Transportation Technologies PUR 2018-19 Latest Version

Transportation Technologies PUR 2018-19 (CTE Programs)

I. PROGRAM/UNIT OVERVIEW

Program or Unit Description : Version by **Byington, Sam** on **10/15/2018 16:19**

Describe the program/unit, including but not limited to the following: academic division that the program/unit belongs to, the academic areas and degrees/certificates offered, average student enrollment, number of full-time faculty, type of curriculum or pedagogical approaches, and any other pertinent aspect of the program/unit.

The Transportation Technologies Unit of Truckee Meadows Community College provides training that meets industry and government standards and aids in the growth and development of northern Nevada's workforce by providing quality education to those seeking to begin or advance their career in the transportation industry. Individual unit programs consist of general education courses and emphasis-specific technical courses, which provide students with the knowledge and skills needed to be successful in today's high-tech transportation workplace.

The Transportation Technologies Unit is a member of the Technical Sciences Division of Truckee Meadows Community College and is located at the Edison campus William N. Pennington Applied Technology Center. The major programs and area of study within the Transportation Technologies Unit are Automotive, Diesel and Aviation. The majority of Transportation Technologies students attend their specialized emphasis training and many of their general education courses at Edison campus.

Program or Unit Mission : Version by **Byington, Sam** on **10/15/2018 16:26**

State the department's or unit's mission, and describe how it aligns to the College's Mission and Core Themes (http://www.tmcc.edu/about/). If your department or unit does not currently have a mission statement, please discuss among your colleagues and develop one.
To deliver thorough, industry-relevant curriculum and effective student-centered instruction capable of providing students with the intellectual tools and physical skill-sets required to pursue successful employment, career advancement, and personal growth within the transportation industries.

Our mission is consistent with the College mission. In promoting scholarship, and analytical thinking skills. Our focus is on lifelong learners, student success, and academic excellence.

Degrees and/or Certificates Offered : Version by **Clifford, Donna** on **03/20/2019 21:41**

Degree and/or Certificates Offered
Associate of Applied Science, Transportation Technologies, Automotive Certified Tech
Associate of Applied Science, Transportation Technologies, Diesel Technician
Certificate of Achievement, Transportation Technologies, Auto General Service Tech
Certificate of Achievement, Transportation Technologies, Automotive ASE Technician
Skills Certificate, Automotive Service Excellence (ASE), Basic
Skills Certificate, Automotive Service Excellence (ASE), Diesel Technician: Heavy Duty Power Trains
Skills Certificate, Automotive Service Excellence (ASE), Diesel Technician: Light and Heavy Duty (HD) Diesel Engines
Skills Certificate, Automotive Service Excellence (ASE), General
Skills Certificate, Automotive Service Excellence (ASE), Master
Certificate of Achievement, Transportation Technologies, Diesel Technician
Certificate of Achievement, Unmanned Aerial Systems Technician

Program Learning Outcomes : Version by **Deadmond, Melissa** on **04/29/2019 17:52**

Program (Degree or Certificate Learning Outcomes)
Automotive, Unmanned Aerial Systems, Diesel
PSLO
Associate of Applied Science, Transportation Technologies, Automotive Certified Tech
Analyze and interpret diagnostic and test information to formulate correct repair procedures.
Demonstrate correct repair strategies and techniques by applying knowledge of system operation and demonstrating mechanical skills to accomplish repair tasks.
Identify and implement safety procedures involved in diagnosis, service, and repair of all major light vehicle components and systems.
Associate of Applied Science, Transportation Technologies, Diesel Technician
Identify and implement safety procedures involved in diagnosis, service, and repair of all major medium/heavy duty truck and heavy equipment components and systems.
Analyze and interpret diagnostic and test information to formulate correct repair procedures.
Demonstrate correct repair strategies and techniques by applying knowledge of system operation and demonstrating mechanical skills to accomplish repair tasks.

Program (Degree or Certificate Learning Outcomes)
Certificate of Achievement, Transportation Technologies, Auto General Service Tech
Analyze and interpret diagnostic and test information to formulate correct repair procedures.
Demonstrate correct repair strategies and techniques by applying knowledge of system operation and demonstration of mechanical skills to accomplish repair tasks.
Identify and implement safety procedures involved in diagnosis, service, and repair of all major light vehicle components and systems.
Certificate of Achievement, Transportation Technologies, Automotive ASE Technician
Analyze and interpret diagnostic and test information to formulate correct repair procedures.
Demonstrate correct repair strategies and techniques by applying knowledge of system operation and demonstration of mechanical skills to accomplish repair tasks.
Identify and implement safety procedures involved in diagnosis, service, and repair of all major light vehicle components and systems.
Skills Certificate, Automotive Service Excellence (ASE), Basic
Identify, test, and interpret failed electrical systems and components, and formulate appropriate repair strategies.
Identify, test, and interpret failed systems for automatic transmissions, manual drive trains and axles, and apply appropriate repair strategies.
Demonstrate knowledge of the appropriate workplace skills and tools, including the application of personal and mechanical safety measures used in automotive systems diagnoses and repair.
Skills Certificate, Automotive Service Excellence (ASE), Diesel Technician: Heavy Duty Power Trains
Analyze and apply the proper heavy duty drive and power train components, diagnosis, rebuild, and repair procedures.
Identify, test, and interpret failed heavy duty drive and power train components, and apply appropriate repair strategies.
Analyze and apply appropriate workplace skills and tools, including the application of personal and mechanical safety measures in the workplace.
Skills Certificate, Automotive Service Excellence (ASE), Diesel Technician: Light and Heavy Duty (HD) Diesel Engines
Analyze and apply the proper light and heavy duty diesel engines diagnoses, rebuild, and repair procedures.
Identify, test, and interpret failed light and heavy duty diesel engine components, and apply appropriate repair strategies.
Analyze and apply appropriate workplace skills and tools, including the application of personal and mechanical safety measures in the workplace.
Skills Certificate, Automotive Service Excellence (ASE), General
Identify, test, and interpret failed engine systems and apply appropriate repair strategies.
Identify, test, and interpret failed steering, suspension, and brake systems, and apply appropriate repair strategies.
Demonstrate knowledge of the appropriate workplace skills and tools, including the application of personal and mechanical safety measures used in general automotive systems diagnoses and repair.
Skills Certificate, Automotive Service Excellence (ASE), Master
Identify, test, and interpret failed heating and air conditioning systems, and formulate appropriate repair strategies.
Identify, test, and interpret failed engine, powertrain, and emission components, and formulate repair strategies.
Demonstrate knowledge of the appropriate workplace skills and tools, including the application of personal and mechanical safety measures used in engine performance diagnosis and repair.
Certificate of Achievement, Transportation Technologies, Diesel Technician
Demonstrate correct repair strategies and techniques by applying knowledge of system operation and demonstration of mechanical skills to accomplish repair tasks.
Identify and implement safety procedures involved in diagnosis, service, and repair of all major medium/heavy duty truck and heavy equipment components and systems.
Certificate of Achievement, Unmanned Aerial Systems Technician
Analyze the past, present, and future of unmanned aircraft systems (UAS) in civil aviation and explain how UAS can support a wide variety of civil applications.
Explain theories of operations for unmanned aerial systems components.
Use mathematical computations to develop and construct an unmanned aerial system.

General Education Learning Outcomes : Version by **Clifford, Donna** on **09/07/2018 17:35**

General Education Learning Outcomes Assessed by the Department/Unit
Truckee Meadows
ISLO
Quantitative Reasoning
Students will construct a generalized model based on the specifics of a system being investigated.
Students will deduce the consequences of a particular model under different contexts, scenarios and/or constraints

General Education Learning Outcomes Assessed by the Department/Unit
Students will evaluate mathematical and/or logical results for issues of validity, accuracy and/or relevance to the real world
Students will make hypotheses and/or predictions
Students will modify models based on new information
Students will represent the relevant details of a system in terms of the appropriate scientific and/or mathematical model.
Students will translate the parameters of a scientific and/or mathematical model into the details of the system being modeled.
Students will use appropriate mathematics to solve application problems
Students will use the mathematics appropriate to a particular problem to obtain correct solutions.
People and Cultural Awareness
Students will analyze and articulate the ways in which individuals, groups, and institutions influence society.
Students will analyze and/or explain the impact of culture and experience on one's worldview and behavior, including assumptions, biases, prejudices, and stereotypes
Students will compare economic, historical, political, cultural, and/or social dynamics of diverse world cultures.
Students will critique the aesthetic and creative processes/products represented in particular cultural contexts constructively and respectfully.
Students will describe and/or explain responsibilities of ethical, contributing members living in diverse societies
Students will explain ethical positions and/or culturally-situated ideologies that may differ from their own.
Information Literacy
Students will accurately represent information sources with an understanding of scope and context.
Students will critically evaluate information sources for reliability, validity, accuracy, authority, timeliness, point of view, and/or bias.
Students will identify the nature and extent of the information sources needed to complete the task.
Students will properly cite sources of information
Students will use information sources to accomplish a specific purpose.
Critical Thinking
Students will analyze and evaluate the context, assumptions, and/or bias regarding the main problem, issue, or arguments.
Students will discuss the implications and consequences of their own work, including conclusions, findings, projects, or products.
Students will draw valid conclusions
Students will evaluate the quality of supporting data or evidence.
Students will identify and evaluate relevant and valid points of view, including cultural values, conceptual models, theoretical frameworks, or different methodologies
Students will identify and summarize, or explain the main question(s), problem(s), issue(s), points and/or argument(s).
Students will state a position, perspective, thesis, hypothesis, argument, or findings, based on a line of reasoning and/or evidence.
Communication
Students will develop and express a thesis through an appropriate use of evidence/ logic/data.
Students will display appropriate listening behaviors. This includes the attention to messages, the clarification of shared meaning, and the nonverbal confirmation of comprehension.
Students will display effective group participation through the application of group discussion, group interaction, and public group presentation.
Students will examine messages from print, electronic, and/or visual sources. Students will interpret meaning and credibility of the message.
Students will use effective verbal and written delivery techniques. These include the appropriate use of structure, content, language, execution, technology, and non-verbal cues.
Students will utilize audience analysis in the development of the communication message

Five-Year Plan Summary : Version by **Byington, Sam** on **11/26/2018 18:37**

What are the major objectives that the department/unit hopes to accomplish, including an estimated time to completion?

