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Page 1: I. Program Overview and Update

Q1

I.1. Department(s) Reviewed:

SPRING 2021
Instructional Program Review Automotive Technology and Electronics Comprehensive

Q2

I.2. Lead Author:

Brad McCombs
Co - Author - Ignacio Castaneda Garcia

Q3

I.3. Collaborator(s) - List any person that participated in the preparation of this report:

Russ Peterson, Walter Cortez, Jim Hannibal

Q4

1.4. Dean/Manager:

Larry McLemore

Page 2: II. Program Reflection and Description

Q5

II.1. Provide your program's mission statement:

Mission Statement: Serve a diverse community of students who seek to benefit from the Automotive Departments' wide range of degrees and certificates. The department, in order to fulfill commitment to student learning, success and equity, provides:
Specialized automotive degrees and certificates through collaboration with manufacturers and small business associations giving students access to the technologies used by business, leveraging study through a combination of work experience and foundational courses increasing student competency and wages.
Automotive programs focus on each individual student holistically, as an individual, with unique talents regardless of race, gender, identification, history, ethnicity, ability or disability, through authentic assessments, seeking student placement within the community for the good of the student and the community.

Q6

II.2. How is this program advancing the college mission, vision and values?

College Mission and Values: The automotive technology program offers innovative instruction alongside work-based experience, where students gain real world expertise. Education planning is the key to the automotive major pathways, as each student is provided a customized vision for the future. Majors and certificates are Automotive Service Excellence Education Foundation (ASE) accredited. Students working toward an Associates of Science (A.S.) degree gain work competency by participating in a community of practice that includes mentoring technicians, managers, business owners, field service engineers, government representatives, faculty, counselors, and other student services. The program uses competency documentation through a digital portfolio, which generates a vast resume of industry and college certifications for a rewarding career. Consistent communication with industry leaders through required advisory meetings has created innovations to improve job placement and wage earnings. The Automotive Associates of Science specializations gained through work and study are transferable to many industries, making graduates valuable technical experts and future industry leaders through continuing education as lifelong learners.

Advancing the college mission, vision and values: The department with the help of colleagues throughout departments implemented the 500K California Virtual College grant funding 2019 – 2020 Fall semester creating the first Ford ASSET distance education program. The program has been adopted as of Spring 2021 and will have resources and marketing support through the innovations created during the project. Over 25 new courses were created as templates for the online exchange that can be used once Cuyamaca College's application has been accepted. During the pilot phase the department was able to train students from El Centro, proving the concept that hands on learning can be conducted remotely using technology, proving distance education applies to skilled trades, and can be used to serve marginalized student populations decreasing education and wage gaps.

Q7

II.3. How does your program support the college's strategic goal of implementing guided pathways?

Program support of the college's strategic goal of implementing guided pathways: The department with the help of colleagues throughout departments redesigned all of our program curriculum creating pathways for each degree and standardizing the course numbering system corresponding to the State course identification numbering system (C.I.D.). Each program can now use the same courses. Courses have been redesigned separating lecture, laboratory, and assessment. These changes will increase student access and commencement by offering more short term courses each semester and laboratory co-enrollment. Ultimately this improvement will result in increased student equity and wage gains. Ultimately we want our students to have the best education and skills by increasing the quality of education and resources through clear accessible pathways.

Q8   **No**

II.4. Is the program description in the current college
catalog up to date and accurate?

Page 3: II. Program Reflection and Description continued

Q9

II.4a. What steps will you take to revise the college catalog description?

Curriculum project revised all classes, program descriptions, PLOS, SLOS, credits, and distance education . The department created six new degrees and certificates, updated each course outline, standardized the publisher to reduce student book expenses, and added 67 new courses. The following table describes department solutions for student outcomes, lists the standardized courses in columns as they apply to each degree and certificate.

See program review document attached

Students have difficulty navigating degree and certificate requirements. Degree pathways have been created for each degree as a guide for students. Each degree pathway is focused on graduating with an associate degree in a 2-year length. See appendix for the recommended pathway for each degree.

Course Redesign

The department courses have been redesigned to recognize and leverage course taxonomy for credit by exam, credit for prior learning, and provide a way for a student working at a business to attain certification for warranty requirements.
Courses may be taken face-to-face or through distance education depending on student needs and employment resources. There are four types of courses: lecture, laboratory, assessment test-out, and work experience. Each course is described numerically and by the descriptor name according to ASE standards. A "course group" consists of lecture, laboratory and assessment test-out courses.

Lecture: During a lecture course, an instructor shows students foundational knowledge of the applied science; students see procedures performed and learn how to identify, memorize, and describe processes. Students are assigned reading assignments, web-based training, and tests.
Laboratory: During a laboratory course, students demonstrate, perform, assemble, and repair systems. Laboratory facilitates practicing hands-on tasks.
Assessment Test-Out: Multiple measures test classes allow students to both describe and perform hands-on competencies with an instructor "live" and/or by using a recording. An assessment test provides feedback, and allows a student to use artifacts in their student portfolio as evidence of their skills. Assessments also use surveys from mentoring technicians, instructors, and student self-reflection.
A student may elect to test out of any lecture or laboratory course offered by having previous or concurrent qualifying competency, work experience, or education at another community college, military, or trade school. Students who pass a test out course may receive manufacturers' certification for the course group.
Work Experience: Work Experience (WEX) courses are paid or unpaid depending upon each program. Most successful students choose to attend paid WEX classes. During work experience, students learn how to perform, describe, and demonstrate competency, as assessed by mentors and instructors. WEX courses have different unit values that are associated with the number of hours worked. For example, a student working full time may take a 4-unit course, whereas a student working part time may take a 1-unit course. Seventy-five hours of paid work experience equals 1-unit, or 68 unpaid work experience hours equals 1-unit. Most students take 3-unit work experience courses during a sixteen-week semester.

Page 4: III. Course Curriculum, Assessment and Student Success

Q10   **Yes**

III.1. Access the Five Year Curriculum Review Cycle
(requires GCCCD login). Have all of your active courses
outlines been reviewed within the last five years?

Q11

III.2. What is your program doing to prepare students for successful transition (e.g. transfer and career readiness)?

We are offering each core course every semester. We are combining programs using the same courses, offering specialized degrees which include work experience as a requirement for each specialization skill. Most of our students do not transfer, however have significant wage gains and stable employment and employability.

