Welcome to Program Review

College of Alameda - 2019

DMECH - Instruction

Program Review

Program Overview

Please verify the mission statement for your program. If your program has not created a mission statement, provide details on how your program supports and contributes to the College mission.

The COA Diesel and Truck Mechanics Programs provide students of all experience levels with comprehensive knowledge and skills covering Diesel Engines and Truck Mechanics and Chassis Systems. Through lecture and hands-on lab courses, students will learn the skills required to troubleshoot and repair mechanical, electrical and electronic systems in diesel engines and trucks. Students will learn to use computers to diagnose equipment and research information. Students will be trained to operate shop machinery and equipment as well as select and use precision tools involved in the repair and maintenance of mechanical and electronic systems.

Program Total Faculty and/or Staff

Full Time	Part Time
John Taylor	Scott Albright
Blair Norton	Yazid Cahile

The Program Goals below are from your most recent Program Review or APU. If none are listed, please add your most recent program goals. Then, indicate the status of this goal, and which College and District goal your program goal aligns to. If your goal has been completed, please answer the follow up question regarding how you measured the achievement of this goal.

Space development for new courses: (This has taken so many years to get on the ground that our new construction equipment course goal has been idle with industry needs and our current staffing capacity)
Due to delays in construction and approvals for planning design, it has taken close to two years to get a go-ahead on construction. As of October 3, 2017, we were anticipating our first ground breaking procedures and timeline meeting on October 18th, 2017.
We have been working diligently for several years to get so far as to have had multiple meetings with the project manager and the contractors. We had been given a timeline for construction to commence in the early spring of 2018. Then there was a complete absence of activity and no word as to why things were delayed. During follow up, when we became concerned with the absence of progress with this project, we found out there were complications and issues with contractors, etc. We voiced our frustration to management at the College. There was supposed to be follow up to get things moving again, later in spring of 2018. 1/28/19 The construction contract will go to the Board of Trustees for approval in March and the work was supposed be scheduled to be completed over spring break. Nothing happened again in spring of 2019.
We were hopeful that the details of the construction project are up to date with the last construction meetings notes and changes that we participated in. Those meetings concluded with the necessary changes, agreed upon by all present, that the hard surface along the area parallel with the existing driveway and the existing E-building bathrooms will be concrete, not pavement, the front pad will not have the original access point and location, and there will be no fencing or at least not a fence that would block the visual aspects of the pad near the college drive at the front end of the building so that equipment positioned there will be an effective marketing and recruitment tool for the program, as originally intended.
The pads were poured over the summer of 2019 and we are still waiting on having the fencing line continued and the gate brought forward to the front section of the building, even with the edge of the new concrete pad along the side of the building. This work, to our knowledge, has already been funded and possibly paid for, to the fencing contractor who did the fencing work at the ATECH Department. Fencing was held up at DMECH until the cement work was completed. While we waited on construction, our electric power was cut in July 2019 with new construction for the new building being erected on campus. We were running from a backup generator to be started each day by our instructors and shut down each day by our instructors or night janitorial staff in the construction yard. Our power was just restored on Sunday, October 13, 2019. We wish to thank Administration and engineering for securing back
up power so that we could continue to carry on with our regular program classes while we waited for repairs.

Status

In-Progress

College Goal

Strengthen business and industry partnerships

District Goal

Engage and Leverage Partners

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

Diagnostic stations for labs.

Status

Completed

College Goal

Advance CoA teaching and learning

District Goal

Develop and Manage Resources to Advance Our Mission

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

Students have access at the lab stations for research, specifications, procedures, and connectivity with the vehicles for diagnostics.

Develop partnerships with Industry related educational opportunities:
We scheduled a special fee based training course by Bendix Commercial systems at our facility in June of 2019. Our instructors attended the course as guests at no charge, in exchange for the use of our facility, by Bendix Commercial, to hold the course. The course event was successful and we have already scheduled the next event for June, 2020. Bendix has offered to help the department with parts, demonstration props, etc. for our program, for hosting the next event. This is a good relationship for the community, our department, and the College. It adds increased recognition to our program.

Status

In-Progress

College Goal

Strengthen business and industry partnerships

District Goal

Engage and Leverage Partners

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

New Smart multi-media instructional system in the classroom::
After multiple hardware issues, back-orders, and construction delays for the installation, we finally were able to get it successfully installed and have been incorporating the system into our classroom instruction. We held two training seminars on the system for our instructors and all are becoming familiar and comfortable with the many capabilities of the system. Recently, Power shut downs each night with the back up generator have caused issues with the system needing to re-boot and run through a series of software procedures prior to being able to be utilized in the mornings for classes.
There have been occasional issues with the system performance related to this problem. Power has just been restored and we hope this is no longer an issue.

Status
Completed

College Goal
Advance CoA teaching and learning

District Goal
Build Programs of Distinction

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?
We can now utilize the interactive touch screen, view the monitor with lights on and see clearly from the back and sides of the classroom. Students are no longer complaining that they can't see any materials or presentations in the facility. We can now start to utilize other capabilities with the system.

Acquire Training Equipment and Systems Materials for Advanced Fuels and Transportation Systems Course Development:

Status
In-Progress

College Goal
Advance CoA teaching and learning

District Goal
Select District Goal....

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

Investigate Dual Enrollment Courses within the Department: We have a meeting set with Paula Armstead; Assoc Dean of Educational Success, to discuss the possibility of a dual enrollment course here on campus. More details to follow after the meeting.

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Increase community and educational partnerships

District Goal

Advance Student Access, Equity, and Success

Develop a pre-apprenticeship course for underprivileged sectors within the local community in partnership with AMTAC and the local Machinists Union:
We are in discussions with two local agencies and have local municipalities on board for establishing a pre-apprenticeship program. This program would introduce underprivileged / under served sectors of local communities to the well paying, high demand, transportation sector for meaningful, sustainable, employment and the possibility of full apprenticeships for successful students. Our charge will be to create an 18 week basic training course with components from both the automotive technicians and Heavy Duty Truck mechanics sectors, including an on the job component within participating municipal agencies repair facilities The students will also have job readiness, math skills, and tutoring support. We are hoping to get the green light soon, from the agency who initiated the request. Our target for delivery of the new course is either the fall semester of 2020 or the spring semester of 2021. This would also add another recruiting component for both our ATECH and our DMECH departments for students who wish to continue in our programs and those who land apprenticeships within the local union.

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Increase community and educational partnerships

District Goal

Advance Student Access, Equity, and Success

New Curriculum: We signed an MOA with Case Construction Equipment Inc. and Sonsray Machinery, over a new Heavy Construction Equipment training program. This will be a continuing full time program. It will offer a certificate of completion and or AS degree. It will be accompanied by full term internships with apprentices from Sonsray. This was heavily dependent on the first goal listed; Space development for new courses, since we had no room for the large construction equipment vehicles, nor additional classroom for a full term course without conflict with the other courses currently offered at this department. The new text book sought for the course is now available for our students in both printed and electronic versions through our current publisher.
Our last meeting with Case and Sonsray covered discussions about their offer to donate equipment, laptops for the course, support information and expertise from other California community colleges, etc. Since this would be a full time course component with lecture and a lab, we would need to add staff to be able to deliver the additional full time component. We are ashamed that it has taken so long to move forward with this goal, due to the dependency on the construction phase of our facility.