The Transportation Technologies Unit plans for the next five years will include the following:

1. Search out and develop a Hybrid Program track for the AAS degree. Includes development of curriculum, Submitting course titles and numbering, descriptions, objectives, outcomes and measures to CAP.
2. Search out and develop factory-authorized training for our students with partnerships in training of our students and faculty.
3. Expand the NC3 program to include more up to date technology.
4. Update our Training vehicles for student hands-on experiences.
5. Update and streamline class schedules to give students better chance to finish degree in two-year period.
6. Update Diesel training aides to newer technology.

How does the department/unit plan to improve student learning?
The Transportation Technologies Unit must continuously evaluate the class scheduling criteria, instructor workload, and to ensure courses are offered in appropriate sequences, without conflicts, and at times convenient and appropriate for its student population.
How does the department/unit plan to improve degree and/or certificate completions or course completions?
Degree and Certificate rates have been consistently steady throughout the last PUR study period, however, the programs must continue to emphasize the importance and benefits of graduation to both its students and industries it serves in order to attain greater completion rates.
How does this departmental/unit level plan align to the College's mission (http://www.tmcc.edu/about/) and Strategic Master Plan (http://www.tmcc.edu/media/tmcc/departments/accreditation/documents/reports/2014/ACCRStrategicPlan2014.pdf#search="strategic master plan")? Specifically, to which core theme(s), objective(s), and indicator(s) does (do) the departmental/unit level plan align?
Truckee Meadows Community College promotes student success, academic excellence and access to lifelong learning by supporting high-quality education and services within our diverse community.

To deliver thorough, industry-relevant curriculum and effective student-centered instruction capable of providing students with the intellectual tools and physical skill-sets required to pursue

successful employment, career advancement, and personal growth within the transportation industries.

The Transportation Technologies Units mission statement aligns with the college mission statement. All themes, objectives and indicatores align with the college.

What resources does the department/unit anticipate needing in order to complete the 5-year plan?

The Transportation Technologies Unit will need:

1. Instructors to expand course selections.
2. Reorganization of shop and facilities.
3. Shop Painted.
4. More storage space.
5. Classroom space.
6. Updated vehicle inventory.
7. Updated diagnostic equipment.
8. Laptops and cart.
9. New alignment rack.
10. Expansion of NC3 program.

II. CURRENT STATUS OF THE PROGRAM/UNIT

Summary of Previous PUR Findings and Annual Progress Reports (APRs) : Version by **Byington, Sam** on **01/17/2019 20:59**

Program/Unit	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Transportation Technologies	PUR	APR				

Describe the major findings and recommendations for the program/unit from the last PUR and any APRs.

- Complete required SLO work due and gain approval of courses.
- Create Skills Certificates that reflect meaningful work readiness skills in partnership with Advisory Committees.
- Continue to work on strategies to encourage more students to gain the AAS degree, the Certificate of Achievement, or a Skills Certificate.
- Work with recently-hired job placement specialist to track students into the workplace, both those who drop out of the program early and those who graduate.
- Seek space and equipment needed for Transportation Technologies programs as part of the renovation of the Applied Technologies Center.
- Continue to explore opportunities for new training programs that are responsive to the needs of the State. Current possibilities include motorcycle repair, aviation maintenance, or diesel training for mining.
- Support development of new training programs needed by the State if financial resources can be found in partnership with industry. Support and monitor completion of required SLO work due and the approval of courses.
- Coordinate job placement and tracking of graduates into the workplace in partnership with alumni activities.
- Address space needs as part of the IGT Applied Technologies Center renovation; Create plan for equipment replacement and update in this technology-intensive unit.
- Development – In addition to recent grant for renovation of building, continue to look for private funding for this program.

Which findings and recommendations has the program/unit addressed?

The Transportation Technologies Unit has addressed all of the recommendations and findings from the last PUR. The Transportation Technologies Unit has determined that the major findings from the last PUR will need to be accessed and readdressed as technology advances in the transportation technology field. With this information, more student learning outcomes and changes in the degree and certifications will need to be updated. New opportunities for training that will align with the needs of the state will be required. More space and newer equipment will be required to maintain the level of training needed in the transportation industry.

Which have yet to be accomplished? Which are no longer relevant, and why?

The Transportation Technologies Unit has accomplished all of the recommendations and findings from the last PUR. The Transportation Technologies Unit has determined that the major findings from the last PUR will always be relevant and need to be accessed, and readdressed as technology advances in the transportation technology field. With this information, more student learning outcomes and changes in the degree and certifications will need to be updated. New opportunities for training that will align with the needs of the state and industry will be required. More space and newer equipment will be required to maintain the level of training needed in the transportation industry.

Describe any major changes that the program/unit has undergone since the last PUR.

The Transportation Technologies Unit major changes are:

- Three new instructors two Automotive and one Diesel
- New tenured faculty
- Full time tool room attendant
- New diesel equipment
- Snap-On NC3 Training
- Building remodel and new storage area
- New equipment and testing tools
- 4 new lifts for automotive
- New crane and overhead lift for diesel

External Review : Version by **Byington, Sam** on **10/23/2018 17:38**

If applicable, describe the major recommendations made by external reviewers, such as advisory boards, articulation committees, program accreditors, etc. What progress had the department/unit made towards those recommendations?

The Transportation Technologies Unit has an advisory committee composed of local automotive and diesel representatives that are the primary source of external review. The Automotive program is accredited every five years by the National Automotive Technicians Education Foundation (NATEF). The Automotive curriculum is certified as a master automotive training program in all eight ASE areas. All efforts are made, however, to adhere to current local and industry needs. The recommendations from these committees and accreditation organizations align with the transportation industry needs. The Transportation Technologies Unit is involved in an ongoing effort to upgrade and replace older technology and equipment to align with the transportation industry needs.

III. CURRICULUM

Career and Technical Education Programs (AAS Degrees, Certificates, Skills Certificates) : Version by **Seybold, Paul** on **11/30/2018 19:58**

Describe how career and technical education programs are meeting industry needs by answering the accompanying quesitons. The following are potential resources for labor market data:
U.S. Bureau of Labor Statistics (http://www.bls.gov/)
Nevada Department of Employment, Training and Rehabilitation (DETR) (http://www.nvdetr.org/)
Economic Development Authority of Western Nevada (EDAWN) (http://edawn.org/)

What is the evidence for the regional need for the program (DETR and EDAWN data)?
According to the U.S. Bureau of Labor Statistics (2017) employment is projected to increase from 749,900 positions in 2016 to 795,800 in 2026 for Automotive Service Technicians and Mechanics. This is a 6% growth in the industry and is considered as fast as average. According to Nevada Department of Employment, Training and Rehabilitation (DETR) (http://www.nvdetr.org/) in the Reno/Tahoe/Carson area employment is projected to increase from 1714 positions in 2017 to 1779 in 2019; this is approximately a 4% growth.

Conducting a search on Indeed job searching website found that for the area of Reno/Sparks/Carson there were 76 full time position openings with 73 of those being entry level. Nationwide there were 35,163 full time position openings with 27,559 of those being entry level. This data is from November 29, 2018.

What is the evidence that the program is offering curriculum that meets the latest industry trends or workforce needs?
The program has changed curriculum delivery method to more online based training using canvas. With the industry trend toward more electronic media this was a necessary step. The program added multiple certificates in all areas of study through a collaboration with NC3 (National Coalition of Certification Centers), which is a partnership with industry leaders and colleges. These certifications can be used by the students to demonstrate to employers the skills they attained while attending TMCC.

The program has changed course content to reflect the trends in the industry including working on adding an alternative fuels class and a hybrid/EV (Electric Vehicle) class to be taught starting in Fall 2019. Along with these changes to the lecture curriculum, the program is currently looking to invest in a newer fleet of vehicles so that lab curriculum could be updated to reflect industry trends.

The program has also invested in tools and equipment to work on newer vehicles so that lab curriculum could be updated. This includes new scan tools (both Snap-on and factory), laptops for use in the lab to look up information on related databases and also for taking tests in the classroom, electronic test equipment for newer vehicle starting and charging systems, electronic torque wrenches, precision measurement tools, and the newest refrigeration recycling equipment for R1234yf.