Q12

III.3. Please list any planned changes for curriculum and the rationale for those changes:

The curricula plan has been submitted to the Curriculum Committee. The department operates two manufacturers and one industry program with two full time faculty. The decrease from four full time faculty to two, limits the ability to manage cohort designed programs. Each manufacturer's program has specialized classes making scheduling of classes restrictive because the historical attitude about cohorts, and wage load of the 7 to 8 unit courses prevent adjunct faculty from assignment, and since full time faculty was supposedly the requirement of the manufacturer program, these specialized classes could only be taught once every two years. The rationale of the curricula design combines all courses into short term small credit hour courses, leveraging the 16 week semester by offering 8 week courses. Pathways support planning Increased student access by combining manufacturers program students with industry and general program students. This is increasingly possible by separating the laboratory from the lecture, since lecture and laboratory have different taxonomies. Compliance and assessment is further ensured by separating assessment from lab and lecture, facilitating pathway flexibility, credit by exam, and student education planning based upon prior knowledge. A student from GM, Ford, ASCCA and general programs may take the same laboratory class but have assignments within the same subject using different brand technology and equipment. Similarly, a lecture class may discuss foundational principles common to all makes and models, the chapters within the assigned readings will be the same. However, different learning modules, on-demand training, written assessments, recordings of processes, live demonstrations, will be specific to each brand. The assessment further distinguishes the language and intrinsic skills required for certification and grading.

Page 5: III. Course Curriculum, Assessment and Student Success continued

Q13

III.4. Please upload the most recent version of your program's course SLO assessment plan. Click here for an Assessment Plan Template

Program Review Final 1-25-21.pdf (1MB)

Q14

III.5. Please provide a high-level analysis of your SLO findings over the past year and what changes, if any, were made as a result:

Managing the department lacking full time faculty, and the disparity between full time status and available resources, versus the lack of resources for part-time faculty is systemic and environmental. Full time faculty have the advantage of on the job training, time, commitment, higher wages, and pedagogy; might have knowledge of SLO assessment, knowing about the types of assessments, and the advantages of student efficacy versus a perfunctory final exam containing multiple-choice questions. The department must measure what a student can do competently. At the end of the day, were the classes effective for the student. What changes will make the instruction, course design, and learning activities increase learning force? The solutions are top down rather than bottom up. Imbedding the student feedback, ASE task completion, test results, and self-reflection in the course design, grade center, and assignments. Answering questions about what the student learned most and least about each course referencing SLOs. From an adjunct faculty point of view, the collaboration and feedback needed to decide which questions to ask through self reflection as an SLO assessment survey or through a student feedback survey. Automation using Canvas will solve the lack of standardization of SLO assessment. Perhaps previous expectations and directions may have been too broad. In the past, instructions were given to develop an SLO plan without examples of best practice or standard method to track information. The good news, significant improvements resulting from SLO coordination support, including the attitude of anti-racism and student equity as part of the fabric of revisions to department support of adjunct faculty and student success, resulting in each redesigned SLO aligning with each PLO. The taxonomies are standardized: diagnose, repair, communicate, and health and safety, which align with each degree, certificate, and program learning outcome. Analysis resulted in the following "graded" surveys in Canvas which can be taken as many times as necessary during a training program, creating a CSV file, then exporting to Excel or creating grade center reports.
Surveys Created as a Canvas Application

The following student surveys were creating a Canvas web application:
Engine Repair
Automatic Transmission Transaxle
Manual Drive Train
Suspension and Steering
Brakes
Electrical
Electronics
Climate Control
Engine Performance
Diesel Engine Performance
Work Experience Soft Skills
Work Experience Hours
Work Experience Task Assisted versus Unassisted
Managing Transitions of Program Information and Responsibilities
Faculty retirement transitions further complicate student learning. When one faculty is assigned fulltime to one manufacturer's training program, creating environmental limitations to student contact within the larger general program. There "were" approximately 48 possible students in both Ford and GM combined for two years compared to approximately 200 general program students..This should be considered an equity gap, because historically, only full time faculty taught manufacturers training. Further restricting access, scheduling, equity, was the unit size of manufacturers courses of 7 to 8 units. The department had three key retirements. Two occurring in 2013 and one in 2017. How were program documents, applications, training, and key contact relationships transferred during these transitions? The college should consider the information about each program and the storage of records, contacts, history, advisory meetings, and so on, as intellectual property. However, there was a home or strategy for retaining and training the information needed by the department to manage specialized programs during recent transitions. As a result, new and or full time faculty are required to manage programs, when ultimately the teaching contract prioritizes teaching in a classroom. Management and teaching load requirements are not the same skills. Furthermore, the time required to manage a manufacturers training program is not commensurate with the time expended to be successful. For example, the contract required to manage Ford and General Motors is .1 LED which is equivalent to teaching a 1 unit lecture class per week or spending about 1 hour per week.

Partial solutions for these problems were developed as pilot projects during the 2019 - 2020 grant funding. A pilot home course was created in Canvas. The applications, instructions, contact information, students, applicants, discussion history, announcements are inventoried in the LMS. Now a college manager, or new faculty can have access to a shared space. The shared space may provide more teacher to student and student to student contact by leveraging existing technology. This technology will store key department decision making information as a common learning management system.

Q15

III.6. What student learning-related successes and challenges have SLOs results revealed for your department?Note: If SLO data are not offering useful feedback regarding student learning, and are not currently informing program improvements, please instead discuss the specific steps you plan to take to make learning outcomes and assessments more meaningful.

During 2017-2018, with the support of a new Dean, the effort began to centralize SLOs by offering standardized testing using a 3rd party accreditor Automotive Student Education (ASE) student tests. The pilot experiment revealed that many students were able to pass a standard proctored industry test by subject, comparing before and after test results. The student tests provided feedback to the instructor and student. The downside was the cost $3000 - $5,000 per semester, and the extra labor necessary to manage a test site portal, which was limited to certain users. ASE student tests, although successful, were expensive and not universally designed.

Continuing the development of centralizing SLOs,the decision was made in 2019 to consolidate curriculum by offering the same course for each major, or by making each existing course equal for each major. Attempting to solve the major program level problems. Each manufacturer's training program required one full time faculty, and each program had its own set of courses with unique SLOs. Scheduling was as difficult as assessment and student access limited. GM and Ford courses were only offered once every two years. The department had three sets of courses for each program Ford, GM, and General. When the foundational knowledge is the same for each program. Foundational knowledge about how things work is fundamental for student success. A spark plug is a spark plug, or how electronics is applied is similar for all cars, nothing is very unique, each manufacturer has the same biology, chemistry, metals, and plastics. Cars look similar and play the same music channels in the same ways. They share the same types of standard fuels, pressures, and for electric cars, levels of applied voltages. The big student outcome, teaches a student how things are the same, how they work. How to learn how systems work, applying foundational knowledge and skills to learn systems.

Concurrently throughout 2017-2020, centralized testing using a stand-alone course called Assessment Test Out in the Ford ASSET distance education pilot project, was being developed, and grant funded as a direct result of program and SLO assessment. The project has recently been adopted by Ford. Proposing that each student should be assessed independently. Uniquely using multiple measurements, dependent upon their education and work experience, using artifacts of projects in a Canvas portfolio assignment, mentor evaluations and surveys, live and recorded examinations.