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Strengthen business and industry partnerships

District Goal

Engage and Leverage Partners

Develop Contract Education or grant funded courses for vehicle maintenance and inspections and advanced emissions systems diagnosis,

Status

In-Progress

If Completed, What evidence supports completion of this goal? How did you measure the achievement of this goal?

College Goal

Increase community and educational partnerships

District Goal

Build Programs of Distinction

Describe your current utilization of facilities, including labs and other space

We have upgraded and added laptops with faster operating system software and memory. We removed a problematic lab-engine training module which was difficult to obtain correct parts for and also difficult for lab assignments due to the major variations in design when compared with the other 3 lab engines. We replaced it with one of our older, running fleet vehicles which now allows us to be more consistent with each of the lab stations. We anchored the new vehicle assemblies to the shop floor, for safety and balance concerns, due to the cab-over design of the vehicles. We purchased new brake system training boards and attended a multi-day, special training session incorporating the new equipment.

We have upgraded and added laptops with faster operating system software and memory. We removed a problematic lab-engine training module which was difficult to obtain correct parts for and also difficult for lab assignments due to the major variations in design when compared with the other 3 lab engines. We replaced it with one of our older, running fleet vehicles which now allows us to be more consistent with each of the lab stations. We anchored the new vehicle assemblies to the shop floor, for safety and balance concerns, due to the cab-over design of the vehicles. We purchased new brake system training boards and attended a multi-day, special training session incorporating the new equipment.
We have added new chassis modules to our existing lab equipment with the retirement of our Truck 3 engines lab.
We have also purchased two new PC to Vehicle interfaces for software compatibility with Truck diagnostic systems and trailer capabilities. Our older units were no longer supported and had intermittent performance.

We have just one existing classroom in our facility. With the program's regular course classes in the mornings and nights, the CCDET training on occasional Fridays, and
Saturdays, and intermittent Forklift courses being offered in the afternoons with no regular, predictable scheduling or frequency, we are at capacity during fall and spring semesters, without the addition of another classroom or portable on site.

Career Education

Using the LaunchBoard, what are the job placement rates for your program for the past three years? (What % of your graduates have secured employment in the field within 3 months of leaving the program?). Note: you will need to establish a username and password for the LaunchBoard if you don't already have one.

2016 - 17 Job Placement Rate (%)	% employed in the field within 3 months	2017 - 18 Job Placement Rate (%)	% employed in the field within 3 months	2018 - 19 Job Placement Rate (%)	% employed in the field within 3 months
%	86	%	%	%	%

Using the LaunchBoard, what are the projected job openings in your discipline for the next three years?

Job Openings

518 for the next 3 years,172 Average Annual Openings, 858 for the next 5 years,

How is your discipline or program responding with regard to changes in labor market demand?

We are recruiting and hosting tours, working with the apprenticeship committee, Bart, AC transit, and other employers to keep enrollment as full as possible. Attending conferences with other colleges throughout the entire western region, the state, and the Northern California area to network and observe trends, successes, and related changes, and attending specific and similar technology conferences to stay current and update our program regarding curriculum, technology, equipment, and data access.

Do you have an industry advisory board in place?

Yes

Has your industry advisory board met regularly (at least once per quarter or semester)?

Yes

Please attach a list of your industry advisory board members.

Advisory Contacts List.docx

Please describe the number of activities and recommendations resulting from advisory committee meetings that have occurred in the past three years. What information was presented that required changes to be made to your program?

The recommendations from the committee are for field trips, internships, pictures of the program, ASE focus, marine technology, additional computer / scanner / after treatment diagnostics training.
We have been in close contact with the local union, increasing our apprentice enrollment, attending the apprenticeship committee meetings, and working together to develop a pre-apprenticeship committee course. We have been taking pictures in lab classes with student permission and release forms, and attended a meeting with our new photo journalist for the district to acquire information, procedures, etc. We changed publishers and moved to an electronic format with many additional student tools and are assigning homework and administering quizzes and exams with an ASE style format. We have investigated a new ASE practice series for students from a respected publishing specialist and would like to purchase these. We updated our laptop computers for labs and purchased new interfaces for vehicle diagnostics. We are working with industry to secure manufacturer software for diagnostics. We brought in guest speakers for factory diagnostics training and demonstrations. We have discussed the possibility of field trips at some local facilities but have nothing scheduled at this time.

Does your program require state or national licensing? If yes, please specify. What is your college's set standard passing rate for this exam or license?	No	If yes, Exam or License Set standard pass rate
Do your students participate in other third party certifications? If so, please provide their success rates (include the % of completing students successfully getting certified).	No	If yes, Third party certification Set standard pass rate
Is your program working with a Deputy Sector Navigator?	Yes	If yes, Briefly describe your program's work with the Deputy Sector Navigator. We have been working very closely with our new Deputy Sector Navigator, (who has a new title,) making inquiries, submitting ideas, investigating grant possibilities, and attending multiple events sponsored or co sponsored with our DSN. This semester, we have already attended two events totaling 3 days during the weekend, not including travel. We are very excited about the work being done and look forward to more with her move to our campus.

What programs similar to yours exist in the surrounding area or at nearby East bay colleges? (Micro region in LaunchBoard)

College	In which ways is your program collaborating with other community colleges in the region?
City College of San Francisco	We have discussed the sharing of material and course design with the new chair of the auto technology department. We discovered a concept of investigating a multi department collaboration idea with IT to inspire students and increase awareness in our field. There is discussion of sharing or giving donated vehicles between schools.
Chabot College	We just attended a Train the Trainer event at Chabot college. I have been on their advisory committee for many years.
Solano College	We attended the CAT conference this spring and gained knowledge and contacts about their new facility and program.
LA Trade Tech	We hosted a CCDET meeting here this July and networked with staff from LA Trade Tech and other CCDET Colleges. We are in discussion for joint grant proposals for training equipment.

Skyline College	I am an alumni, keep in contact with their former Auto Department Chair, and plan to attend the CAT conference there again this coming spring. I also attended an advanced Hybrid course there, prior to writing a hybrid course for ATECH at COA.

Please list and briefly describe the grant name, granting agency, and the goals of each grant as it relates to you discipline/department/program. - Grant 1: - Text

Grant Name	Granting Agency	Grant Goals	Last year of Funding
Wish we had some new ones	To be determined	We have been asking for help in this regard to obtain new grants that can help our program	

Perkins

How is your program using Strong Workforce Funds?