Are skills certificates and certificates of achievement stackable within an AAS? Explain.
The program offers two certificates of achievement and three skills certifications. All these certificates are stackable within an AAS degree.

The AAS degree offers the following courses as emphasis for the degree: Auto 101, Auto 111, Auto 112, Auto 136, Auto 145, Auto 150, Auto 225, Auto 227, Auto 265, and OSH222. The degree offers three tracks for completion, track 1 includes: Auto 205, Auto 216, and Auto 290; track 2 includes; Auto 165, Auto 235, and Auto 290; and track 3 includes: Auto 185, Auto 285, and Auto 290.

The General Skills certification for Automotive Technician includes: Auto 136, Auto 145, and Auto 150. The Basic Skills certification for Automotive Technician includes: Auto 111, Auto 112, Auto 205, and Auto 216. The Master Skills certification for Automotive Technician includes: Auto 265, Auto 225, Auto 227, and Auto 235. Certificate of achievement for ASE Technician includes all the general emphasis classes for the AAS degree. The certificate of achievement for General Service Technician includes: Auto 101, Auto 111, Auto 112, Auto 136, Auto 145, Auto 150, and OSH 222.

A student could stack the Skills certification and Certification of Achievement inside an AAS degree program by taking the General Skills certification first, taking the General Service Technicians certificate of achievement second, taking the ASE Technician certification of achievement third, and finally taking either the Basic Skills certification or the Master Skills certification last to achieve the AAS degree.
Does the program's suggested course sequence and scheduling allow for efficient completion of the AAS, Certificate of Achievement, or Skills Certificate? Are there any hidden prerequisites? Explain.
In the Fall of 2017 the process of changing the course sequences was started and was finalized for the start of the Fall 2018 semester. The course sequence was changed to reflect the embedment of math and human relations. The scheduling was changed so that all track class would be offered in the spring.

The major change to the schedule and course sequence was a change to block scheduling. The program had run a tradition schedule where classes ran Monday-Wednesday-Friday or Tuesday-Thursday. The classes could run 7 weeks or 14 weeks depending on the contact hours that were required and the days they were taught. This was changed to run the classes on Monday-Thursday for a five-week period. This allowed for three courses to be ran consecutively through the semester in both the morning and afternoon. It also now allows students who can take credit overloads to complete their degree in less than two years. Also, by changing this schedule a student could start in either the Fall semester or Spring semester and still complete their degree in two years.

The night schedule was not changed to block scheduling because these students are usually non-traditional and work full time jobs during the day. The night classes still run a traditional schedule of either Monday-Wednesday or Tuesday-Thursday for 14 weeks. If a student attends night classes it will slow their progress toward getting a degree.

Is program information up-to-date in the catalog? Explain.
Because of all the recent changes to the program the information is not currently up-to-date in the catalog. Starting in the Fall of 2019 the information in the catalog will be current.

Accessibility of Instructional Materials : Version by **Ziebell, Wyatt** on **11/08/2018 15:59**

What is the department/unit currently doing or plan to do to help ensure that instructional materials are accessible to students with disabilities? For example, have you attended or participated in any accessibility training? Have you used the accessibility pre-purchase checker when purchasing new curricular materials?
The Transportation Technologies Unit has made all textbooks and materials accessible to students with disabilities. We have given our textbooks and workbooks to the TMCC Disability Resource Center in order to make sure that the materials are accessible to students with any disabilities. We have also made sure that the Disability Resource Center has communication with the publisher of our textbooks in order to make sure any new versions of textbooks are also accessible to any students with disabilities.

IV. PROGRAM/UNIT ASSESSMENT

Evidence of Program Assessment : Version by **Byington, Sam** on **11/21/2018 19:37**

What is the evidence of student learning in the program as a result of course-level assessment? Please review past course assessment reports (CARs) and follow the outline below:

1. **Program Student Learning Outcome (PSLO)**
    1. **List a course and CSLO that aligns to this PSLO**
        1. **Summarize the most significant CSLO assessment results and subsequent plans that were implemented to try and improve teaching and learning.**
    2. **List a second course and CSLO that aligns to this PSLO**
        1. **Summarize the most significant CSLO assessment results and subsequent plans that were implemented to try and improve teaching and learning.**
    3. ***Repeat until all courses and CSLOs that map to this PSLO are included . . .***
        1. ***Repeat until all assessment result and improvement plan summaries are complete. . .***

Map Origin: Courses for Automotive
Map Target: Associate of Applied Science, Transportation Technologies, Automotive Certified Tech

	Associate of Applied Science, Transportation Technologies, Automotive Certified Tech		
CSLOs	Analyze and interpret diagnostic and test information to formulate correct repair procedures.	Demonstrate correct repair strategies and techniques by applying knowledge of system operation and demonstrating mechanical skills to accomplish repair tasks.	Identify and implement safety procedures involved in diagnosis, service, and repair of all major light vehicle components and systems.
AUTO101			
Students will demonstrate mechanical aptitude in the performance of basic maintenance service items using correct tools, equipment and procedures.	Mechanical aptitude will be measured by documented instructor observation, written exams, and hands-on lab task sheets	Students used a workbook with30 lab worksheets that covered all five areas of instruction. On the post-test, students demonstrated an overall score of 79% on tool usage	Individual scores for use of lab worksheets during shop activities mirrored the final score for that student.
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	Instructor will measure student proficiency in workplace safety by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets	Students demonstrated an overall pre-test of 43% in shop safety information and a score of 67% in the post-test on all pre-test and post-test questions. Students scored an overall score of 88% on all safety related written exams and lab worksheets	Our target score for safety related questions and lab activities was set a 92%.
Students will synthesize an understanding of principles of design, construction, operation, and maintenance of light duty vehicles.	Instructor will measure student proficiency in understanding of vehicle systems by documented instructor observation, written exams, and hands-on lab task sheets	Instructors used a pre-test and post-test to evaluate overall increase or decrease of basic vehicle operation and maintenance items. Pre-test results showed an average score of 37% for knowledge of basic design, construction, operation, and maintenance. Post-test results showed an average score of 63%. An increase of 34% for pre-test questions	We have updated our chapter review questions in the workbook to enhance vehicle operating systems and the need for vehicle scheduled maintenance. Inspection lab worksheets have been revised to enhance vehicle inspections.
AUTO111			
Student will identify the failure and repair of circuit or component failures using appropriate specialized tools and precision electrical test equipment.	My evaluation of the worksheets indicated that the more rigorous hands-on worksheets and new training aides did help the student become better prepared to diagnose and repair failed components	Mechanical aptitude will be measured by use of NATEF certified task worksheets in P-1, P-2 and P-3 areas. Students must accomplish all tasks with an overall grade of 80% or more for each area.	The data indicates students need to validate their hands-on skill levels further by the use of more improved worksheets and other training opportunities that exhibit real world conditions in the transportation repair industry.
Student will locate and identify schematic wiring diagrams to formulate correct testing, diagnosis and repair procedure of electrical circuits or components. This includes the application of basic algebra in the solution of applied technical problems.	Students demonstrated an overall increase of 62% for Electrical Systems I technology from the pre test to the post test.	Students will participate in a pre and post test. All pre test questions are controlled questions. The post test will have all pre test questions embedded within the post test	The data indicates the instructor has improved student retention of materials with more hands on activities and improved training aides.
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	My evaluation of the Proficiency and use of tools and equipment indicates students need more hands on activities and projects to better evaluate their skill levels. Oral reports of group projects has helped with Human Relations aspect of course.	Instructor will use this information to increase hands on activities to increase workplace skills. Chrysler Factory testing has been added to the curriculum which has courses for the students to further understand the human relations aspect.	The data indicates students will become better prepared for the transportation repair industry.
AUTO112			
Students will correctly interpret wiring diagrams and operation of electronic devices, battery, starting, and charging systems.	Students demonstrated an overall increase of 55% for Electrical Systems II technology from the pretest to the post test.	Students will participate in a pre and posttest. All pretest questions are controlled questions. The post test will have all pretest questions embedded within the post test	Instructors evaluated the data and found significant improvements in A. Starters and Starter testing. B. Electrical fundamentals. Limited improvement was observed in A. Batteries and battery testing. B. Generator and generator testing.