The Ford project, a collaborative faculty effort, determined each course can be divided into lecture, laboratory, and assessment. Additionally, since work experience is the essential component of manufacturers training, consideration about how to manage course classifications was imperative. The advantage of separation of laboratory from lecture makes specialization and assessment possible in the lab and lecture taxonomy. The project solves SLO assessment and program assessment for the department programs by the process of designing specific manufacturer's level labs for each program. Where the previous argument that everything is the foundationally similar, conversely, manufactures do have differences. They have Corvettes versus Mustangs which have specific different procedures for diagnosis, testing, and repair. Therefore, the department laboratory will operate autonomously. A student taking a course about engines in the Ford program will work on Ford engines and so on. Ideally the assessment of each student competency is ensured by centralized lab exercises dependent upon student needs assessment.

Taxonomy

SLO and program assessment resulting from the pilot project resulted categories of course taxonomy:

Lecture: memorize, recite, identify, describe, calculate, communicate
Laboratory: repair, diagnose, haptic, rebuild, apply, report
Work Experience: (faculty, student, and 3rd party mentor evaluation of all the above)
Assessment: (department faculty and student evaluation and reflection of all of the above)

Multiple Measures Assessment

Multiple measures are used to assess the knowledge skills and abilities of each student. Ford distance education is designed to be a

more rigorous training option using a criterion assessment requirement of 90-100% accuracy. This will ensure graduates have competency and the ability to "fix it right the first time". Distance education technologies are used to create the following data in the LMS:

 Third party evaluation surveys are used to validate competency, ASE tasks,work experience soft skills

  Portfolios where artifacts about competencies support numerical survey data

 ASE tasks are documented

Live hands-on and recorded assessments video artifacts

Ford Web-based training

Written examinations

Self Reflection Student ASE Task Surveys

Assessment Test Options

All students must pass final examinations, both hands-on testing and written tests. Hands-on tests must be administered by Cuyamaca College, Ford College, or a Training Center. Test Out is a co-enrollment course attached to the current course in the schedule including student learning objectives of the course descriptor. This will allow a student who has completed a course at another college to enroll in the training program and perform additional tests and labs necessary to complete the credit by exam. The Test Out class has .5 credit hours. For example, .5 lab credit hour is 16 hours of laboratory requirement.

Page 6: III. Course Curriculum, Assessment and Student Success continued

Q16

III.7. How was the department of discipline's success rate across all courses changed within the past 4 years (the time frame covered in this comprehensive program review)?

The success rate of the automotive department has been relatively stable within the past 4 years. The success rate has fluctuated between the 73% and 80% range. Fall 2019 has been one of the stronger semesters. The success rate was the highest at 80%. Apart from a success rate increase, enrollment. Fall 2019 enrollment increased by 59 students. The automotive department is on the correct path in increasing enrollment and success rates. Refer to the chart below for the overall automotive department success rate data:

Q17

III.8. The College has set a 2024 goal of reaching a 77% course success rate (students passing with a grade of A, B, C, or P out of those enrolled at census) for the College as a whole. What is your department or discipline's four-year (2024-25) goal for success rate across all courses in the department or discipline?

The average student success rate for the automotive department during the past four years is 76%. The automotive department's goal is to reach a minimum of a 77% course success rate. In fall of 2016 and 2018, the success rate was 73%. The 2024 goal of reaching a minimum of 77% success rate in each year is attainable.

Q18

III.9. Please review the college-wide and program data sets, which have identified equity gaps based on the following criteria: 3% n=10 students/enrollments. Which groups are experiencing equity gaps in your program?

There are a few equity gaps in the automotive department. The data file highlights equity gaps, which are most prevalent for the Africann-American/Black and Hispanic/Latino students. There are also equity gaps for students who identify as multi-racial. A department curriculum redesign is in the process of getting approved to help improve the department success rate and enrollments. Students are being surveyed in the majority of their courses for feedback on ways to improve the overall course experience. Refer to the chart below for student success rates by race and ethnicity:

Q19

III.10. What department/discipline (or institutional) factors may be contributing to these lower rates of success for these groups of students?

According to the data the black student population is declining from 13 students in 2015 to only 4 in 2019. The department has had less full time faculty, and systemically all full time and part time faculty are white. Unknowingly, at the department level, faculty should align with the ethnicity. Anti- racism requires intentional actions. One solution was the new hire of a Latino full time faculty. Further solution to black student population disparity will require hiring black faculty either part time or full time. The institution has provided EMTL training for all full time faculty willing to invest the time and effort which is continuing to inform the cultural diversity of the department.

Q20

III.11. What action will the department or discipline take to address these equity gaps in the short-term (next year) and long-term (next four years)?

Hire a black fulltime or part time faculty. We updated the student images on our website and marketing materials to include Latina X, and African American images. Direct community outreach must be part of our plan. We have not considered how to direct our efforts for intentional results.

The department will have each course provide surveys to students. Feedback from students allows the department to fix issues regarding student success and overall satisfaction. Faculty is participating in the 2020-2021 Equity Minded Teaching and Learning Institute to fix our equity gaps. Faculty is also encourage to join the Strong Workforce Faculty Institute.

Q21

III.12. What other qualitative or quantitative data (from any source) is the program using to inform its planning for this comprehensive program review?

The Institutional Effectiveness Office helped complete a statewide survey to collaborate with other colleges. The office also launched a student success and feedback survey to 200 student completers which will provide extant data about student perceptions of program outcomes and information about wage increase and employment. The department also has consistent advisory meetings and maintains records of minutes. Advisory meetings provide feedback and direct department goals. The Ford ASSET and GM ASEP programs require separate advisory meetings. The Ford ASSET distance education classes had to be discussed and approved prior to implementation.

Q22

OPTIONAL: Please use the upload button to attach any supporting documentation you would like to include.

Data- Success.docx (82KB)

Page 7: III. Course Curriculum, Assessment and Student Success continued

Q23	**Yes**
III.14. Does your program offer courses via distance education (excluding emergency remote teaching in 2020)?	

Page 8: III. Course Curriculum, Assessment and Student Success continued

Q24   **Yes**

III.15. Are there differences in success rates for distance
education (online) versus in-person sections?

Q25

III.16. If there are differences in success rates for distance education (online) versus in-person classes, what will the
program do to address these disparities?

2015 - 2019 there is a 78% success rate and 91% retention rate. These numbers reflect all courses in the general program compared
to Ford ASSET, the only fully online distance education program, and AUTO 99 Introduction to Automotive Technology which is not a
major requirement course. Conversely distance education courses have a student success rate of 59% and retention rate of 83%.
If there are differences in success rates for distance education (online) versus in-person classes, what will the program do to address
these disparities? The department recently revised all of the Ford ASSET DE courses and AUTO 99 using the POCR online course
rubric. There are several factors affecting teacher to student contact, and course design issues which have been corrected. 1) A
comprehensive orientation module was added to the course. 2) Each image and page was reviewed for ADA compliance. 3) Authentic
assessments were added to the courses. 4) Each online course was reviewed by at least three faculty using POCR.