We are using strong workforce funds to improve our existing technology with updated PC hardware, new interfaces for vehicles, needed tools and testing equipment, equipment repairs and parts, classroom furnishings, annual online technical database subscription, and system trainers.

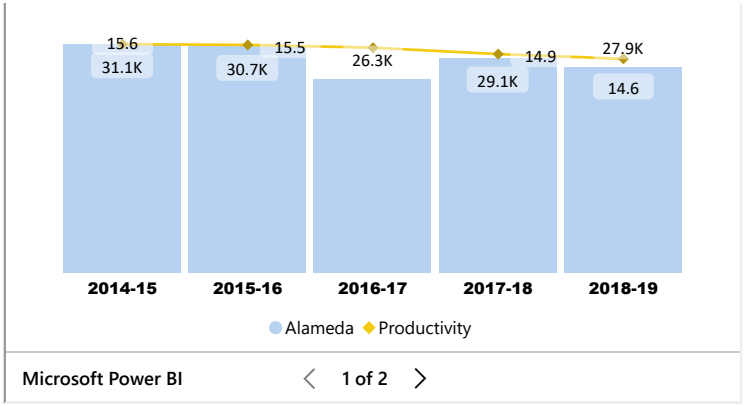
In the boxes below, please add improvement actions and resource requests that are directly related to the questions answered in this section. If there are no improvement actions or resource requested in this area, leave blank.

Improvement Actions	Choose your Action

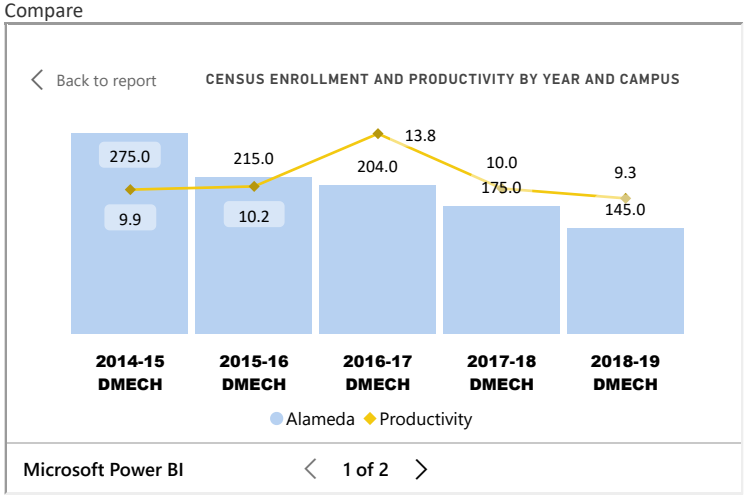
Enrollment Trends

College Level - Program and Department comparison

Chart



Compare



Using the Enrollment Trends dashboard filter to your college and subject area. Reflect on the enrollment trends over the past three years. How does the enrollment trend for your program compare to the overall college trend? What factors could be attributing to this trend?

This system dumped my saved data on 11-5-19 that had been saved and pulled up today, from a prior session. The program would not save the page and the link was inactive. I copied all of todays work, saved below commencing with technology and copied to word so I wouldn't loose it. this and the next section were lost, even though they had been saved prior and pulled up earlier today.
I will attempt to re-so all of this work that was dumped at the conclusion of this report, provided I have time.

Describe effective and innovative teaching strategies used by faculty to increase student learning and engagement.

This system dumped my saved data on 11-5-19 that had been saved and pulled up today, from a prior session. The program would not save the page and the link was inactive. I copied all of todays work, saved below commencing with technology and copied to word so I wouldn't loose it. this and the next section were lost, even though they had been saved prior and pulled up earlier today. Since this had already been saved and not changed, I didn't try and save the new data. Big mistake!

How is technology used by the discipline, department?

We are using a touch screen large screen computer system monitor in the classroom for presentations and discussions. We use computers with online databases for student research and lab exercises. We have 1 fixed station and 3 portable laptop stations for assigned lab vehicles to access the internet for research, procedures, and specifications, and to communicate with the vehicle computers for monitoring systems and diagnostics. We have a portable projection screen for demonstrations in the lab environment. We have interactive trainers for diesel engines, common rail fuel systems, exhaust emissions systems, compressed natural gas engines, anti lock air brakes, hydraulics, electrical systems circuitry, and lighting systems. We would like to add tablets in the future for in classroom assignments and testing, etc. We are attempting to obtain a training system for teaching multiplexing and network communications. We need a mobile, heavy duty lift system for our newer fleet vehicles, one that can handle future fleet vehicles including electric powered buses and trucks, construction equipment, and hydrogen powered class 8 heavy duty trucks.

How does the discipline, department, or program maintain the integrity and consistency of academic standards with all methods of delivery, including face to face, hybrid, and Distance Education courses?

Our program is not currently feasible for teaching an online course without physical demonstration parts, components, vehicles, scanning systems, etc.
We are conducting face to face learning with both lecture, demonstrations, and labs. We assign online reading, learning tools, and homework. We receive learning reports including time spent reading and learning different topics and chapters, quiz attempts and results, We assign some physical research papers, utilize in classroom quizzes and exams. We assign physical lab assignments for actual inspections, testing, trouble shooting, removal, repairs, service, and rebuilding. We have physical performance evaluations in the lab environment for the subjects covered and aligned with the SLOs for the individual classes.

In the boxes below, please add improvement actions and resource requests that are directly related to the questions answered in this section. If there are no improvement actions or resource requested in this area, leave blank.

Improvement Actions

Improvement Action

Improvement Action

Action Item	Description	To be completed By	Responsible Person
Fencing	Extend our fence per the ongoing construction job listed on the district website.		Peralta District

Resource Request

Technology and Equipment New

Description/Justification
Tablets in the classroom for interactive learning exercises and testing

Estimated Cost
10000.00

Resource Request

Technology and Equipment New

Description/Justification
Obtain Mobile Heavy Duty Lift System
Mobile Heavy Duty Lift System. For lifting our current and future lab vehicles for access to all systems.
We applied for and were denied approval for current industry standard equipment upgrades and are still waiting on the approval of â€œMeasure Aâ€□ funding or other funding sources for the acquisition of a portable truck lift system. We have been asking and documenting this back to at least our 2016 program review.

Estimated Cost
85000.00

Resource Request

Technology and Equipment New

Description/Justification
Electric powered Heavy Duty Truck or bus or trainer with autonomous capability. There are currently no heavy duty electric powered vehicle trainers on the market.

Estimated Cost
750000.00

Resource Request

Technology and Equipment New

Description/Justification
Electric powered vehicle training system: Switch EV Kit Option 4: SL - PM/96
DC drive system
96 volt Lithium Ion
e-Usable, Durable and Cost Effective.
The Switch is designed to be built, tested and driven, and then disassembled for the next class to use â€“ every semester, and year after year. Price includes the Build Your Own Electric Vehicle text book, which provides a comprehensive EV foundation, regardless of whether your course is introductory or includes significant physics and engineering concepts. Our Instructor Guide includes suggested lectures, discussion topics and tests, along with a Student Workbook and Study Guide (+unlimited downloads).
Price: Included with all EV Kits
Additional item quantities available to purchase

This would allow us to teach electric powered vehicle technology with an exciting lab project for the students to build, test, and drive, without the cost of purchasing or leasing a heavy duty electric powered truck or bus.