Students will demonstrate mechanical aptitude for testing circuits and components. Students will formulate strategy for repair of component or system failure. Students will apply correct use of specialized equipment and tools to accomplish component or system	Our evaluation of the worksheets indicated that the more rigorous hands-on worksheets did help the student become better prepared to diagnose and repair failed components.	Mechanical aptitude will be measured by use of NATEF certified task worksheets in P-1, P-2 and P-3 areas. Students must accomplish all tasks with an overall grade of 80% or more for each area.	Instructors will use this information to upgrade task worksheets further to reflect needed hands-on skills for entry level employment.
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	My evaluation of the Proficiency and use of tools and equipment indicates students need more hands on activities and projects to better evaluate their skill levels. Oral reports of group projects has helped with Human Relations aspect of course.	Instructor will measure student proficiency in the correct use of test equipment and repair procedures by documented instructor observation, ASE correlated written exams, homework, and NATEF certified hands-on lab task sheets.	The data indicates students will become better prepared for the transportation repair industry.
AUTO136 Student will employ appropriate workplace skills, including the application of personal and mechanical safety measures. Students will identify different engine configurations and all major engine components and sub-systems. Students will identify, test, and interpret failed systems or components. Students will formulate strategies for repair procedures for failed system or components. Students will apply use of specialized tools to accomplish component or system repairs. Students will be able to add, subtract, multiply and divide whole numbers, common fractions and decimal fractions when solving applied technical problems. Students will use units correctly and convert between metric and standard units of measure. Students will use a variety of precision measuring instruments correctly when inspecting mechanical components. Students will apply strategies to enhance effectiveness of multiple modes of communication in the workplace. AUTO145 Student will formulate the appropriate repair strategy for failed system or component. Student will use the correct specialized tools to accomplish repair of failed brake system or component. Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures. Students will identify, test, and interpret brake system or component failures. Students will be able to calculate areas and volumes as applied to the solution of applied technical problems. Students will use ratios, proportions, angular measure and percentages in the solution of applied technical problems. Students will analyze what constitutes negative attitudes, the impact these have on conflict, and apply conflict resolution methods to workplace situations. AUTO150 Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures. Students will identify different types of steering systems, suspension systems, and control components.			

Students will identify, test, and interpret failed steering and suspension components. Students will formulate the correct repair strategy for the failed component. Students will use the appropriate specialized tools to repair the failed component Students will use angular measure to solve applied technical problems. Students will use a variety of precision measuring instruments correctly when inspecting mechanical components. Students will identify different communication strategies and will appropriately apply them to case studies or in workplace situations. AUTO165			
Student will locate and identify heating and air conditioning systems, components, and their operation.	Students demonstrated an overall increase of 33% for Automotive Heating and Air Conditioning technology from the pre test to the post test.	Students will participate in a pre and post test. All pre test questions are controlled questions. The post test will have all pre test questions embedded within the post test.	Instructor evaluated the data and found significant improvements in: A. A/C diagnosis and Repair. B. A/C component Repair. C. Recover and Recycling diagnosis. Limited improvement was observed in: A. Heat and Engine Cooling Diagnosis. B. Operating systems and Controls.
Students will develop hands-on skills needed to operate refrigerant handling and recycling equipment.	Our evaluation of the worksheets indicated that more hands-on worksheets would help the student become better prepared to diagnose and repair failed components.	Mechanical aptitude will be measured by use of NATEF certified task worksheets in P-1, P-2 and P-3 areas. Students must accomplish all tasks with an overall grade of 80% or more for each area.	Instructor will use this information to make new task worksheets to reflect needed hands-on skills for entry level employment.
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	My evaluation of the Proficiency and use of tools and equipment indicates students need more hands on activities and projects to better evaluate their skill levels. Oral reports of group projects has helped with Human Relations aspect of course.	Instructor will measure student proficiency in the correct use of test equipment and repair procedures by documented instructor observation, ASE correlated written exams, homework, and NATEF certified hands-on lab task sheets.	The data indicates students will become better prepared for the transportation repair industry.
Students will identify, test, and interpret failed electronic climate control systems. Students will formulate the correct repair strategy for the failed component or system. Students will use the appropriate specialized tools and equipment to repair the AUTO198 Individualized specific learning outcomes will be written by the student an faculty member. Students will demonstrate the ability to synthesize existing knowledge, abilities, and skills with new practical skills on specific types of automotive equipment. AUTO205 Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures. Students will identify drivetrain configurations, components, and operation of components. Students will identify, test, and interpret failed drivetrain components. Students will formulate repair strategies for drivetrain components. Students will use appropriate specialized tools to repair drivetrain components. AUTO216	Our evaluation of the worksheets indicated that more hands-on worksheets would help the student become better prepared to diagnose and repair failed components.	Mechanical aptitude will be measured by use of NATEF certified task worksheets in P-1, P-2 and P-3 areas. Students must accomplish all tasks with an overall grade of 80% or more for each area.	Instructor will use this information to make new task worksheets to reflect needed hands-on skills for entry level employment.
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	Our evaluation of the hands on worksheets and lack of training aids for Transmission Principals showed poor results on the final test.	Instructor will measure student proficiency in workplace safety by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets.	Instructors will use this information to improve presentations and worksheets for Transmission Principals.

Students will identify different transmission configurations and major transmission components and operation.	Students demonstrated an overall increase of 59% for Automatic Transmission technology from the pretest to the post test.	Instructor will measure student proficiency in identification of transmission/transaxle configurations and major components by documented instructor observation, ASE corrlated written exams, and NATEF certified hands-on lab task sheets.	Instructors evaluated the data and found significant improvements in A. Transmission Diagnosis B. Transmission Unit repair Limited improvement was observed in A. Transmission Principals B. Transmission Service
Students will identify, test, and interpret failed transmission components or systems. Students will formulate repair strategies for transmission or transaxle repair. Students will use the appropriate specialized tools and equipment to repair transmission AUTO225	Our evaluation of the worksheets indicated that more rigorous hands-on worksheets are needed to help the student become better prepared to diagnose and repair failed components.	Instructor will measure students proficiency for the correct repair procedure and correct use of specialized tools and equipment by documented instructor observation, ASE correlated written exams and NATEF certified hands-on lab Task sheets.	Instructors will use this information to upgrade task worksheets further to reflect needed hands-on skills for entry level employment.
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	Instructor will measure student proficiency in workplace safety by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets	Students demonstrated an overall score of 88% on all safety related written exams and lab worksheets Our target score for safety related questions and lab activities was set a 92%.	Using our analysis, instructors will improve presentation of written safety information and lab activity worksheets. Our target score will be 95% for our next assessment.
Students will formulate repair strategies for failed ignition system or fuel delivery system. Students will use appropriate specialized tools and equipment to repair ignition system or fuel delivery system.	Instructor will measure student proficiency in Diagnostic and correct repair procedures by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets	Instructor used a pre-test before instruction and a post-test to evaluate overall increase or decrease in basic engine performance knowledge. NATEF lab worksheets were used to evaluate student performance.	Pre-test results showed an average score of 47%. Post-test results showed an average score of 81% on all pre-test questions. An increase of 34%
Students will identify, test, and interpret failed engine components, and fuel delivery components.	Instructor will measure student proficiency in Diagnostic and correct repair procedures by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets	Hands-on worksheets were not used in our 2008 assessment. In our 2014 assessment we used worksheets to determine student mechanical aptitude in engine performance diagnostic and repair procedures.	Overall class lab sheet scores totaled 95%. This score was higher than what we expected but we did not update and improve or lab sheets after 2008 assessment. Lab worksheet scores mirrored the amount of increase in the students score and final grade
Students will use simple algebra to solve applied technical problems. Students will use area, volume and distance formulas of circles, spheres, and cylinders when solving applied technical problems. Students will identify ethical issues in a shop environment and work in groups to complete laboratory assignments requiring accurate communication AUTO227			
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	Instructor will measure student proficiency in workplace safety by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets	Students demonstrated an overall score of 91% on all safety related written exams and lab worksheets Our target score for safety related questions and lab activities was set a 92%.	Using our analysis, instructors will improve presentation of written safety information and lab activity worksheets. Our target score will be 95% for our next assessment
Students will identify, test, and interpret failed powertrain or emission components. Students will formulate the repair strategies for failed component or system. Students will use appropriate specialized tools and equipment to repair failed component or	Instructor will measure student proficiency in Diagnostic and correct repair procedures, use of specialized tools and equipment by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets	Instructor used a pre-test before instruction and a post-test to evaluate overall increase or decrease in basic engine performance knowledge. NATEF lab worksheets were used to evaluate student performance.	Pre-test results showed an average score of 46%. Post-test results showed an average score of 81% on all pre-test questions. An increase of 38%
Students will locate and identify powertrain control sensors, components, and emission components.	Instructor will measure student proficiency in locating and identifying powertrain sensors and emission components by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets	Hands-on worksheets were not used in our 2009 assessment. In our 2014 assessment we used worksheets to determine student mechanical aptitude in engine performance diagnostic and repair procedures.	Overall class lab sheet scores totaled 95%. This score was higher than what we expected but we did not update and improve or lab sheets after 2009 assessment. Lab worksheet scores mirrored the amount of increase in the students score and final grade
Students will use simple algebra to solve applied technical problems. Students will use area, volume and distance formulas of circles, spheres, and cylinders when solving applied technical problems.			