Page 9: III. Course Curriculum, Assessment and Student Success continued

Q26

III.17. What mechanisms are in place to ensure regular and effective contact (see the Guide to Best Practices in Online)
within online courses across the discipline or department?

The college needs to rethink the teacher to student ratio contract. It is impossible to have effective contact with 50 students per
teacher. The mechanisms in place include all of the standard methods of contact. The department has increased the number of
synchronous meetings, which has increased teacher to student and student to student relationships; using technology to model
traditional Title 5 pedagogy requirements, and by using active lectures to solve real problems using active project based lectures
increasing the learning force.

Q27

III.18. What innovative tools and strategies are you using in your online courses to engage students and support student
success?

The department encourages synchronicity as the main tool leveraging the industry equipment and technologies as fulcrum. Students
may retain little from the best lecturer. They need to be able to do something, show, explain a process. Web conferencing software
allows a student to show things on a car from the dealership to the classroom or from the classroom to the dealership. The plan is to
increase these capabilities by adding remote access technology to the breakout rooms. If students have access to the mechanical
and electronic tools then the classroom needs to extend the expectation of the hands on experience. Afterall, the haptic experience,
how much force is felt or temperature, hot or cold, is sensed by the fingertips and transfers to the brain. The same is true for vibrations
and smells. Our innovations involve using the most simple technology and attempting to assign real experiences based upon core
objectives. Assessments are performance projects often observed as part of a class experience. Show us how to do this on
Wednesday. What was done correctly? What was done incorrectly? Hopefully, students observing understand expectations and
processes better by having an active lecture or laboratory experience. These types of course designs are not designed for 50
students.

Page 10: IV. Degree and Certificate Programs

Q28   **Yes**

IV.1. Does your program offer any degree/certificate
programs?

Page 11: IV. Degree and Certificate Programs continued

Q29

IV.2. Please upload for each degree and certificate indicating how many awards were conferred in the past five years

cuyamaca-pr-data-2020-2021-college-wide-certs-and-degrees-awarded.pdf (491.5KB)

Q30

IV.3. Please indicate when each degree and certificate was last reviewed and updated (semester):

There has been a total of 60 degrees and 30 certificates conferred in the past five years. Eleven ASEP degrees, twelve ASSET degrees and 32 Automotive Technology degrees have been conferred. Twelve Advanced Engine Performance & Emissions certificates, three Brakes & Front End certificates, four Engine Performance & Drivetrain certificates, and 13 Automotive Technology certificates have been conferred.

Every degree and certificate has been reviewed in Spring 2020. All degrees and certificates are currently being modified and being sent through the curriculum committee. New degrees and certificates are also in the process of being created.

Q31

IV.4. How are these degrees/certificates meeting the needs of students, and/or articulation with four-year institutions?

It is hard to track this type of information without the access to proper survey software. The majority of students who complete our degrees and certificates do not want to continue to a four year institution. Students are interested in learning a trade and going straight to work. The programs offered allow students to learn valuable skills and apply them towards a successful career. Students are learning basic and advanced problem solving methods along with a strong foundation on a variety of systems familiarizing themselves with the latest automotive technology and diagnostic equipment. Providing students with the knowledge and equipment needed for a successful automotive career is the goal. Fortunately, the college has supported gaining more information about student employment and wage gains by conducting a customized survey for the department providing research vetted by college research analysts.

Q32

IV.5. Are there any changes planned if the degree/certificates are not meeting these needs?

The degrees are meeting student's needs. However, updates in the degrees and certificates are currently in process. Specialized degrees and certificates are being created to allow students to specialize in a certain automotive system. The majority of automotive repair shops are specialized. This means that each technician is responsible for working on a certain system of a car. Creating specialized degrees allows students to gain knowledge and experience in the automotive systems they wish to work in. The student has a choice of obtaining a degree or certificates in all areas except for Ford ASSET (only a degree is offered). The core classes for a degree and certificate are the same. If a student wants to receive an Associate Degree, general education requirements must also be completed. This allows a student the opportunity to further their education or begin their career. Below is a table showing degree and certificate modification and additions:

Q33   **Yes**

IV.6. Can students complete the degree/certificate requirements within a two-year period?**requirement of Title 5, California Code of Regulations and Accreditation Standard II.A.

Page 12: IV. Degree and Certificate Programs continued

Q34

IV.7. How are you currently assessing your PLOs?

PLOs are currently being assessed and revised with a curriculum and program update. Revisions to current PLOs are currently in the process as well as new additions. PLOs are assessed by faculty and industry communication. Automotive industry advancements such as: technology, diagnostic strategy, education, and tools are constantly monitored to better assess PLOs. PLOs are currently being updated to better align to programs. PLOs are currently being changed to the following:

Q35

IV.8. Are the PLOs in the catalog an accurate reflection of the department or discipline's current learning objectives?

No - Please briefly explain the plan to revise::
PLOs are currently in the process of being revised. PLO modifications and additions have been submitted along with curriculum and department changes. They will be an accurate reflection of the department's learning objectives once approved. Please reference the Department plan for PLO assessment The department is standardizing laboratory assessments and standardized summative assessments. These improvements have implemented standardized summative assessment for program and student assessment using ASE student tests, aligning our assessment to the national standard. The department created an assessment course for each class. Standardizing the laboratory learning activities and assessments is a work in progress with partial pilot testing occurring Fall 2020. This will be accomplished by using the ASE standard competencies students are required to perform for ASE accreditation. For example, the plan requires each instructor to receive a list of competencies each student is required to perform for PLO and SLO assessment. Each SLO is tied a competency to at least one PLO. The department has developed job aides for each department vehicle which includes the competencies for each course. The department also created surveys for each list of required competency for student and mentor assessment. These solutions will increase student learning, because adjunct faculty and students will achieve greater measurable success when there is more standardization and support from the department. Student tutors will assist in the laboratory and classroom helping students achieve specific competencies. Student mentors will assist students with work experience job placements, resume building, soft skills, and work directly with the work experience coordinator. Our research has demonstrated that students apply foundational concepts during work experience. The student record book journals each student competency performed during each course including work experience courses. Our plan is to grow our student work experience course enrollments. Each new degree and certificate award requires 12 units of work experience. Each competency is recorded in the work experience survey in the Canvas grade center. We have developed a wire frame that can be used to upload competencies and the artifacts supporting each competency to each SLO and PLO. The final application developed as part of the Ford Grant was designed in Canvas using the existing Portfolium. The department found many under utilized functions within the Canvas LMS.

Q36   **No**

IV.9. Are the PLOs mapped to the course SLOs?

Page 13: IV. Degree and Certificate Programs continued

Q37

IV.10. How is your program helping students explore careers in your program area?