Estimated Cost
39994.00

Curriculum

Please review your course outlines of record to determine if they have been updated or deactivated in the past three years. Use the pull-down menus to identify courses that still need updating or deactivation and specify when your department will update each one, within the next three years.

Name	Last updated date	Semester and Year	To be updated on	To be deactivated on
DMECH 011 - Heavy-Duty Truck Cha...	August, 16 2016 10:20:01			
DMECH 012 - Heavy-Duty Truckâ€™...	August, 16 2016 10:22:56			
DMECH 013 - DMECH013				
DMECH 014 - DIESEL ENGINES	March, 22 2019 09:53:16			
DMECH 015 - DIESEL ENGINES II	March, 22 2019 09:53:39			
DMECH 020A - Truck Mechanics I	September, 15 2016 10:34:56			

DMECH 020B - Truck Mechanics II	August, 16 2016 10:24:30
DMECH 020C - Truck Mechanics III	September, 15 2016 10:45:11
DMECH 021A - DIESEL ENGINES I	March, 22 2019 09:53:59
DMECH 021B - DIESEL ENGINES II	March, 22 2019 09:54:20
DMECH 048AE - DMECH048AE	
DMECH 049 - Independent Study in …	August, 21 2019 10:07:13
DMECH 748AA - Compressed Natur…	

DMECH 202 - Forklift Operations an... May, 05 2016 15:24:28

Please summarize your plans for curriculum improvement/development, including details on specific courses or programs you plan to improve/develop.

(CE), Chassis: Electronic Chassis Suspension systems, Steering systems,

In the boxes below, please add improvement actions and resource requests that are directly related to the questions answered in this section. If there are no improvement actions or resource requested in this area, leave blank.

Improvement Actions

Improvement Action

Improvement Action

Action Item	Description	To be completed By	Responsible Person
Add additional fleet vehicle	Used Cascadia Freightliner Tractor truck with updated technology in chassis systems to stay current with diagnostics we are teaching for lab and demonstrations.	1/6/2020	Blair Norton

Resource Request

Technology and Equipment New

Description/Justification
Used Cascadia Freightliner Tractor truck with updated technology in chassis systems to stay current with diagnostics we are teaching for lab and demonstrations.

Estimated Cost
60000.00

Resource Request

Technology and Equipment	Replacement

Description/Justification	Estimated Cost
Hunter Wheel Alignment Machine with expandable and upgradable capabilities for autonomous calibration / Our outdated alignment system is from the period of the late 80s /1990 era. It no longer meets the requirements of modern day industry, vehicles, and procedures. Replacement parts are no longer available, Students leave the program and have to start from scratch due to newer technology in the field.	55000.00

Instruction - Assessment

Student Learning Outcomes Assessment

List your Student Learning Outcomes. SLOs are specific, measurable statements of what students will know, be able to do, or be able to demonstrate when they complete a course. An SLO focuses on specific knowledge, attitudes, or behaviors that students will demonstrate or possess as a result of instruction.

Course	Student Learning Outcomes (SLO)	Last date Assessed	Planned Assessment Date	Attachments
DMECH 011 - Heavy-Duty Truck Chassis, Transmission, and Drive Axles	Research specifications, diagnostic information and repair instructions in technical service manuals and factory online databases			
DMECH 011 - Heavy-Duty Truck Chassis, Transmission, and Drive Axles	Critical thinking to diagnoses and identify the cause of failure in driveline components such as clutches, transmission, drive axles, interaxles, tandem drive axles, and controlled traction drive axles.			

DMECH 011 - Heavy-Duty Truck Chassis, Transmission, and Drive Axles	Interpreting hydraulic schematics to assemble a simulated hydraulic machine system.
DMECH 011 - Heavy-Duty Truck Chassis, Transmission, and Drive Axles	Problem solving of design features necessary in a hydraulic machine system
DMECH 011 - Heavy-Duty Truck Chassis, Transmission, and Drive Axles	Problem solving in diagnoses of failures causes on heavy-duty truck chassis.
DMECH 012 - Heavy-Duty Truckâ€™s Electrical System and Brake System	Research specifications, diagnostic information and repair instructions in technical service manuals and factory online databases
DMECH 012 - Heavy-Duty Truckâ€™s Electrical System and Brake System	Critical thinking to diagnoses and problem solving as to the causes of failure in electrical and computer supported systems
DMECH 012 - Heavy-Duty Truckâ€™s Electrical System and Brake System	Critical thinking to diagnoses and problem solving as to the cause of failure in heavy-duty brakes systems
DMECH 012 - Heavy-Duty Truckâ€™s Electrical System and Brake System	Reading and interpreting electrical schematics to problem solve failures
DMECH 012 - Heavy-Duty Truckâ€™s Electrical System and Brake System	Problem solving in the assembling of heavy-duty air brake systems

DMECH 014 - DIESEL ENGINES	Research specifications, diagnostic information and repair instructions in technical service manuals and factory online databases
DMECH 014 - DIESEL ENGINES	Critical thinking to diagnoses and identify the cause of failure in diesel engine components such as lube systems, cooling systems.
DMECH 014 - DIESEL ENGINES	Measuring of diesel engine components with precision measuring instruments
DMECH 015 - DIESEL ENGINES II	Research specifications, diagnostic information and repair instructions in technical service manuals and factory online databases
DMECH 015 - DIESEL ENGINES II	Critical thinking to diagnoses and identify the cause of failure in diesel engine components such as fuel systems and emission control systems
DMECH 015 - DIESEL ENGINES II	Diagnose and repair of diesel engine electronic components with computer diagnostic equipment and DVOMâ€™s
DMECH 015 - DIESEL ENGINES II	Problem solving in the assembling of heavy-duty diesel engines

DMECH 020A - Truck Mechanics I	Disassemble and reassemble of heavy-duty dual disc clutch assemblies Standard practices, manufacturer specifications and both standard and specialized tools as appropriate, including practicing all standard safety procedures.
DMECH 020A - Truck Mechanics I	Disassemble and reassemble of heavy-duty drive line assemblies to include single drive axles, tandem drive axles, interalxe differential, two speed, and traction controlled differential.
DMECH 020A - Truck Mechanics I	Disassemble and reassemble of heavy-duty single and twin countershaft transmission, auxiliary transmissions, and power take-off drive assemblies
DMECH 020A - Truck Mechanics I	Design and assembly hydraulic component simulator

DMECH 020B - Truck Mechanics II	Critical thinking and problem solving using electrical system simulator to build vehicleâ€™s electrical circuits. Standard practices, manufacturer specifications and both standard and specialized tools as appropriate, including practicing all standard safety procedures.
DMECH 020B - Truck Mechanics II	Critical thinking and problem solving using engine simulator to resolve unknown problems with charging and starting systems.
DMECH 020B - Truck Mechanics II	Critical thinking and problem solving using computer based diagnostic programs for automatic brake systems, computerized engines, transmission, and emission systems.

