Comprehensive Program Review Report

Program Review - Automotive Technology

Program Summary

2022-2023

Prepared by: Donal Howell and Melvin Roman
What are the strengths of your area?: 1. Student success rates have dropped from 79.6% to 74.8%, but still remain at a good level.

2. Automotive Technology continues to be in demand and recognized by both students and industry. The addition of full-time faculty saw enhancements of the ability to focus on program improvements. The number of FTES is up from 61.38 to 74.21.

3. All certificates and degree are up to date in assessment and curriculum currency. One course shows missing assessments, but is inactive and needs to be deleted.

4. Program completers reached an all-time high of 163 certificates and 12 degrees earned

5. Program completers are working in the industry within one year of program completion.

6. Hybrid & Electric Vehicle training have been added to catalog.

What improvements are needed?: 1. Greatest challenge continues to be supplying the industry with qualified technicians and satisfying the current overwhelming need for certified automotive technicians in industry. More work with industry partners and regular advisory committee meetings need to be established.

2. Hire a laboratory technician to satisfy needs for student success through lab efficiency and for ASE accreditation.

3. Wheel, tire, and chassis inspection equipment updates to provide associated training as a benefit to students and industry.

4. Explore ASE accreditation to strengthen our partnerships with automotive industry and dealerships, and to create internships for student employment.

5. Develop work experience opportunities for students in the Automotive Program.

6. FTES/FTEF Ratio is lower than the district standard at 12.10 but this is due to smaller class/lab sizes which are required for safety reasons. With future expansions to facility, an increased number of students should bring this to the program goal of 14-15.

Describe any external opportunities or challenges.: Partnerships with automobile manufacturers are being pursued, and students will gain opportunities from these.
Overall SLO Achievement: SLOs have been assessed and results are varied, but overall found to be satisfactory.
Changes Based on SLO Achievement: Slight changes to assessment are being implemented, some due to equipment unavailability and others dues to changes in digital resources. One class needs to be deleted from system, so red flags are not showing.
Overall PLO Achievement: PLOs have been assessed and no changes were made.
Changes Based on PLO Achievement:

Outcome cycle evaluation: Will continue to assess and assign SLOs from individual courses to their associated full-time instructors.

Action: 2022-2023 Provide students updated technology to increase their skill levels and employability (VTEA).

Provide students updated equipment and technology in order to improve employability as well as increasing passing rates.

Leave Blank:
Implementation Timeline: 2022 - 2023
Leave Blank:
Leave Blank:
Identify related course/program outcomes: SLO's
Students will be able to inspect and repair front and rear suspension system problems
Students will be able to inspect and repair steering system problems
Students will be able to perform a four wheel alignment using laser alignment system.

The student will be able to identify and practice the specific safety precautions to take when servicing hybrid and alternative fueled vehicles.
Student will be able to describe principles of electricity and electromagnetism and explain their application in hybrid vehicles.
Student will be able to identify components and perform diagnostic procedures on the electric motor/generator systems used in hybrid electric vehicles.
Person(s) Responsible (Name and Position): Donal Howell and Melvin Roman
Rationale (With supporting data): Alignment machine and rack are outdated. Tire mounting machine and balancer are outdated.
Students will not be able to complete their slo's without proper equipment.
Priority: High
Safety Issue: Yes
External Mandate: No
Safety/Mandate Explanation: All equipment needs to meet industry standards to provide a safe learning environment in order for students to demonstrate how to use equipment safely.

Resources Description

Equipment - Instructional - Wheel alignment console and rack. Wheel & tire balancer. Tire installer (Active)
Why is this resource required for this action?: Technologies advance at a rapid pace in the automotive industry, wheel alignment and tire service included. The students benefit when current technology and additional equipment are provided.

Notes (optional):
Cost of Request (Nothing will be funded over the amount listed.): 130000

Technology - Provide students with updated technology. Computer system is on a yearly subscription.
Zspace is our interactive 3D learning tool for our automotive courses (Active)
Why is this resource required for this action?: Student engagement in learning about complex assemblies is enhanced with "virtual reality" systems. Fragile parts can be safely disassembled and reassembled virtually, reducing costly "real" repairs. These require annual licensing updates.
Notes (optional):
Cost of Request (Nothing will be funded over the amount listed.): 30000

Link Actions to District Objectives

District Objectives: 2018-2021
District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years
District Objective 2.4 - By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5

percentage points

District Objectives: 2021-2025

District Objective 2.4 - Increase the percentage of CTE students who achieve their employment objectives by five percentage points (job closely related to field of study and
attainment of a livable wage) and the number of CTE students who successfully complete 9+ CTE units in a single year by 10% from 2021-2025.