The majority of the programs offered include a work experience course. The work experience courses help place students at an automotive repair facility. A student's work progress is monitored through a learning management system (Canvas) and by a relationship with the repair facility. Students are able to explore the types of careers while having a paid or unpaid sponsorship. Aside from the work experience courses, students are encouraged to visit automotive repair facilities. Some courses require students to interview employees from an automotive technology related facility. Students are also presented with automotive careers opportunities. According to the Emsi Analyst Automotive Service Technicians and Mechanics report, the main jobs in the trade are in automotive repair and maintenance. The image below shows the percentage of occupation in the industry.
Aside from the occupations above, students are encouraged to further their education. The automotive programs offered allow students to see the engineering aspects of automobiles. Students must perform high level diagnostics on mechanical and electrical systems. Instructors inform students of the similarities between automotive technology and engineering. Students who are interested in furthering their education meet with counselors to receive more information about transferring to a 4-year university.

Q38

IV.11. What do the latest labor market data reveal about the careers (including those for transfer students) for which your program prepares students? Labor market data may be sourced from the Program Review Data webpage and California Employment Development Department. You can also contact the Institutional Effectiveness, Success, and Equity Office to access additional labor market information related to your program.

According to the latest Emsi Analyst Automotive Service Technicians and Mechanics report, jobs and their demands in the San Diego-Chula Vista-Carlsbad area are slightly lower than average. There are 7,792 employees in the area and 8,308 employees in similar sized areas. The job posting demand in the area is 93 postings per month and 161 postings per month in other similar sized areas. Compensation for automotive service technicians and mechanics is slightly higher than other similar sized areas. The national median salary is $38,818. The average in the San Diego-Chula Vista-Carlsbad area is $43,135.

The information in the Emsi report does not match the information taken from faculty at the school. Faculty are in constant communication with automotive businesses in the county. The businesses include dealerships, independent repair facilities and automotive part stores. Each of the businesses are experiencing a need for automotive employees. The college has also been in contact with automobile manufactures, such as Ford Motor Company and General Motors. During the 2020 Ford ASSET and General Motors ASEP yearly educational conference, both companies have expressed a dire need for automotive technicians, service writers and sales personnel. The majority of automotive related businesses are constantly looking for employees.

According to the State of California Employment Development Department, the estimated projected growth for automotive service technicians and mechanics is an increase by 12.6 percent. An estimate of 7,870 new jobs between 2016 and 2026 are projected in California. Cuyamaca College automotive advisory board meetings report the same trend. There is currently an excess of jobs available in the market. Students have a great opportunity to start a successful career with the assistance of the automotive department.

Automotive Service Technicians and Mechanics
Estimated Employment and Projected Growth
Geographic Area
(Estimated Year-Projected Year)
Estimated Employment
Projected Employment
Numeric Change
Percent Change
Job Openings
San Diego County (2016-2026)
7,130
8,030
900
12.6
7,870

Q39

IV.12. What are the labor market implications for the program's curriculum (degrees, certificates, courses)?

Based on information received from advisory committee and industry partners, there is significant job growth projected statewide and there are ample local employment opportunities in this region. The program redesigned its entire curriculum to better meet industry and student needs and create more seamless pathways for students into careers in the automotive industry.

Q40

If your program has labor market data to include in your program review, please use the upload button below to attach the file.

Automotive Labor Market Data.pdf (635.3KB)

Page 14: IV. Degree and Certificate Programs continued

Q41

IV.13. Please describe your program's strengths:

The automotive technology programs offer innovative instruction alongside work-based experience, where students gain real world expertise. Education planning is the key to the automotive major pathways, as it provides each student a customized vision for the future. Majors and certificates are Automotive Service Excellence Education Foundation (ASE) accredited. Students working toward an Associates of Science (A.S.) degree gain work competency by participating in a community of practice that includes mentoring technicians, managers, business owners, manufacturer's field service engineers, government representatives, faculty, and counselors. The program uses competency documentation through a digital portfolio, which generates a vast resume of industry and college certifications for a rewarding career. Students in this program are partnered with industry leaders, which facilitates innovation, job placement, and competitive wage earnings. The Automotive Associates of Science specializations gained through work and study are transferable to many industries, making graduates valuable technical experts and future industry leaders.
Accomplishments and Completed Projects 2018 -2020

Website:
 Redesigned using Form Stacks. The department needs students to be able to apply for programs online and submit their student information to the department without the need to wait for the career center or registration services. Businesses need to be able to request student interns using fillable forms so that we can collect the business contact information. College counselors and administrators need to be able to find the specific applications, pathways, and program information by referring to the department programs website.
Pilot Test Canvas as Student Home Course: Community of Practice
A community of practice is a group of people who share responsibility and passion about what they do. Today's technology gives a community the ability to communicate synchronously across time zones. Using Canvas technology, the department can also initiate announcements, discussion boards, and web conferencing by using a shared digital space. Since Advisory Board Meetings are required, why not have a continuous discussion "Advisory" about needed improvements? Canvas helps build relationships by working together in various large and small work groups.
Education standards require an interactive and personal learning environment; the department uses Canvas resources to harness the technological tools available to communicate with team members in a variety of ways. Students have access to college and industry team resources by including all stakeholders in one learning management system. This makes reports, communication, and grading more accessible.
Learning Management System
Communication and resources are more effective when sharing the same Learning Management System (LMS), and most California community colleges use Canvas. Once accepted into a Program, each member will be enrolled in the Canvas LMS to gain access to open and closed discussions, and to participate in program orientation and training designed specifically for a role in the learning community. It was determined impossible to record and track students, business managers, and job opportunities. The LMS technology can be used to manage people and information.
All participants are required to take a brief training course in Canvas that will orient them to the Program and community of practice. The orientation course will train students and stakeholders how to be successful. The LMS management course will be used throughout the program and will also allow each person to contribute to the program as a member of the community.
The Ford ASSET Canvas LMS will provide a place where industry, educators, and students will be able to:
Establish various organized work groups to support student progress using constructivist learning theory and best practices in instruction.
Increase communication among team members by using collaboration technology (i.e., announcements, discussion boards, surveys, Zoom) to ensure meaningful and regular effective contact between and among students, instructors, and industry leaders.
Share resources, information, and files in a secure and cooperative setting to support training, development, and recruitment of student trainees at dealerships.
Create reports to use as resources to monitor student progress over the five years of tenure required to become a Master Technician.
 Increase the number of colleges and high schools participating in manufacturers training and increase the technologies and resources available to them through these relationships.
Large Computer Monitors in Lab:
With the help of grant funding, the department placed large LCD monitors in the laboratory. Student learning will increase by being able

to see what other students, instructors, and lab assistants are doing. This will eliminate the need to crowd around a laptop. The laboratory will be better equipped to provide instruction. These large screens are excellent for students and faculty, and fit nicely into a blended learning environment.

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Increase communication among team members by using collaboration technology (i.e., announcements, discussion boards, surveys, Zoom) to ensure meaningful and regular effective contact between and among students, instructors, and industry leaders.

Share resources, information, and files in a secure and cooperative setting to support training, development, and recruitment of student trainees at dealerships.