DMECH 020C - Truck Mechanics III	Advanced problem solving and use critical thinking to affect improved methods to disassemble and reassemble of heavy-duty dual disc clutch assemblies Standard practices, manufacturer specifications and both standard and specialized tools as appropriate, including practicing all standard safety procedures.
DMECH 020C - Truck Mechanics III	Advanced problem solving and to use critical thinking to affect improved methods to disassemble and reassemble of heavy-duty drive line assemblies to include single drive axles, tandem drive axles, interalxe differential, two speed, and traction controlled differential.
DMECH 020C - Truck Mechanics III	Advanced problem solving and to use critical thinking to affect improved methods to disassemble and reassemble of heavy-duty single and twin countershaft transmission, auxiliary transmissions, and power take-off drive assemblies

DMECH 021A - DIESEL ENGINES I	Research specifications, diagnostic information and repair instructions in technical service manuals and factory online databases
DMECH 021A - DIESEL ENGINES I	Critical thinking to measure components with precision measuring equipment and tools.
DMECH 021A - DIESEL ENGINES I	Problem solving in the disassembling of heavy-duty diesel engines
DMECH 021B - DIESEL ENGINES II	Research specifications, diagnostic information and repair instructions in technical service manuals and factory online databases
DMECH 021B - DIESEL ENGINES II	Critical thinking to diagnoses and identify the cause of failure in diesel engine components such as fuel systems and emission control systems
DMECH 021B - DIESEL ENGINES II	Diagnose and repair of diesel engine electronic components with computer diagnostic equipment and DVOMâ€™s
DMECH 021B - DIESEL ENGINES II	Problem solving in the assembling of heavy-duty diesel engines

DMECH 202 - Forklift Operations and Certification	1. Demonstrate mastery of knowledge of forklift operations.
DMECH 202 - Forklift Operations and Certification	2. Demonstrate proficiency to apply the knowledge of forklift operations.
DMECH 202 - Forklift Operations and Certification	3. Demonstrate capacity for efficacy as a worker of forklift operations.

How has your department worked together on assessment? Provide examples on collaboration, leadership, planning exercises, and data analysis. What aspects of assessment work went especially well in your department and what improvements are most needed?

We are teaching two different system areas within the program. Each instructor is responsible for assessments in their own area. Both of us discuss and collaborate regarding our online textbook, learning tools, and quiz reporting system, interviewing the authors, working with our CDX publisher and local representative. We evaluate each other's new innovations and lab exercises by sharing and asking for input and improvements. We needed improved vehicle interfaces for reliable, full capability access to the vehicles for diagnostics training and testing.

What were the most important things your department learned from assessment? If implementation of your action plans resulted in better student learning and/or changes in curriculum, detail the results

In the Chassis Class, we have seen a 10% increase in student testing success with embedded written questions and hands on performance testing over the past 2 years.

In the Engines Class, we have seen a 9.5% increase in combined student testing success with embedded written questions and hands on performance testing over the past 2 years.

With all testing averages falling in-between 71% to over 97% in some categories, we will continue to strive for improvement in the weaker areas, still all within passing range, and continue what is working well with the higher performance categories as we strive for the most stellar performances we can achieve.

Give us an update on your Program Learning Outcomes (PLOs). A complete program assessment means all PLOs have been assessed for that program. Attach any evidence, i.e. reports from Task Stream or Curricunet Meta.

Our Program Learning Outcomes remain completely relevant for our industry. As technology changes and improves, these basic concepts about this field remain constant.
We have work to do with regard to updates and reviews in Curricunet. I just attended a seminar on Curricunet during flex day in October. I have a new how to help booklet and notes for working in that system. We will be reviewing our PLOs and SLOs within that system but there are unlikely to be any significant changes, other than the dates of review.
Technical and Professional Skills Developed in the Program (Program Learning Outcomes:

Identify and describe the function of components essential to hydraulic system
Diagnose and problem solve repairs with the use of computer resources and diagnostic tools used in industry
Critical thinking and problem solving skills which achieve the maximum engineering benefits in devices specific to selecting brake and electrical components in heavy-duty vehicle and related equipment components
Demonstrate the ability to troubleshoot advanced electronic fuel systems using the PC laptop as the primary tool and assist in diagnosis with the Digital Multi-meter

Does your department participate in the assessment of multidisciplinary programs?

No

If Yes, Describe your department's participation and what you learned from the assessment of the program that was applicable to your own discipline.

Does your department participate in your college's Institutional Learning Outcomes (ILOs) assessment?

Yes

If Yes, Please describe your departments participation in assessing Institutional Learning Outcomes.

Our Dean participates in the ILOs that are published on the COA website. We always cooperate within our division, our College, and the District in whatever is asked or directed for our department.

What support does your department need from administrators, assessment coordinators and/or your campus assessment committee to continue to make progress in assessment of outcomes and implementation of action plans?

We would benefit from a full time district or college researcher for more current data on degrees, certifications, ASE competencies, recent alumni employment statistics, and other relevant data, as well as updated contact information for possible future staffing pool resources, advisory committee member participation, union relationships with our apprentice program, recruiting, and stronger, increased industry relationships.
Implementation of Action Plans include finishing the construction phase by completing the fencing listed in the district construction projects. Allowing increased staffing by adding another FTF position for implementing the Heavy Construction project. Acquiring additional equipment to advance our training in emerging mobility fields in Heavy Duty Vehicles. Adding a portable classroom to allow expansion of available courses. for the Heavy Construction project and advanced, specialized courses we would like to incorporate into our program to better prepare students and address industry concerns and requests.

In the boxes below, please add improvement actions and resource requests that are directly related to the questions answered in this section. If there are no improvement actions or resource requested in this area, leave blank.