Students will work in teams to identify common problems and propose solutions that promote integrity and safety			
AUTO235			
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	Our evaluation of the hands on worksheets and lack of training aids for Hybrids safety showed poor results on the final test.	Instructor will measure student proficiency in workplace safety by documented instructor observation, ASE correlated written exams and NATEF certified hands-on lab task sheets.	Instructors will use this information to improve presentations and worksheets for hybrid safety.
Students will formulate repair strategies for failed control systems or components.	Students demonstrated an overall increase of 39% for Engine Performance III technology from the pretest to the post test.	Instructor will measure students proficiency in advanced problem-solving skills by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets.	Instructors evaluated the data and found significant improvements in A. Hybrid Vehicles. B. PCV systems Limited improvement was observed in A. Hybrid Safety B. Evaporative Systems
Students will use the appropriate specialized tools and equipment to repair OBD 11 and CAN/BUS systems.	Our evaluation of the worksheets indicated that more rigorous hands-on worksheets are needed to help the student become better prepared to diagnose and repair failed components.	Instructor will measure student proficiency in applying knowledge of special tools and equipment operation for repairs by documented instructor observation, ASE correlated written exams, and NATEF certified hands-on lab task sheets.	Instructors will use this information to upgrade task worksheets further to reflect needed hands-on skills for entry level employment.
AUTO265			
Student will identify, test, and interpret failed computer controlled systems and components.	Students demonstrated an overall increase of 42% for Automotive Electricity III technology from the pre-test to the post test.	Students will participate in a pre and post-test. All pre-test questions are controlled questions. The post test will have all pre-test questions embedded within the post test.	Using our analysis, the instructor will improve presentations and hands-on activities in Driver Information and Navigation circuits and Audio system diagnosis for the 2018 fall semester. This analysis also indicates the need to upgrade Driver Information circuit training aids and equipment for system testing which we will pursue as funding becomes available.
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	Our evaluation of the worksheets and documented observation indicated that a more rigorous hands-on worksheet would help the student become better prepared to use test equipment and to diagnose and repair failed components.	Instructor will measure student proficiency in the correct use of test equipment and repair procedures by documented instructor observation, ASE correlated written exams, homework, and NATEF certified hands-on lab task sheets.	Using our analysis, students need to validate their hands-on skill level and knowledge of test equipment usage, by the use of improved worksheets that exhibit real world conditions in the transportation repair industry.
Students will formulate repair strategies for computer controlled systems or components. Students will use the appropriate specialized tools and equipment to repair computer controlled systems or components.	Our evaluation of the worksheets indicated that a more rigorous hands-on worksheet would help the student become better prepared to diagnose and repair failed components.	Mechanical aptitude will be measured by use of NATEF certified task worksheets in P-1, P-2 and P-3 areas. Students must accomplish all tasks with an overall grade of 80% or more for each area.	Using our analysis, students need to validate their hands-on skill level by the use of improved worksheets that exhibit real world conditions in the transportation repair industry.
AUTO290			
Individualized, specific learning outcomes will be written by the employer, student, and faculty member.			
Students will demonstrate the ability to practice effective work and employment skills.			
Students will synthesize existing knowledge, skills, and abilities with new practical skills gained in the work site.			
	0	0	0

Map Origin: Courses for Diesel
Map Target: Associate of Applied Science, Transportation Technologies, Diesel Technician

	Associate of Applied Science, Transportation Technologies, Diesel Technician		
CSLOs	Analyze and interpret diagnostic and test information to formulate correct repair procedures.	Demonstrate correct repair strategies and techniques by applying knowledge of system operation and demonstrating mechanical skills to accomplish repair tasks.	Identify and implement safety procedures involved in diagnosis, service, and repair of all major medium/heavy duty truck and heavy equipment components and systems.
DT101			
Students will add, subtract, multiply and divide whole numbers, common fractions, and decimal fractions when solving applied technical problems.	Pre-Test/Post-Test.	Testing indicates significant improvement of 53% from a pre-test average of 23% to a post-test average of 76%.	Revise the curriculum to provide more contextualized math instruction. In addition, provide more practice in the form of a “problem of the day” or similar to keep the concepts fresh and alleviate math anxiety through additional exposure.

Students will apply safety practices in a shop environment.	Pre-Test/Post-Test, and Instructor observation in the lab	Written tests had high scores on safety-related material for both Pre and Post test. In the lab, however, students struggled with basic handling and rigging of heavy parts. In addition, some students needed frequent reminders to leave safety glasses on	Revise the curriculum to review the TMCC Student Handbook Safety Section at the beginning of the class. Add an additional day of hands-on lifting and blocking as a separate lab.
Students will identify diesel engine components, and explain the theory of diesel engine operation.	Pre-Test/Post-Test, and Instructor observation in the lab	Students showed significant improvement on post vs. pre test, averaging a 38% improvement with a 93% proficiency on the post-test.	No changes are indicated at this time
Students will synthesize knowledge of diesel engine operation and components in order to perform a basic diesel engine valve adjust, using reference manuals to find required engine specifications.	Pre-Test/Post-Test, and Instructor observation in the lab using a grading rubric.	Testing indicates an improvement of 38% in this area. Overall test scores, however, could be improved with an average score of 75%. Hands-on proficiency was even lower with an average of 68% proficiency.	Revise the curriculum –to create an additional lab which requires students to practice their valve adjustment skills.
Students will use a variety of precision measuring instruments correctly when inspecting mechanical components.	Pre-Test/Post-Test, and Instructor observation in the lab	Test results showed a significant improvement of 34%, while in hands-on lab applications, students scored low.	Revise curriculum to include the Snap-on NC3 precision measuring curriculum.
Students will use units correctly and convert between metric and standard units of measure.	Pre-Test/Post-Test, and Instructor observation in the lab	Test results similar and related to the math results. Students struggled with live applications of these conversions in the lab.	Revise existing worksheets and/or create additional worksheets to include more practice on units, and conversion between units.
Students working in groups will communicate accumulated technical data effectively with each other to apply that information toward completion of course assignments.	Pre-Test/Post-Test.	Students achieved nearly satisfactory test scores on the pre-test (an average of 65%), with high post-test scores (91%).	Revise the curriculum to include more diverse and challenging assignments in communication skills.
DT106			
Students will demonstrate the ability to diagnose problems and failures in main components, including clutches, manual transmissions, drive lines, reduction gears, and differentials.	Ability to diagnose problems and failures in main components will be measured through practical demonstration/solution of common troubleshooting problems. Students ability will be evaluated by a predetermined rubric and/or shop service reports and/or task sheets.	Our evaluation of the students shows more hands-on activities have helped the student to become better prepared to diagnose & repair failed components.	Instructors will continue to use this information to upgrade task worksheets to reflect needed hands-on skills for entry level employment.
Students will demonstrate the ability to identify main components, including clutches, manual transmissions, drive lines, reduction gears, and differentials.	Ability to identify main components will be measured through practical demonstrations and hands on application, including the removal, disassembly, and inspection of components. Students ability will be evaluated by a predetermined rubric and/or service manual specifications and/or task sheets.	Students demonstrated an overall increase of 83% in HD Power Train systems technology from the pretest to the post test. The pretest scores were 0 to 15 out of a total score of 40. There were 5 students with a 0 on the pretest. The average score was 29 out of 40 on the post test.	Instructors evaluated the data and found significant improvements in: 1. Hands on demonstration in disassembly and assembly of Differential and Manual Transmissions. 2. Technical knowledge of proper disassembly and assembly procedures. 3. Technical parts identification.
Students will demonstrate the ability to remove, disassemble, inspect, and make parts replacement decisions for main components, including clutches, manual transmissions, drive lines, reduction gears, and differentials.	Ability to remove, dismantle, inspect, and make parts replacement decisions will be measured by practical demonstration. Students ability will be evaluated by a predetermined rubric and/or shop service reports and/or task sheets.	The students were able to disassemble and reassemble differentials and manual transmission. Ability to solve assembly problems. Students learn it takes a high degree of patience, perseverance and skill to be successful in this class. They are able to demonstrate diverse range of skill. This is an improvement from last assessment.	Students successful assembly and operation of major HD power train components in lab scenarios.
DT107			
Students will apply the "theory of operation" as it applies to heavy duty torque converters, power shift and automatic transmissions, transfer gears/system operation, and maintenance.			
Students will disassemble, repair, reassemble, and adjust drive train components, including torque converters and powershift and automatic transmissions.			
Students will remove/disassemble, inspect, make part replacement decisions for drive train components, including torque converters and powershift and automatic transmissions.			
DT110			