Create reports to use as resources to monitor student progress over the five years of tenure required to become a Master Technician. Increase the number of colleges and high schools participating in manufacturers training and increase the technologies and resources available to them through these relationships.

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Modified and New Degrees and Certificates

The department was able to implement curriculum goals from 2017 annual updates creating new degrees and certificates. The justification for these changes resulted from previous program review low completion statistics. 2018 - 2020 there were only 24 total degrees and certificates awarded.

The new changes being implemented offer students stackable degrees and certificates, and the capability to specialize in an area desired by employers and recommended by the advisory board. Each department degree and certificate has been updated to industry need. New degrees and certificates offered will support electric vehicle technology (EV Specialist), Engine Repair Specialist, and Service Management.

Students who complete general education requirements and automotive program core requirements may be eligible to receive one or more of the following degrees. Students who complete core program requirements and no general education will receive a state recognized certificate of achievement. Students are required to meet with a counselor and program coordinator to create an education plan.

· Automotive Technology
· Automotive Service Councils of California (ASCCA)
· General Motors Automotive Service Education Program (ASEP)
· Ford Automotive Student Service Education Training (ASSET)*
· Engine Performance Specialist
· Chassis Specialist
· Drivetrain Specialist
· Electronics and Electric Vehicle Specialist - NEW
· Engine Repair Specialist - NEW
· Service Management - NEW

*Ford ASSET associate of science degree only available. No certificate.

Updated Course Design and Laboratory Plan

The new curriculum design supports student success and efficacy. As proposed previously in the 2017 Annual Review, the laboratory needs to operate independently of the lecture because low enrollment courses can be co-enrolled with larger classes rather than cancellations preventing commencement. These revisions support laboratory assistant labor efficiency and job description because the Lab Assistant is needed in the lab for instructional support.

K114 Hoist in Classroom, Distance Education and Classroom Portable Camera Cars

The department was able to place a portable hoist in K114, making distance education learning effective. The department has ordered two portable distance education carts that have cameras. This allows instructors to teach distance education from the laboratory or any of the classrooms. Limiting commitment to a classroom designed for lecture and expanding technology into the laboratory as necessary.

Increasing Student Access to Tools and Equipment

The department needs to move further forward to the goal of moving tools into the laboratory area to increase productivity and effectiveness. In order to make this move efficient, the laboratory must be divided and organized in a manner in which the existing tools in the tool room are placed in a specific laboratory location in which they will be most utilized. The laboratory will be divided into the following sections.

Alignment,

Front end and brakes diagnosis and repair,

Engine diagnosis repair and overhaul,

Transmission diagnosis repair and overhaul,

AC-electrical diagnosis and repair, and

Drivability diagnosis and repair.

This change most certainly will require significant re-tooling and tool storage. The department will be able to supply adequate tools for some areas but will fall short in others with current limited inventory. With the current deficit of vehicle lifts and tool storage, this change will post many challenges without additional funding and support. The department previously purchased tool storage cabinets which were installed on the southwest portion of the laboratory where hosting alignments, front end diagnosis and repair, as well as brakes diagnosis and repair are performed. The west side of the laboratory was prepped for tool storage purchase and installation as well as the installation of the previously purchased automotive lifts, neither of which have come to fruition.

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The department has surplused all of the laboratory machining equipment due to the lack of use and the large amount of space they absorbed, and has moved existing unused workbenches from K114 into the updated K113 machine room and have made a somewhat adequate room to be used for engine overhaul. The department will need to set up a transmission overhaul room in the area that is used to store other shop equipment. Currently, the new uninstalled hoists take the majority of that space.

In order for this transition to happen this room will need some modifications and additions to the current utilities. Water, gas, air and electrical utilities will be affected. Proper transmission overhaul benches will need to be purchased and installed. Tool storage will also need to be purchased and installed to house an abundant amount of necessary special service tools required for this specialty. Lighting will need to be significantly improved with over the bench LED lighting. Air lines will have to be moved and added to be efficient. This room is a good candidate for this transition to the existing overhead hoist and parts washer. Shop equipment that is currently stored in this room will have to be surplus or relocated.

List of vehicles for removal

ID Tag Number
Color
Make Model
Year
GC Number
9A
White
Ford F350
1994
none
**
Grey
Dodge Pickup
?

abandoned by faculty

**

Blue

Mustang

1990

No GC

10A

Grey

Lincoln

2005

No GC

9C

White

Cadillac XTS

1994

No GC

24A

White

Ford F150

1999

No GC

White

Cadillac Eldorado

1994

No GC

4B

White

Chevy Tahoe

2000

044324

20A

Blue

GMC Acadia

2011

071796

14C

White

Cadillac CTS

2004

047199

2B

Black

Cadillac ATS

2013

071787

6B

Grey

Cadillac SRX

2013

068653

3C
Red
Pontiac Solstice
2005
054498
17B
Black
Chevy Colorado
2008
056870
**
Yellow
Pontiac Fiero
1984
No GC
**
White
Chevy Cavalier
2003
No GC
**
White
Ford Expedition
2004
No GC

After relocation of the tools from the tool room to the laboratory area is complete, we will be able to use the existing tool room K103 for additional laboratory space. The current Computer lab is too small for the size of some of the current classes and students have been subject to having to reschedule or use laptop computers in an un-ergonomic position. K103 provides a potential solution to this as it is much larger and can house many more computers but will also require additional funding and support. In addition to relocating the computer lab, the room will likely still provide enough space to have electrical lab boards set up and stored which are currently being utilized in K121 which is not ideal.

Adjunct faculty and laboratory assistants, industry specialists add additional strength to the department.

Q42

IV.14. Please describe your program's challenges:

Vehicle Hoists
The department recognizes the need for increased student access to the laboratory particularly the need to use vehicle hoists for lifting cars and trucks as part of "open laboratory" (see previous program reviews appendix). There has been a lack of vehicle hoists. Recent 2018-2019 Perkins equipment strategies included five automotive lifts purchased that have not been installed. There has been no formal explanations from facilities about why the hoists have remained on the floor in the department for two years since February 2018, or recommendations for installation, requirements, costs, time frames, or any sense of urgency, which should be reported to the grantor. The lack of vehicle lifts impacts department capacity and student access. Seemingly, college district facilities unintentionally limit student success and equity by not supporting or reading previous program reviews. Six above ground lifts exist, have already been installed, and five additional hoists have already been purchased by the college. Historically, the existing hoists is a precedent, and one could argue that the recently purchased hoists, taking space on the floor, sets a different kind of precedent, reflecting beyond the department. It is easier not to change anything, or change orders cost money. For example, the district paid for two architect contracts and two concrete core sampling contracts. The logic that somehow, the hoist manufacturers installation instructions and requirements are not sufficient, a rhetorical undisclosed idea, may retroactively cause the department necessary removal of all existing hoists, or cost significant unanticipated retrograde expense beyond any expectations prior to 2018 district approved Perkins request, without cause, notice, or explanation from facilities. DSA (Division of State Architecture) is able to specify requirements necessary for structural modifications retroactively. The reports from DSA have not been disclosed. Obviously, any recommendations by DSA and facilities would be compared as affecting other college automotive departments using hoists. Who has conducted research?