Improvement Actions

Improvement Action

Improvement Action

Action Item	Description	To be completed By	Responsible Person
Heavy Construction Equipment training program	â€¢ We have signed an MOA with Case Construction Equipment Inc. and Sonsray Machinery, over a new Heavy Construction Equipment training program. This will be a continuing full time program. It will offer a certificate of completion and or AS degree. It will be accompanied by full term internships with apprentices from Sonsray. Current updates in other courses are within the same context as the catalog but are continually being updated to stay current with the technology within the trades served. Additional Staffing required.	5/20/2021	The Peralta Colleges District based on Budget Constrain…

Resource Request

Personnel	Full-time Faculty

% Time	Description/Justification	Estimated Annual Salary Costs	Estimated Annual Benefits Costs
100	We have enough material, a new dedicated, subject specific textbook with online access and tools from our publisher, and a signed MOU from two corporations to develop an additional full time component to our existing program. There are even offers from the current two, in addition to other competitors for large Nation Wide corporate support with the loaning of vehicles for demonstrations and labs, along with manufacturer specific training materials and data to support the course.	8000000	2000000

Total Costs

10000000

Resource Request

Facilities	Classrooms

Description/Justification

We need an additional classroom to facilitate any growth in our department. If we are to move forward with any MOUs previously signed with industry, an upcoming pre-apprenticeship training course likely to be funded through a grant and be developed and implemented within the next year, and any future growth in program offerings such as advanced classes and basic maintenance and inspection courses via contract education or grant funded., We are hoping that a portable currently housed in cougar village could be moved to our current site and joined at the side of our building along the current driveway. The bathrooms in our existing facility would serve both and our shop and yard would serve all of the lab needs until a new facility is built.

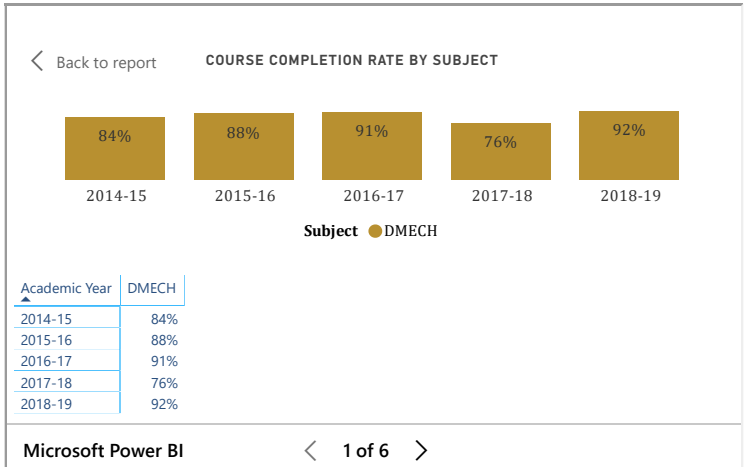
Estimated Cost

5000.00

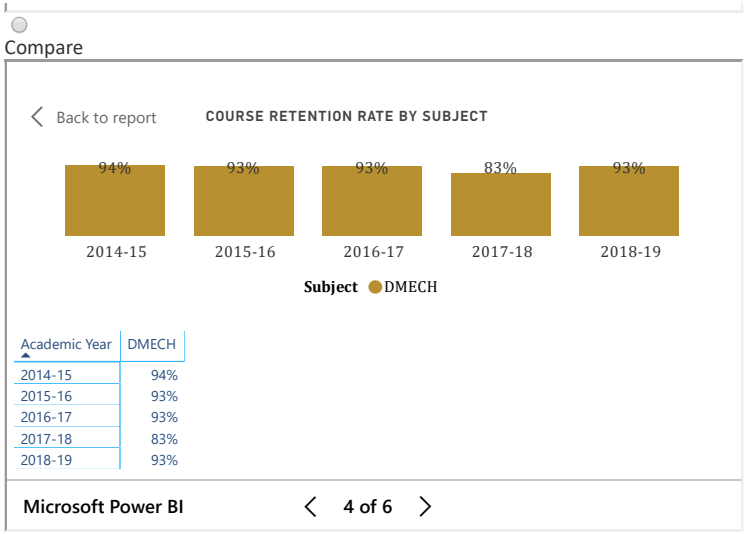
Course Completion

College Level - Program and Department comparison

Chart



Compare



Consider your course completion rates over the past three years (% of student who earned a grade of "C" or better).

Name	2016 - 17 Completion Rate (%)	2017 - 18 Completion Rate (%)	2018 - 19 Completion Rate (%)
DMECH 11 HEAVY-DUTY TRUCK CHASSIS	89	79	100
DMECH 12 HEAVY-DUTY TRUCK/ELECTRIC	100	86	89
DMECH 14 DIESEL ENGINES I	89	64	77
DMECH 15 DIESEL ENGINES II	86	67	90
DMECH 202 FORKLIFT OPERATION/CERT	93	78	
DMECH 20A TRUCK MECHANICS I	89	79	100

DMECH 20B TRUCK MECHANICS II	100	79	89
DMECH 20C TRUCK MECHANICS III			0
DMECH 20D TRUCK MECHANICS IV			
DMECH 21A DIESEL ENGINES - L/L	84	79	91
DMECH 21B DIESEL ENGINES - L/L	90	73	89
DMECH 21D DIESEL ENGINES - L/L		100	100
DMECH 49 I/S-DIESEL MECHANICS			

Use the filters on the top and right of the graphs to disaggregate your program or discipline data. When disaggregated, are there any groups whose course completion rate falls more than 3% points below the discipline average? If so, indicate yes and explain what your department is doing to address the disproportionate impact for the group.

Age
- ○ Yes
- ◉ No

Ethnicity
- ○ Yes
- ◉ No

Gender
- ○ Yes
- ◉ No

Foster Youth Status
- ○ Yes
- ◉ No

Disability Status
- ○ Yes
- ◉ No

Low Income Status
- ○ Yes
- ◉ No

Veteran Status

- ○ Yes
- ◉ No

Consider your course completion rates over the past three years by mode of instruction. What do you observe?

How do the course completion rates for your program or discipline compare to your college's Institution-Set Standard for course completion?

Our Program course completion rates are at 92% for the 2018-2019 year. We have averaged 86% over the past 5 years, compared to the set standard of 66& and the College completion rate of 72%. Our completion rate tends to exceed the set standard and the college year after year.

How do the department's Hybrid course completion rates compare to the college course completion standard?

Are there differences in course completion rates between face to face and Distance Education/hybrid courses? If so, how does the discipline, department or program deal with this situation? How do you assess the overall effectiveness of Distance Education/hybrid course?

Describe the course retention rates over the last three years. If your college has an Institution-Set Standard for course retention, how does your program or discipline course retention rates compare to the standard?

For the 2017-18 year in DMECH 14 and DMECH 15, and 21 A and B, there was a drop in course completion rates. There was a change in instructors, based on a medical leave of absence, mid-term. The program courses would have been cancelled if not taken over by an instructor already teaching another full time course, with labs, for another department in that same period, with no advanced notice or preparation time. Some of the students had a difficult time making the transition and either dropped the course or were unable to maintain the required performance standards for homework, exams, and labs adhered to by the second instructor. This was a single isolated event reflected in the data. Once the second instructor took over these courses the following year, the numbers for all of the classes for course completion rebounded.

What has the discipline, department, or program done to improve course completion and retention rates?

We are striving to update our assigned study and research materials, resources, and mediums. We have been upgrading our current trainers, equipment, and lab resources, within budget constraints. We have upgraded our technology and furnishings in the classroom. We upgraded our PC hardware, memory, and software. We added other resources without additional costs to the program for enhancing student interest and knowledge in related fields. We upgraded our vehicle communication interfaces for vehicle systems diagnostics.
We are attending conferences, instructor forums, industry and apprentice events, holding advisory meetings, hosting tours and meetings for schools and industry to strengthen our status and potential and constantly propel our program courses forward.