Students will demonstrate the ability to diagnose problems and failures in electrical components and systems, including basic diesel charging, starting, and system problems.	Ability to diagnose problems and failures in Electrical components and systems will be measured through practical demonstration/solution of common troubleshooting problems. Students ability will be evaluated by a predetermined rubric and/or shop service reports and/or task sheets.	Our evaluation of the worksheets indicated that a more rigorous hands-on worksheet did help the students better prepared for hands-on diagnosis.	Instructors will use this information to upgrade task to include additional wiring schematic worksheets to aid the needed hands-on skills for entry level employment
Students will develop a basic understanding of heavy duty/diesel battery, charging, starting, and electrical components/systems operation.	Ability to understand electrical components and systems will be measured by written quizzes and exams using standards known to the students.	Students demonstrated an overall increase of 87.5% for HD Diesel Electrical Systems. Difference between the pre-test and post-test results. Pre-test score Ave 4.6 Post-test score Ave 37 Total improvement 87.5%	Instructor evaluated the data, clarifying specific areas of additional improvements. Pretest and posttest to aid in student evaluation. Additional daily quizzes were used to confirm student learning of the basic terms and hands-on exercises to help improve student learning.
DT130			
Students will use manufacturer's repair manuals and special tools for reassembly of the component or system to manufacturer's specifications.			
Students will work safely around hydraulic systems and will follow the correct identification and diagnostic procedures for possible failed components.			
DT198			
Individualized, specific learning outcomes will be written by the student and faulty member.			
Student will demonstrate the ability to synthesize existing knowledge, abilities, and skills related to the student's educational program and occupational objectives.			
DT201			
Students will analyze what constitutes negative attitudes, the impact these have on conflict, and apply conflict resolution methods to workplace situations.	Essay Assignments assessed through established criteria known in advance to the students	Completing students averaged 77% on this topic. However, approximately 1/3 of students did not complete assignments	Outcome – Increase student participation Curriculum – Add additional information resources to supplement course text, increase context of this subject relating to diesel technology
Students will calculate areas and volumes as applied to the solution of applied technical problems.	Lab assignments including hands-on work using training aids and live vehicles, assessed through instructor observation and written worksheets with established criteria known in advance to the students that includes area and volume problems	Lab score averages were 83%, However, approximately 1/3 of students did not complete lab assignments including Math.	Outcome – Increase student participation Curriculum – Add relevancy of math in context to principles of air brake systems and encourage students to complete assignments.
Students will describe and explain the operation of medium/heavy duty hydraulic and pneumatic brake systems.	Pre-test/Post-test, and Homework assessed through established citeria known in advance to the students	Pre-test/Post-test shows an overall improvement of 44% (from 23-67% average). However, approximately 1/3 of the students did not complete the homework assignments.	Outcomes – Increase student participation Curriculum – Emphasize the importance of completing all course assignments
Students will diagnose common medium/heavy duty brake system problems and failures.	Pre-test /Post-test, and Lab assignments including hands-on work on training aids and live vehicles assessed through instructor observation and written worksheets with established criteria known in advance to the students	Testing averages were averaged in Outcome #1. Average lab scores were 83% for the hands-on work recorded on worksheets.	Showing acceptable performance to current and standard practices used in the diesel repair industry.
Students will perform foundation brake service to include removal, disassembly, inspection and re-installation of all major components, using DOT approved procedures.	Pre-test /Post-test, and Lab assignments including hands-on work on training aids and live vehicles assessed through instructor observation and written worksheets with established criteria known in advance to the students	Testing averages were averaged in Outcome #1. Average lab scores were 83% for the hands-on work recorded on worksheets	Showing acceptable performance to current and standard practices used in the diesel repair industry.
Students will use ratios, proportions, angular measure and percents in the solution of applied technical problems.	Lab assignments including hands-on work using training aids and live vehicles, assessed through instructor observation and written worksheets with established criteria known in advance to the students that includes ratios, proportions, and angles	Lab score averages were 83%, However, approximately 1/3 of students did not complete lab assignments including Math.	Outcome – Increase student participation Curriculum – Add relevancy of math in context to principles of air brake systems and encourage students to complete assignments.
DT210			
The students will disassemble & reassemble using special tools.	Students will successfully run their engines after assembly.	Hands-on activities were completed successfully. All diesel engines were assembled, started and running correctly in the allotted time.	The lab exercise and final indicates students have a good grasp of the hands-on exercise. Special critical assembly information instructions helped students achieve objectives successfully.

The students will use special and diagnostic tools, to evaluate engine components for possible failure.	Students will successfully demonstrate the correct use of tools and make correct diagnosis of failed components.	Per-test and Post-test (final exam) results: Pre-test average score 07 Post-test average score 23.5 70.2% improvement 92% Student score better than 90% total score.	The final exam needs to cover additional specific hands-on/Lab areas of assessing components that need repair and/or replacement.
DT211 Students will analyze diesel fuel injection systems, including service and diagnosis of problems, of at least three major manufacturers of light duty diesel engines. Students will describe and explain the operation of the "common rail" fuel injection system in light duty diesel engines. Students will describe the components of, and relationships between diesel fuel injection, intake and exhaust systems, including analysis of their efficiency and emissions standards. Students will identify ethical issues in a shop environment and work in groups to complete laboratory assignments requiring accurate communication. Students will use area, volume and distance formulas of circles, spheres, and cylinders when solving applied technical problems. Students will use simple algebra to solve applied technical problems.			
DT217 Students will demonstrate the ability to perform service and diagnosis of problems in partial & full authority electronic diesel engines.	Ability to preform service and diagnosis functions, including ability to remove inspect, reinstall, or replace components will be the measure by a combination of written quizzes and exams using standards known to students an practical demonstration/solution of common troubleshooting problems. Students ability will be evaluated by predetermined rubrics, and/or shop service, and/or task sheets.	The lab exercises for testing diesel engine sensors on a correct running engine, proved to improve student comprehension of when analyzing diesel no start problems. The assessment results did show some improvement in overall student hands-on lab scores.	There is still room for improvement to match quiz questions to matching power point. Add additional slides to correct deficiency in problem solving skills.
Students will demonstrate the ability to understand the partial & full authority electronic diesel fuel injection systems, including service and diagnosis problems of electronic controls, with computer interface, scanners and lab scopes. Practical shop de	Ability to understand partial & full authority electronic diesel fuel injection systems will be the measured by written quizzes and exams using standards known to students. Students ability will be evaluated by predetermined rubrics, and/or shop service, and/or task sheets.	Our evaluation of the worksheets indicated that a more rigorous hands-on worksheet would help the student become better prepare for hands-on diagnosis.	Instructors will use this information to upgrade task worksheets to reflect needed hands-on skills for entry level employment. The most basic troubleshooting areas need additional attention
Students will develop a basic understanding and service of diesel fuel injection systems and components, including efficiency and emissions standards.	Ability to understand diesel fuel injection systems and components and efficiency and emission standards will be the measured by written quizzes and exams using standards known to students.	Students demonstrated an overall difference/increase of 60% from pretest to the post test results. Pre-test 21% Post-test 81% Total improvement 60% Last assessment 2010 51%	Instructors evaluated the data clarifying specific areas of additional improvements: rewrite pretest and posttest to refine matching course objectives. Add additional quizzes and specific lab exercises for hands on diesel engine diagnosis to help student learning.
DT235 Students will diagnose problems and failures in steering and suspension systems, utilizing alignment/precision measuring equipment to perform linear and angular measure. Students will identify different communication strategies and will appropriately apply them to case studies or in worplace situations. Students will identify the main components of steering and suspension systems. Students will perform maintenance of steering and suspension systems.			

Students will use a variety of precision measuring instruments correctly when inspecting mechanical components. Students will use angular measure to solve applied technical problems. DT250 Students will apply preventative maintenance procedures that are cost effective for HD truck, HD truck fleet operations and HD equipment. Students will describe Federal Motor Carrier Safety Administration regulations that apply to preventative maintenance service. Students will inspect all listed vehicle components and perform hands-on preventative maintenance using correct procedures on HD trucks. Students will use a variety of precision measuring instruments correctly when inspecting mechanical and electronic components. Students will use angular measure to solve applied technical problems. Students will work in teams to identify common problems and propose solutions that promote integrity and safety. DT290 Indidvidualized, specific learning outcomes will be written by the employer, student, and faculty member. Students will demonstrate the ability to practice effective work and employment skills. Students will synthesize "Theory of Operation" skills and new practical skills gained in the work site.	0	0	0

Do you use any other assessment tools, such as cumulative licensure exams, to assess PSLOs? If so, please summarize the most significant PSLO assessment results and plans that were implemented to try and improve teaching and learning.
No Value
Were there any courses and CSLOs that did not align well to current PSLOs? If so, please list them.
No Value
What is the evidence of student learning in the program as a result of General Education assessment? Please review past general education assessment reports (GEARs) and follow the outline below:

1. **Program Student Learning Outcome (PSLO)**
    1. **List a course and General Education SLO that aligns to this PSLO**
        1. **Summarize the most significant General Education SLO assessment results and subsequent plans that were implemented to try and improve teaching and learning.**
    2. **List a second course and General Education SLO that aligns to this PSLO**
        1. **Summarize the most significant General Education SLO assessment results and subsequent plans that were implemented to try and improve teaching and learning.**
    3. ***Repeat until all courses and General Education SLOs that map to this PSLO are included . . .***
        1. ***Repeat until all assessment result and improvement plan summaries are complete. . .***

The Transportation Technologies Unit has embedded Math and Human Relations into the automotive program starting in Fall of 2019. Data For general education assessment will be available in the next Program Unit Review.

Do you use any other assessment tools, such as cumulative licensure exams, to assess General Education SLOs? If so, please summarize the most significant assessment results and plans that were implemented to try and improve teaching and learning.
No Value
Were there any General Education SLOs that did not align well to current PSLOs? If so, please list them.
No Value

Additional Assessment Levels

Is the department or unit conducting any other levels of assessment, such as assessing gateway and pre-requisite courses for other programs as a group? If so, please summarize the most significant assessment results and subsequent plans to improve teaching and learning.