 One additional consideration, the original request specified in ground hoists, which take less space and have the ability to increase student access because they flush mount to the concrete when not in use. If somehow facilities would have suggested to the architect, completed necessary plans, taken notes, and communicated with stakeholders, possibly students would be learning with hoists during COVID tumultuous times, when social distancing, centralized testing, and open laboratory maybe the new normal, initiated by the department plan and signed by the division Dean.
Vehicle Surplus
The department additionally needs to surplus or donate at least ten vehicles from our inventory that are either dated, do not run, or are used beyond repair. The current parking situation in the vehicle storage area is at capacity. The removal of vehicles and inventory of vehicles requires coordination from district departments. The department is currently expecting delivery of several donated, less dated vehicles and will have limited space to store them, and this posts potential for damage, injury, and hinders efficiency.
Classroom Accessability K121
K121 Still needs to be redesigned for accessibility. This problem has been reported several times. The projector shines light directly onto the instructor during power points. The classroom needs to be reoriented, and two LCD monitors or projectors installed on each side of a podium that is centered. The redesign should increase the seating capacity of the classroom

Q43

IV.15. Please describe external influences that affect your program (both positively and negatively):

The growth of technology provide challenges and opportunities for growth. The technical requirements of entry level technicians is increasing. Change provides opportunities for businesses that adapt and see the future, and are negatively impacted when complacency, the status quo, being like cancer for business and institutions. The curriculum redesign rewards specialization rather than generalization.

Q44

IV.16. Given these factors, what opportunities exist for the program to advance student success and equity in the next 4 years?

Universally designed programs allow a business and student to agree and implement a long term and short term plan by recognizing the vast quantity of expanding technology in all specializations and selecting an area of interest and need to be pursued.

Page 15: V. Previous Goals

Q45

Previous Goal 1:

Replace obsolete equipment
This goal has been ongoing with the most recent removal of the unused equipment from the machine room. The pace is now devoted to transmission service and is being used more during Fall 2020 in one semester compared to the previous 5 years. The department removed approximately 30 training vehicles in 2015 and is requesting removal of 17 more 2021.

Q46

Goal Status

In Progress - Please describe the goal and action steps in the 4-Year Goals section (Section VI)

Page 16: V. Previous Goals continued

Q47

Please describe the results or explain the reason for the deletion/completion of the goal:

Respondent skipped this question

Page 17: V. Previous Goals continued

Q48

Would you like to submit another previous goal?

Yes

Page 18: V. Previous Goals continued

Q49

Previous Goal 2:

Recruit students from local high schools
High school recruitment is ongoing, but needs more specific short term actionable goals. Recently December 2020 we worked with Grossmont and Monte Vista and conducted a joint class session with over 50 students. This was an opportunity to teach students. How does this effort translate to enrollments? How are recruiting activities for effectiveness? There is a possible opportunity to include laboratory assistants in recruiting efforts, requiring high school visits in addition to faculty efforts. The college must realize only two full faculty are committed to recruiting compared to four full time 2013- 2014. We also worked with Ford Motor Company to discuss recruitment strategies in 2017 and has been ongoing, certainly during the last two years of grant funding coinciding with the Ford Automotive Career Exploration (ACE) program. This effort increased student recruitment and work experience placements creating student employee trainees measured by unique STAR ID numbers. Essentially, Cuyamaca College was responsible for global training needs assessment and the result was funded by a California Online College Grant. Now we are in position to work with other community colleges in the regions by providing assessment resources and collaborative student job placement opportunities increasing workforce and increasing the electronic technologies and hard assets like cars and engines at participating schools and colleges. The resulting success reports were received 1-21-21 and are included in the appendix. For example, Palomar College has two students working at Ken Grody Ford resulting from our efforts, and now Palomar has increased their work experience opportunities. Palomar also has the ability to use Ford Web Based training for their general program students, increasing their training technology and student success. How does Cuyamaca College benefit? Cuyamaca has improved its relationship with Ford. Improved its relationship with Palomar College. Broken down systemic silos that impede student learning, leveraging colleges as partners rather than competitors. Cuyamaca provides future resources for authentic assessments, LMS collaboration and integration, and short term courses for dealerships to train existing technicians and new technicians, as well as unique assessment only courses designed to measure student capability who are taking courses at participating colleges.

Q50
Goal Status

In Progress - Please describe the goal and action steps in the 4-Year Goals section (Section VI)

Page 19: V. Previous Goals continued

Q51

Please describe the results or explain the reason for the deletion/completion of the goal:

Respondent skipped this question

Page 20: V. Previous Goals continued

Q52

Would you like to submit another previous goal?

Yes

Page 21: V. Previous Goals continued

Q53

Previous Goal 3:

Monitor grants (Implement grants - apply for grants)
The department implemented one innovation grant for distance education cameras in 2017, and implemented the Online Education
Initiative Grant 2019 -2020. The execution of the grant deliverables was a considerable amount of work and coordination.

Q54

Goal Status

**In Progress - Please describe the goal and action steps
in the 4-Year Goals section (Section VI)**

Page 22: V. Previous Goals continued

Q55

Please describe the results or explain the reason for the
deletion/completion of the goal:

Respondent skipped this question

Page 23: V. Previous Goals continued

Q56

Would you like to submit another previous goal?

Yes

Page 24: V. Previous Goals continued

Q57

Previous Goal 4:

Attend community events
 An actionable goal: Sponsor a series of community events specifically designed and targeted to recruit and train Black high school students and provide them with scholarship support or financial aid.
Improve student success rates. In Process.

There has been a gigantic training gap in the automotive department that is finally in the process of being resolved. Contractually, students not in manufacturers training programs were prevented from having access to state of the art technologies. Now, all students will have access to Ford training technologies. This will improve student learning, and is a result of grant funding and training need assessment. It is going to take a year to see and measure significant changes short term. Further, the implementation of the curriculum improvements will increase graduation and certification student success rates, and more importantly we believe student competency and wage earnings will result from: easier schedule planning, open laboratory, all courses offered distance education, and centralized formative assessments.
Develop different smog class alternatives. Complete
Develop a separate Automatic and Manual Transmission Classes
Four drivetrain course groups have been created/modified and are in the process of being approved. AUTO 121 Automatic Transmission Theory and Operation, AUTO 122 Automatic Transmission Diagnosis and Testing, AUTO 131 Manual Transmission and Transaxle Repair, and AUTO 132 Differential and 4WD Systems are the main course groups created/modified. Each of these groups will include a lecture, laboratory and assessment test out course. A total of twelve courses are in the process of being approved.
Expand Hybrid Alternative Fuels class and consider certificate program
We created both a degree and certificate program. In progress.