In the boxes below, please add improvement actions and resource requests that are directly related to the questions answered in this section. If there are no improvement actions or resource requested in this area, leave blank.

Improvement Actions

Improvement Action

Improvement Action

Action Item	Description	To be completed By	Responsible Person
Continue adding and replacing equipment and training ...	We can't sit still with industry technologies changing at such a rapid pace. We are constantly monitoring what the students will be facing when they gain employment and what industry wants and expects from our graduates. These demands require us to stay current with equipment, trainers, and technology by upgrading on a regular basis.		Department Chairs CE Dean, and State Funding Resourc...

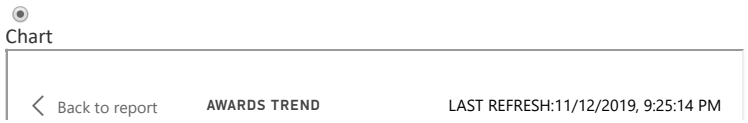
Resource Request

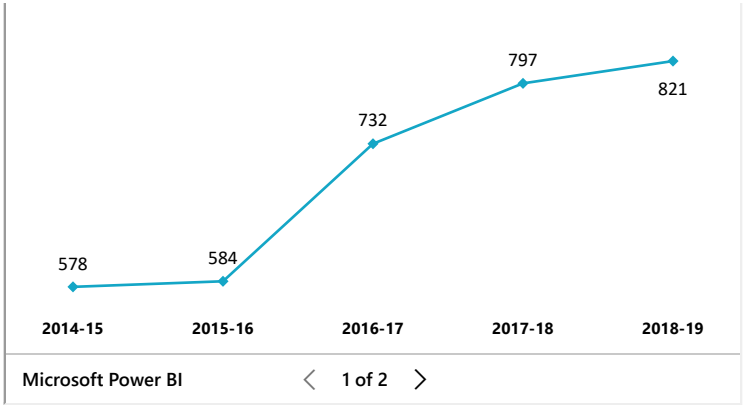
Choose an Option

Degrees and Certificates

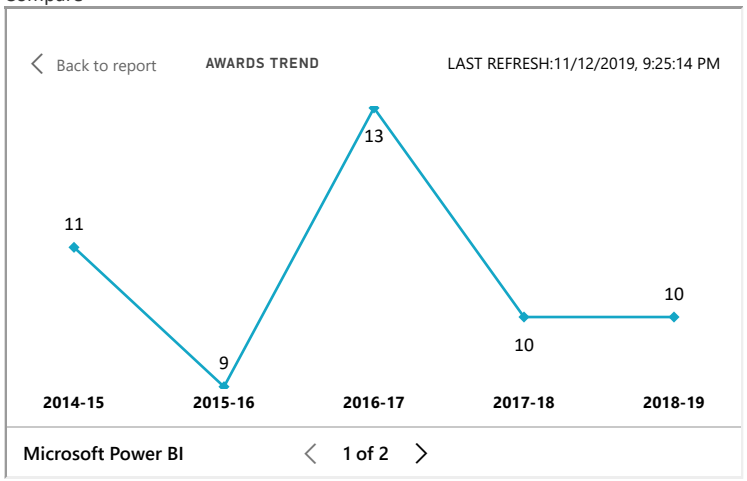
College Level - Program and Department comparison

Chart





Compare



What has the discipline, department, or program done to improve the number of degrees and certificates awarded? Include the number of degrees and certificates awarded by year, for the past three years.

This page just crashed after a half hour of intense typing and again, I lost all of my data!
We print, review, and emphasize the importance and the deadlines of both certificates and degrees. We encourage transfer credit for students that can't attend our additional HVAC and Welding course requirements based on our limited course availability. We announce and encourage counseling appointments with our CE counselor in advance of upcoming deadlines and registration periods. I am wondering if the state should be adding credit for all of the emphasis and training we do to help and encourage the students take their ASE exams for certifications for both the ATECH and DMECH departments. The only requirements for these are from the apprenticeship committee which requires a total of two ASE certificates.

Over the next 3 years, will you be focusing on increasing the number of degrees and certificates awarded?

Yes

What is planned for the next 3 years to increase the number of certificates and degrees awarded?

Continue the emphasis, posting, reminders, counseling, training, etc. Ask for research to align possible other awarded AS degrees with our DMECH department for students that completed our program but received a different degree title. Acquire ASE study guides for the students to help them study and give them courage to attempt their ASEs and perform better in our program for increased certificate awarding. Our numbers should be much higher based on our completion rates. I am appalled and don't understand and question the low number of certificates for our program.

In the boxes below, please add improvement actions and resource requests that are directly related to the questions answered in this section. If there are no improvement actions or resource requested in this area, leave blank.

Improvement Actions

Improvement Action

Improvement Action

Action Item	Description	To be completed By	Responsible Person
Acquire ASE Study Guides	Purchase multiple sets of related ASE study guides to assist and encourage the students toward earning ASE certifications.	5/1/2020	John Taylor

Resource Request

Supplies	Books, Magazines and Periodicals

Description/Justification
Purchase multiple, (4) sets of our program related ASE study guides to assist and encourage the students toward earning ASE certifications. The medium and heavy truck study guides cover provide valuable information covering ASE specialty areas on Gasoline Engines (T1); Diesel Engines (T2); Drive Train (T3); Brakes (T4); Steering & Suspension (T5); Electrical Systems (T6); Heating, Ventilation & A/C (T7); and Preventive Maintenance Inspection - PMI (T8) certification exams. Included within the ASE truck study guide is an ASE Task List detailing exactly what type of knowledge and experience is necessary for the medium/heavy truck specialty, plus ASE heavy truck practice test questions. Easy-to-read text and illustrations provide the important background information you'll need to understand each area of certification and fill in any gaps which may exist in your technical knowledge. You'll gain valuable insight on how to successfully take a medium/heavy truck ASE certification exam and a use it as a handy reference manual on the job.

Estimated Cost
725.00

Resource Request

Supplies	Software

Description/Justification
ASE Practice Tests media / software, for two PCs.

Estimated Cost
170.00

Engagement

Discuss how faculty and staff have engaged in institutional efforts such as committees, presentations, and departmental activities. Please list the committees that full-time faculty participate in.

Blair Norton and John Taylor, current full time staff, and Yazid Cahile current part time staff, and Scott Albright, former chair and part time advisor, mentor, and committee member attend many industry conferences, seminars, and classes, Blair and John serve as chairs of the department and attend all chair and divisional meetings. John is serving on the Budget committee and the Program Review analysis committee. Blair and John hold high school tours and active hands on activities when the tours are set up for that amount of time. John has volunteered at the College ATECH car shows.