Action: 2022-2023 Strengthen the Auto program pathway connections with the local highs schools.

Collaborate with local high schools to provide future students with the correct and proper basic knowledge to be successful in the Auto program.

Leave Blank:
Implementation Timeline: 2022 - 2023
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Donal Howell and Melvin Roman
Rationale (With supporting data):
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Link Actions to District Objectives

District Objectives: 2021-2025

District Objective 2.1 - Increase the number of students who earn an associate degree or certificate (CTE and non-CTE) by 5% from 2021-2025.

Action: 2022-2023, 2020-2021 Increase student laboratory experience, enhance industry specified skill development, and improve instructional interaction.

Increase student laboratory experience and enhance industry specified skill development, resulting in higher placement with increased earnings.

Leave Blank:
Implementation Timeline: 2019 - 2020, 2020 - 2021, 2022 - 2023
Leave Blank:
Leave Blank:
Identify related course/program outcomes: AUTO 136 - Outlook #2 Students will be able to diagnose, test and repair automotive electrical systems and components
AUTO 137 - Outcome #3 Given Demonstration and guidance, students will be able to use proper diagnostic information to evaluate air conditioning systems problems Document findings and tabulate correct repair procedures.
PLO #4 - Methodology Use a systematic approach to select the proper method to diagnose, repair and test automotive systems
Person(s) Responsible (Name and Position): Donal Howell
Rationale (With supporting data): Industry partners and potential employers have specified the skills required for successful employment. Automotive students need more time on various lab configurations and will directly benefit from additional instruction. We have used student workers in the past to fill this need, but safety issues prevent these workers from meeting the full requirements of the position.
Priority: High

Program Review - Automotive Technology

Safety Issue: Yes
External Mandate: No
Safety/Mandate Explanation: Lab technicians come with safety certificates and can implement changes in the lab to meet requirements.

Update on Action

Updates

Update Year: 2022 - 2023 10/05/2022
Status: Continue Action Next Year
The inability to hire a skilled lab technician that can have lab setup and ready for all activities. prevents the lab from being run as efficiently as it could. The significant investment in new tools and equipment will be better protected by having more oversight on a regular basis.
Impact on District Objectives/Unit Outcomes (Not Required):

Resources Description

Classified- New/Replacement - Part-time lab assistant . Rank #1 (Active)
Why is this resource required for this action?: Hundreds of performance labs on dozens of pieces of equipment require a lab technician to assist instructors with set-up, performance, and clean-up of laboratory assignments. Additionally, this person would also be responsible for the organization of tool room, toolboxes and demonstration equipment. It is impractical for instructors, particularly adjuncts, to manage such additional workload. The program has spent over $150,000 worth of tools and equipment in recent years. Regular inventory tracking will protect this investment.
AUTO 233 Outcome #3: Students will be able to inspect an automobile differential assembly and determine the final drive gear ratio.
AUTO 231 Outcome #1: Student shall disassemble an automobile engine assembly and identify all major engine parts.
In classified requests, the department ranks this resource #1

Notes (optional): The addition of a second full-time auto instructor has increased our enrollment, leading to quicker turnover times between lab sessions. Another pair of hands and eyes increases the effectiveness of these labs.
Cost of Request (Nothing will be funded over the amount listed.): 50000

Link Actions to District Objectives

District Objectives: 2018-2021
District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years
District Objective 2.4 - By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

District Objectives: 2015-2018
District Objectives - 2.2 - Increase the number of students who earn an associate degree or certificate annually.
District Objectives - 2.4 - Increase Career Technical Education course success rates and program completion annually.
District Objectives - 3.1 - Reduce the achievement gap of disproportionately impacted student groups annually, as identified in the Student Equity Plan.

District Objectives: 2021-2025
District Objective 2.1 - Increase the number of students who earn an associate degree or certificate (CTE and non-CTE) by 5% from 2021-2025.
District Objective 2.4 - Increase the percentage of CTE students who achieve their employment objectives by five percentage

points (job closely related to field of study and
attainment of a livable wage) and the number of CTE students who successfully complete 9+ CTE units in a single year by 10% from 2021-2025.

District Objective 4.3 - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.