2018-2019 Program Review Annual Update Goals:

1. Deploy department open laboratory using cost benefit analysis, and student learning evaluation comparing existing program effectiveness to a one semester pilot test. In Progress
2. The department will submit curriculum and program changes to decrease college credit hours required for graduation and certification by dividing our AS degrees into specialized categories: In Progress
·   Engine Performance and Electronics
·   Powertrain
·   Suspension and Brakes
Automotive Service Management
The major master degrees will remain the same ASSET, ASEP, ASCCA, and general. We will also submit a program curriculum to award our ASSET, ASEP, and ASCCA student state certificates, which has not been previously submitted to the curriculum committee. This change will recognize our student success and allow recognition of specialization by certificate and AS degree.In Progress
3. We need to reorganize our General Motors ASEP program by using adjunct faculty as supplemental teachers assisting our full-time faculty. The ASEP program should be our strongest program since there are more GM dealerships in our region. IN Progress
4. We will redesign our Automotive Skills Day making it a multiregional job fair including other colleges, high schools, manufacturers, and ASCCA. In Progress
5. We will initiate the first ASCCA student cohort mirroring our Ford ASSET and ASEP programs requiring 10 – 12 credit hours of work experience. We will place out students in independent repair dealerships and work closely with our industry partners ensuring students have necessary skills for career readiness. Completed

6. We will publish our department schedule program information to increase resources for students to plan their schedule (pathway), counselors to gain information about programs, and industry partners to gain information about hiring student workers. In Progress

Q58

Goal Status

In Progress - Please describe the goal and action steps in the 4-Year Goals section (Section VI)

Page 25: V. Previous Goals continued

Q59

Please describe the results or explain the reason for the deletion/completion of the goal:

Respondent skipped this question

Page 26: VI. 4-Year Goals

Q60

Goal 1:

Modernize Department Facilities for Open Lab. The facilities are dated and not maintained to industry standards. It seems the college needs to work with the department to install needed hoists, paint, building design, and tools and equipment to create learning stations specific for each specialization. The hours of the lab need to be more open. The labs need to be standardized. The specialization of each manufacturer is differentiated in the lab but not in the objective. Lab assistants need to be part of the instructional support for student learning. Adjunct faculty should not be responsible for lab set up or take down. Courses that have low numbers should be co-enrolled in the open lab. Electronic calendar and scheduling is available in Canvas.

Q61

Which College Strategic Goal does this department goal most directly support? (Check only one)

Student Validation & Engagement

Q62

Please describe how this goal advances the college strategic goal(s) identified above:

Students have tended to wander around. The burden of responsibility for lab assignments design was placed on part time faculty. The attitude of lab assistance was confined to monitoring tool inventory that was/is separated from the students and faculty. People worried about inventory loss more than student learning, efficiency, outcomes. How much inventory would have to be lost to account for the human resource cost and cost from the lack of student learning support? How much gain will be accomplished by moving the tools, designing the tool room as laboratory space with specialized equipment for electronics testing? How much efficacy will be realized when specialty stations are maintained and available for more hours of the day? Student assessment, and student group work will increase if the lab can be organized.

Q63

Please indicate how this goal was informed by SLO assessment results, PLO assessment results, student achievement data, or other qualitative or quantitative data (from any source):

The lab has been ridiculous. Hours are spent every semester moving cars, charging batteries, running out of gas. The successful programs like Ford and GM robbed a full time faculty. The general program students have been disenfranchised from the department resources and technologies.

Q64

Action Steps for the Next Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specific the type of request (e.g., submit technology request for new laptop computers).

Meet with facilities and administration and develop a plan and estimated funding. Continue moving tools into the lab ad hoc. Implement new curricula design which will support open lab. Develop a budget and schedule.

Q65

How will this goal be evaluated?

Student survey and faculty survey. Increased enrollments.

Q66   **Yes**

Would you like to propose a new, 4-year goal?

Page 27: VI. 4-Year Goals continued

Q67

Goal 2:

Electronics Technology Degree and Certificate.
 It seems necessary that a Training Needs Assessment should be performed to assess if training students to work with high voltage commercial and residential electricity, solar panels, and wind turbines is viable. Initially, research about what already exists within the district and what is possible will be required. Electric vehicles are going to increase rapidly over the next five years. Most homes are going to supplement EV charging using solar. East county as wind and solar farms. (discuss with Dean prior to submission)

Q68   **Guided Student Pathways**

Which College Strategic Goal does this department goal most directly support? (Check only one)

Q69   **Respondent skipped this question**

Please describe how this goal advances the college strategic goal(s) identified above:

Q70   **Respondent skipped this question**

Please indicate how this goal was informed by SLO assessment results, PLO assessment results, student achievement data, or other qualitative or quantitative data (from any source):

Q71

Action Steps for the Next Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specific the type of request (e.g., submit technology request for new laptop computers).

Respondent skipped this question

Q72

How will this goal be evaluated?

Respondent skipped this question

Q73

Would you like to propose a new, 4-year goal?

No

Page 28: VI. 4-Year Goals continued

Q74

Goal 3:

Respondent skipped this question

Q75

Which College Strategic Goal does this department goal most directly support? (Check only one)

Respondent skipped this question

Q76

Please describe how this goal advances the college strategic goal(s) identified above:

Respondent skipped this question

Q77

Please indicate how this goal was informed by SLO assessment results, PLO assessment results, student achievement data, or other qualitative or quantitative data (from any source):

Respondent skipped this question

Q78

Action Steps for the Next Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specific the type of request (e.g., submit technology request for new laptop computers).

Respondent skipped this question

Q79

How will this goal be evaluated?

Respondent skipped this question

Q80

Would you like to propose a new, 4-year goal?

Respondent skipped this question

Page 29: VI. 4-Year Goals continued

Q81

Goal 4:

Respondent skipped this question

Q82

Which College Strategic Goal does this department goal most directly support? (Check only one)

Respondent skipped this question

Q83

Please describe how this goal advances the college strategic goal(s) identified above:

Respondent skipped this question

Q84

Please indicate how this goal was informed by SLO assessment results, PLO assessment results, student achievement data, or other qualitative or quantitative data (from any source):

Respondent skipped this question

Q85

Action Steps for the Next Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specific the type of request (e.g., submit technology request for new laptop computers).

Respondent skipped this question

Q86

How will this goal be evaluated?

Respondent skipped this question

Page 30: VII. Resources Needed to Fully Achieve Goal(s)

Q87

What resources is your program requesting this year to achieve the program's goals? (Check all that apply)

Faculty Resource Needs,

Technology Resource Needs,

Supplies/Equipment and Other Resource Needs,

Facilities Resource Needs

Page 32: Final Check

Q88

Are you ready to submit your program review?If you would like to go back and review a section, select a section a click "Next."

I am ready to submit my program review