Discuss how faculty and staff have engaged in community activities, partnerships and/or collaborations.

We have recruited at local events such as car shows, career fairs, and have done local recruiting at the high schools. We attempt to partner with local industry and utilize our relationships to create new partners and network at industry events. We encourage industry meetings at our facility to form new partnerships and or collaborations.

Discuss how adjunct faculty members are included in departmental training, discussions, and decision-making.

Yazid Cahile current part time staff, and Scott Albright, former chair and part time advisor, mentor, substitute, and committee member are included in important department meetings, discussions, conference trips, train the trainer classes, major topic discussions, and large equipment and software purchases and upgrades. Scott was polled for input regarding department goals for this report. They are both part of our regular advisory meeting panel of faculty. Yazid attended the mobilize California summit in Temecula with us this August and was present when we hosted the CCDET meetings this July with the Ca. Air Resources Board. Scott just attended the VERGE 19 conference with me in Oakland in October. All 4 of us attended a train the trainer class at Chabot this fall. We are a close net group who all have the same basic goals for our department to grow and our students to succeed and thrive in their communities as happy, productive employees, citizens, and family members.

In the boxes below, please add improvement actions and resource requests that are directly related to the questions answered in this section. If there are no improvement actions or resource requested in this area, leave blank.

Improvement Action

Improvement Actions

Improvement Action

Action Item	Description	To be completed By	Responsible Person
Attend the next Northwest Diesel Instructor's Conferen...	We wish to continue with this conference to gain knowledge about similar schools and departments, establish new relationships, and acquire industry contacts and resources.	5/3/2020	John Taylor, Blair Norton, and Yazid Cahile

Resource Request

Professional Development	Department-wide PD needed

Description/Justification
We wish to continue with this Diesel Instructors conference to gain knowledge about similar schools and departments, establish new relationships, and acquire industry contacts and resources.

Estimated Cost
3000.00

Resource Request Summary

Total Cost: $11008889
Total Resource Request: 12

Instruction
Personnel

Type	% Time	Description/Justification	Estimated Annual Salary Costs	Estimated Annual Benefits Costs	Total Costs

Full-time Faculty	100	We have enough material, a new dedicated, subject specific textbook with online access and tools from our publisher, and a signed MOU from two corporations to develop an additional full time component to our existing program. There are even offers from the current two, in addition to other competitors for large Nation Wide corporate support with the loaning of vehicles for demonstrations and labs, along with manufacturer specific training materials and data to support the course.	8000000	2000000	10000000

Sub-Total: $10000000

Professional Development

No Resources found for this category

Technology and Equipment

Type	Description/Justification	Estimated Cost
New	Tablets in the classroom for interactive learning exercises and testing	10000.00
New	Obtain Mobile Heavy Duty Lift System Mobile Heavy Duty Lift System. For lifting our current and future lab vehicles for access to all systems. We applied for and were denied approval for current industry standard equipment upgrades and are still waiting on the approval of â€œMeasure Aâ€□ funding or other funding sources for the acquisition of a portable truck lift system. We have been asking and documenting this back to at least our 2016 program review.	85000.00
New	Electric powered Heavy Duty Truck or bus or trainer with autonomous capability. There are currently no heavy duty electric powered vehicle trainers on the market.	750000.00

New	Electric powered vehicle training system: Switch EV Kit Option 4: SL - PM/96 DC drive system 96 volt Lithium Ion e-Usable, Durable and Cost Effective. The Switch is designed to be built, tested and driven, and then disassembled for the next class to use â€“ every semester, and year after year. Price includes the Build Your Own Electric Vehicle text book, which provides a comprehensive EV foundation, regardless of whether your course is introductory or includes significant physics and engineering concepts. Our Instructor Guide includes suggested lectures, discussion topics and tests, along with a Student Workbook and Study Guide (+unlimited downloads). Price: Included with all EV Kits Additional item quantities available to purchase This would allow us to teach electric powered vehicle technology with an exciting lab project for the students to build, test, and drive, without the cost of purchasing or leasing a heavy duty electric powered truck or bus.	39994.00
New	Used Cascadia Freightliner Tractor truck with updated technology in chassis systems to stay current with diagnostics we are teaching for lab and demonstrations.	60000.00
Replacement	Hunter Wheel Alignment Machine with expandable and upgradable capabilities for autonomous calibration / Our outdated alignment system is from the period of the late 80s /1990 era. It no longer meets the requirements of modern day industry, vehicles, and procedures. Replacement parts are no longer available, Students leave the program and have to start from scratch due to newer technology in the field.	55000.00

Sub-Total: $999994

Supplies

Type	Description/Justification	Estimated Cost
Books, Magazines and Periodicals	Purchase multiple, (4) sets of our program related ASE study guides to assist and encourage the students toward earning ASE certifications. The medium and heavy truck study guides cover provide valuable information covering ASE specialty areas on Gasoline Engines (T1); Diesel Engines (T2); Drive Train (T3); Brakes (T4); Steering & Suspension (T5); Electrical Systems (T6); Heating, Ventilation & A/C (T7); and Preventive Maintenance Inspection - PMI (T8) certification exams. Included within the ASE truck study guide is an ASE Task List detailing exactly what type of knowledge and experience is necessary for the medium/heavy truck specialty, plus ASE heavy truck practice test questions. Easy-to-read text and illustrations provide the important background information you'll need to understand each area of certification and fill in any gaps which may exist in your technical knowledge. You'll gain valuable insight on how to successfully take a medium/heavy truck ASE certification exam and a use it as a handy reference manual on the job.	725.00

Software	ASE Practice Tests media / software, for two PCs.	170.00

Sub-Total: $895

Facilities

Type	Description/Justification	Estimated Cost
Classrooms	We need an additional classroom to facilitate any growth in our department. If we are to move forward with any MOUs previously signed with industry, an upcoming pre-apprenticeship training course likely to be funded through a grant and be developed and implemented within the next year, and any future growth in program offerings such as advanced classes and basic maintenance and inspection courses via contract education or grant funded., We are hoping that a portable currently housed in cougar village could be moved to our current site and joined at the side of our building along the current driveway. The bathrooms in our existing facility would serve both and our shop and yard would serve all of the lab needs until a new facility is built.	5000.00

Sub-Total: $5000

Library

No Resources found for this category

Other

No Resources found for this category

Engagement

Personnel

No Resources found for this category

Professional Development

Type	Description/Justification	Estimated Cost
Department-wide PD needed	We wish to continue with this Diesel Instructors conference to gain knowledge about similar schools and departments, establish new relationships, and acquire industry contacts and resources.	3000.00

Sub-Total: $3000

Technology and Equipment

No Resources found for this category

Supplies

No Resources found for this category

Facilities

No Resources found for this category

Library

No Resources found for this category

Other

No Resources found for this category

Sign and Submit

Please provide the list of members who participated in completing this program review.

Blair Norton and John Taylor

Please enter the name of the person submitting this program review.

John Taylor