necessitating the need to wrap or otherwise lock the hose or cord in something to hold it from retracting with the extended length becoming a trip hazard. Replacement of all shop and lab hose and electrical reels, 134 in total is approximately $30,000 for the reels alone. Labor can be done by our maintenance department with rented man-lift. Contractor installation has not been determined.

A new health and safety concern is the replacement of the aging “powertrain lift” used for the removal and installation of engines and transmission as well as other large heavy vehicle components from under the vehicle. The current item is difficult to modulate when lowering components and often surges downward undesirably and dangerously. Careful manipulation of the control is necessary, but awkward and very difficult to accomplish. Furthermore, this unit has been repaired several times already and has neared the end of it’s expected serviceable life. Replacement is approximately $7500.

Instructional equipment purchase resubmissions include:

The AMT 129 Engine Repair class currently performs cylinder bore machining operations with forty-year-old equipment. Modern engines require much more precision in this operation and can only be accomplished with newer designed, dedicated machinery as used in modern industry machine shops. Cost of a modern replacement is approximately $65,000.

The purchase of additional scan tools due to increased usage by AMT 241 and AMT 245. WiFi capabilities have been improved throughout the shop facilities. To meet these needs and utilize the enhanced WiFi capabilities, 12 additional scan tools with oscilloscope and web capability to be used concurrently by AMT 241 and AMT 245 courses at an approximate cost of $90,000, will allow students access to trouble code diagnostics, live vehicle data, electrical waveform analyses and repair and diagnostic information at the vehicle in the shop. The additional units will help alleviate the lack in current resources serving these needs of both classes. There are currently only four units being shared between the thirty students. A possible alternative would be laptops used in conjunction with available software and add-on hardware that will provide the same capabilities. This arrangement is used for many diagnostic procedures and training activities in automotive dealerships, however, there would be no cost advantage to this option.