No Value

Course Review : Version by **Byington, Sam** on **11/08/2018 15:15**

Course	Last Time Course Had Enrollments	Do you plan to review and update or delete course?	Semester you will submit to CRC for review or deletion
AV 101 - INTRODUCTION TO UNMANNED AERIAL SYSTEMS	No available data	This course and program are under review.	Fall 2019
AV 102 - UNMANNED AERIAL SYSTEM CONSTRUCTION PROJECT	No available data	This course and program are under review.	Fall 2019
AV 110 - BASIC GROUND SCHOOL FOR PILOTS	No available data	This course and program are under review.	Fall 2019
AV 210 - INSTRUMENT GROUND SCHOOL (AIRPLANE)	No available data	This course and program are under review.	Fall 2019
AV 213 - UNMANNED AIRCRAFT SIMULATION	No available data	This course and program are under review.	Fall 2019
AV 216 - UAS FLIGHT OPERATIONS	No available data	This course and program are under review.	Fall 2019
AV 217 - UAV SENSOR DATA PROCESSING	No available data	This course and program are under review.	Fall 2019

Course Assessment Cycle : Version by **Byington, Sam** on **11/08/2018 18:12**

Course Learning Outcome	Semester to be Assessed, or Assessed "As Taught"
AUTO101 - Introduction to General Mechanics	Sp22
Students will demonstrate mechanical aptitude in the performance of basic maintenance service items using correct tools, equipment and procedures.	
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will synthesize an understanding of principles of design, construction, operation, and maintenance of light duty vehicles.	
AUTO111 - Automotive Electricity	Sp23
Student will identify the failure and repair of circuit or component failures using appropriate specialized tools and precision electrical test equipment.	
Student will locate and identify schematic wiring diagrams to formulate correct testing, diagnosis and repair procedure of electrical circuits or components. This includes the application of basic algebra in the solution of applied technical problems.	
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
AUTO112 - Automotive Electricity II	Sp24
Students will correctly interpret wiring diagrams and operation of electronic devices, battery, starting, and charging systems.	
Students will demonstrate mechanical aptitude for testing circuits and components. Students will formulate strategy for repair of component or system failure. Students will apply correct use of specialized equipment and tools to accomplish component or sy	
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
AUTO136 - Engine Repair	F23
Student will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will identify different engine configurations and all major engine components and sub-systems.	
Students will identify, test, and interpret failed systems or components. Students will formulate strategies for repair procedures for failed system or components. Students will apply use of specialized tools to accomplish component or system repairs.	
Students will be able to add, subtract, multiply and divide whole numbers, common fractions and decimal fractions when solving applied technical problems.	
Students will use units correctly and convert between metric and standard units of measure.	
Students will use a variety of precision measuring instruments correctly when inspecting mechanical components.	

Course Learning Outcome	Semester to be Assessed, or Assessed "As Taught"
Students will apply strategies to enhance effectiveness of multiple modes of communication in the workplace.	
AUTO145 - Automotive Brakes	F19
Student will formulate the appropriate repair strategy for failed system or component. Student will use the correct specialized tools to accomplish repair of failed brake system or component.	
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will identify, test, and interpret brake system or component failures.	
Students will be able to calculate areas and volumes as applied to the solution of applied technical problems.	
Students will use ratios, proportions, angular measure and percentages in the solution of applied technical problems.	
Students will analyze what constitutes negative attitudes, the impact these have on conflict, and apply conflict resolution methods to workplace situations.	
AUTO150 - Steering and Suspension Systems	F20
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will identify different types of steering systems, suspension systems, and control components.	
Students will identify, test, and interpret failed steering and suspension components. Students will formulate the correct repair strategy for the failed component. Students will use the appropriate specialized tools to repair the failed component	
Students will use angular measure to solve applied technical problems.	
Students will use a variety of precision measuring instruments correctly when inspecting mechanical components.	
Students will identify different communication strategies and will appropriately apply them to case studies or in workplace situations.	
AUTO165 - Auto Heating and Air Conditioning	F21
Student will locate and identify heating and air conditioning systems, components, and their operation.	
Students will develop hands-on skills needed to operate refrigerant handling and recycling equipment.	
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will identify, test, and interpret failed electronic climate control systems. Students will formulate the correct repair strategy for the failed component or system. Students will use the appropriate specialized tools and equipment to repair the	
AUTO198-Special Topics in Auto	As Taught
Individualized specific learning outcomes will be written by the student an faculty member.	
Students will demonstrate the ability to synthesize existing knowledge, abilities, skills with new practical skills on specific types of automotive equipement	
AUTO205 - Manual Drive Trains and Axles	Sp21
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will identify drivetrain configurations, components, and operation of components.	
Students will identify, test, and interpret failed drivetrain components. Students will formulate repair strategies for drivetrain components. Students will use appropriate specialized tools to repair drivetrain components.	
AUTO216 - Automatic Transmissions	Sp20
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will identify different transmission configurations and major transmission components and operation.	
Students will identify, test, and interpret failed transmission components or systems. Students will formulate repair strategies for transmission or transaxle repair. Students will use the appropriate specialized tools and equipment to repair transmission	
AUTO225 - Engine Performance I	Sp23

Course Learning Outcome	Semester to be Assessed, or Assessed "As Taught"
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will formulate repair strategies for failed ignition system or fuel delivery system. Students will use appropriate specialized tools and equipment to repair ignition system or fuel delivery system.	
Students will identify, test, and interpret failed engine components, and fuel delivery components.	
Students will use simple algebra to solve applied technical problems.	
Students will use area, volume and distance formulas of circles, spheres, and cylinders when solving applied technical problems.	
Students will identify ethical issues in a shop environment and work in groups to complete laboratory assignments requiring accurate communication	
AUTO227 - Engine Performance II	Sp24
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will identify, test, and interpret failed powertrain or emission components. Students will formulate the repair strategies for failed component or system. Students will use appropriate specialized tools and equipment to repair failed component or	
Students will locate and identify powertrain control sensors, components, and emission components.	
Students will use simple algebra to solve applied technical problems.	
Students will use area, volume and distance formulas of circles, spheres, and cylinders when solving applied technical problems.	
Students will work in teams to identify common problems and propose solutions that promote integrity and safety	
AUTO235 - Engine Performance III	Sp20
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will formulate repair strategies for failed control systems or components.	
Students will use the appropriate specialized tools and equipment to repair OBD 11 and CAN/BUS systems.	
AUTO265 - Electrical/Electronic Systems III	Sp20
Student will identify, test, and interpret failed computer controlled systems and components.	
Students will employ appropriate workplace skills, including the application of personal and mechanical safety measures.	
Students will formulate repair strategies for computer controlled systems or components. Students will use the appropriate specialized tools and equipment to repair computer controlled systems or components.	
AUTO290 - Internship in Automotive Level I	As Taught
Individualized, specific learning outcomes will be written by the employer, student, and faculty member.	
Students will demonstrate the ability to practice effective work and employment skills.	
Students will synthesize existing knowledge, skills, and abilities with new practical skills gained in the work site.	
AV101-Introduction to Unmanned Aerial Systems	As Taught
Students will analyze applicable FAA requlatory requirements and current airspace integration issues.	
Students will explain basic autonomous theory of operation including autopilot and stability functions.	
Students will identify UAS components and describe their functions and interactions.	
AV102-Unmanned Aerial System Construction Project	As Taught
Students will analyze project requirements and develop a construction plan based on materials available.	
Students will create aircraft specific operational manuals and logbooks.	
Students will design an unmanned aerial vehicle(s) using existing commerical or military platforms as a baseline.	
Students will use mathematical computations to develop and construct an unmanned aerial systems and maintenance calculations.	

Course Learning Outcome	Semester to be Assessed, or Assessed "As Taught"
AV110-Basic Ground School for Pilots	As Taught
Students will be prepared to take the FAA Private Pilot exam for Single Engine Land.	
Students will have an understanding and be able to apply principles of flight including flight planning and aircraft operation.	
Students will understand and apply Federal Aviation Regulations as they apply to private pilots.	
AV199-Special Topics in Aviation	As Taught
Individualized, specific learning outcomes will be written by faculty member and student.	
Students will synthesize existing knowledge, abilities , and skills with new practical skills on specific types of avaition equipment.	
AV210-Instrument Ground School (Airplane)	As Taught
Students will be capable of planning and conducting a complex flight that incorporates insturment take-offs, departures, en route flight, arrivals, and approaches to be wide variety of airports and runway environments.	
Students will pass the Federal Aviation Adminstration (FAA) Instrument Rating (Airplane) Knowledge Test.	
AV213-Unmanned Aircraft Simulation	As Taught
Student will apply mission planning and coordination with external agencies such as air traffic control.	
Students will demonstrate basic piloting skills in a controlled envrironment.	
AV216-UAS Flight Operations	As Taught
Students will gather data to perform mission planning, including local weather, airspace requirements, and operating location.	
Students will develop a mission brief to involved parties that includes all necessary data.	
Students will perform system pre-operational checks on all equipment related to flight in preparation for flight.	
Students will prepare for flight operations in a safe manner and within proper airspace boundaries and altitudes.	
Students will prepare an after-action review based on flight performance.	
AV217-UAV Sensor Data Processing	As Taught
Students will prepare a multispectral product for a agricultural area.	
Students will prepare a photographic product for a specified area/object of interest.	
Students will prepare a volumetric survey for a mining operation.	
DT101-Basic Diesel Engines	F22
Students will apply safety practices in a shop environment.	
Students will identify diesel engine components, and explain the theory of diesel engine operation.	
Students will synthesize knowledge of diesel engine operation and components in order to perform a basic diesel engine valve adjust, using reference manuals to find required engine specifications.	
Students will add, subtract, multiply and divide whole numbers, common fractions, and decimal fractions when solving applied technical problems.	
Students will use units correctly and convert between metric and standard units of measure.	
Students will use a variety of precision measuring instruments correctly when inspecting mechanical components.	
Students working in groups will communicate accumulated technical data effectively with each other to apply that information toward completion of course assignments.	
DT106-Heavy Duty Transmissions and Power Trains	F23
Students will demonstrate the ability to diagnose problems and failures in main components, including clutches, manual transmissions, drive lines, reduction gears, and differentials.	
Students will demonstrate the ability to identify main components, including clutches, manual transmissions, drive lines, reduction gears, and differentials.	
Students will demonstrate the ability to remove, disassemble, inspect, and make parts replacement decisions for main components, including clutches, manual transmissions, drive lines, reduction gears, and differentials.	
DT107- Heavy Duty Drive Trains	F23

Course Learning Outcome	Semester to be Assessed, or Assessed "As Taught"
Students will apply the "theory of operation" as it applies to heavy duty torque converters, power shift and automatic transmissions, transfer gears/system operation, and maintenance.	
Students will disassemble, repair, reassemble, and adjust drive train components, including torque converters and powershift and automatic transmissions.	
Students will remove/disassemble, inspect, make part replacement decisions for drive train components, including torque converters and powershift and automatic transmissions.	
DT110-Heavy Duty Electrical Systems	F19
Students will demonstrate the ability to diagnose problems and failures in electrical components and systems, including basic diesel charging, starting, and system problems.	
Students will develop a basic understanding of heavy duty/diesel battery, charging, starting, and electrical components/systems operation.	
DT130-Heavy Duty Hydraulics	Sp24
Students will use manufacturer's repair manuals and special tools for reassembly of the component or system to manufacturer's specifications.	
Students will work safely around hydraulic systems and will follow the correct identification and diagnostic procedures for possible failed components.	
DT198- Special Topics in Diesel Technology	As Taught
Individualized, specific learning outcomes will be written by the student and faulty member.	
Student will demonstrate the ability to synthesize existing knowledge, abilities, and skills related to the student's educational program and occupational objectives.	
DT201-Diesel Brakes and Pneumatics	F22
Students will describe and explain the operation of medium/heavy duty hydraulic and pneumatic brake systems.	
Students will perform foundation brake service to include removal, disassembly, inspection and re-installation of all major components, using DOT approved procedures.	
Students will diagnose common medium/heavy duty brake system problems and failures.	
Students will calculate areas and volumes as applied to the solution of applied technical problems.	
Students will use ratios, proportions, angular measure and percents in the solution of applied technical problems.	
Students will analyze what constitutes negative attitudes, the impact these have on conflict, and apply conflict resolution methods to workplace situations.	
DT210-Advanced Diesel Engines	Sp23
The students will disassemble & reassemble using special tools.	
The students will use special and diagnostic tools, to evaluate engine components for possible failure.	
DT211-Light Duty Performance	Sp24
Students will describe the components of, and relationships between diesel fuel injection, intake and exhaust systems, including analysis of their efficiency and emissions standards.	
Students will analyze diesel fuel injection systems, including service and diagnosis of problems, of at least three major manufacturers of light duty diesel engines.	
Students will describe and explain the operation of the "common rail" fuel injection system in light duty diesel engines.	
Students will use simple algebra to solve applied technical problems.	
Students will use area, volume and distance formulas of circles, spheres, and cylinders when solving applied technical problems.	
Students will identify ethical issues in a shop environment and work in groups to complete laboratory assignments requiring accurate communication.	
DT217-Electronic Fuel Injection II	SP23
Students will demonstrate the ability to perform service and diagnosis of problems in partial & full authority electronic diesel engines.	
Students will demonstrate the ability to understand the partial & full authority electronic diesel fuel injection systems, including service and diagnosis problems of electronic controls, with computer interface, scanners and lab scopes. Practical shop demonstration for common troubleshooting problems will be performed.	
Students will develop a basic understanding and service of diesel fuel injection systems and components, including efficiency and emissions standards.	
DT235-Steering and Suspension	F19

Course Learning Outcome	Semester to be Assessed, or Assessed "As Taught"
Students will identify the main components of steering and suspension systems.	
Students will perform maintenance of steering and suspension systems.	
Students will diagnose problems and failures in steering and suspension systems, utilizing alignment/precision measuring equipment to perform linear and angular measure.	
Students will use angular measure to solve applied technical problems.	
Students will use a variety of precision measuring instruments correctly when inspecting mechanical components.	
Students will identify different communication strategies and will appropriately apply them to case studies or in worplace situations.	
DT250-Preventive Maintenance	Sp20
Students will apply preventative maintenance procedures that are cost effective for HD truck, HD truck fleet operations and HD equipment.	
Students will describe Federal Motor Carrier Safety Administration regulations that apply to preventative maintenance service.	
Students will inspect all listed vehicle components and perform hands-on preventative maintenance using correct procedures on HD trucks.	
Students will use angular measure to solve applied technical problems.	
Students will use a variety of precision measuring instruments correctly when inspecting mechanical and electronic components.	
Students will work in teams to identify common problems and propose solutions that promote integrity and safety.	
DT290- Internship in Diesel Technology	As Taught
Indidvidualized, specific learning outcomes will be written by the employer, student, and faculty member.	
Students will demonstrate the ability to practice effective work and employment skills.	
Students will synthesize "Theory of Operation" skills and new practical skills gained in the work site.	

Curriculum Strategies : Version by **Byington, Sam** on **11/06/2018 18:41**

Using the most significant curriculum and assessment-driven findings, discuss strategies to sustain or improve the quality of your program(s) going forward. This may also include deactivation of existing programs or introduction of new programs to meet student and/or industry demand.
Course content is responsive to the needs of each program's respective industry and periodically reviewed by the Transportation advisory committee. Additionally, each Unit faculty member maintains contact with key industry representatives in order to monitor current trends and needs. It is also important to note that part-time instructors within the individual programs are often full-time professionals working within the industry and provide unique perspectives and insights into curriculum development.

Are there any internal or external factors anticipated to impact future curriculum development or offerings? If so, how does the department/unit plan address these factors?
The primary factors expected to influence curriculum and instruction are acquisition of technology, budget, and facility related. Several course assessments indicate course content could be expanded, provided the investment in technology and space is acquired. The Transportation Technologies Unit has been working with advisory boards and the community to acquire funding and advanced technology equipment for its programs.

V. ENROLLMENT AND DEMOGRAPHICS

FTE, Section Count, and Course Fill Rate : Version by **Deadmond, Melissa** on **04/29/2019 17:52**

Enrollment in AUTO Sections			
Fall Term	FTE	Section Count	Avg. Course Fill Rate
Fall 13	63.9	15	85%
Fall 14	70.1	15	93%
Fall 15	66.1	16	83%
Fall 16	72.7	18	80%
Fall 17	60.7	16	70%

AUTO

5 yr change / average			
	FTE	Section Count	Avg. Course Fill Rate
AUTO	-5%	7%	82%
Division	12%	40%	56%
TMCC	-4%	6%	77%

Enrollment in DT Sections			
Fall Term	FTE	Section Count	Avg. Course Fill Rate
Fall 13	26.7	7	100%
Fall 14	19.5	7	89%
Fall 15	39.3	12	98%
Fall 16	34.5	12	90%
Fall 17	38.1	12	99%

DIESEL

5 yr change / average			
	FTE	Section Count	Avg. Course Fill Rate
DT	43%	71%	95%
Division	12%	40%	56%
TMCC	-4%	6%	77%

Enrollment in AV Sections			
Fall Term	FTE	Section Count	Avg. Course Fill Rate
Fall 13	4.5	1	94%
Fall 14	3.5	1	72%
Fall 15	7.2	2	68%
Fall 16	14.7	5	65%
Fall 17	9.0	4	54%

UAS

5 yr change / average			
	FTE	Section Count	Avg. Course Fill Rate
AV	99%	300%	71%
Division	12%	40%	56%
TMCC	-4%	6%	77%

Please discuss the trends you see, including how they compare to those of the division and College. What might these trends or shifts mean? Discuss any factors that could have led to significant trends or shifts in enrollment and sections offered.

The Transportation Technologies Automotive program virtually mirrors the college averages with respects to FTE, section count and average course fill rates. The division seems to be higher due to new programs introduced in the last five years. The diesel technologies had an increase in FTE and section count due to a cohort diesel program that started in 2015. The aviation technologies program shows a high five-year change due to the starting of a new unmanned aerial system program in 2016.

Unsuccessful Enrollment Attempts : Version by **Byington, Sam** on **11/08/2018 18:00**

Unsuccessful Enrollment Attempts					
Course	5 yr average fill rate	5 yr average # Unsuccessful Enrollment Attempts	Course	5 yr average fill rate	5 yr average # Unsuccessful Enrollment Attempts
AUTO101	81%	7.88	AV 101	50%	2.00
AUTO111	83%	4.75	AV 102	82%	1.00
AUTO112	80%	2.50	AV 110	65%	2.00
AUTO136	87%	10.67	AV 213	26%	0.00
AUTO145	69%	1.33	AV 216	40%	0.00
AUTO150	82%	1.40	AV 217	44%	0.00
AUTO165	68%	2.00	DT 101	102%	5.60
AUTO205	92%	4.00	DT 106	76%	1.00
AUTO216	82%	1.00	DT 107	93%	2.00
AUTO225	64%	0.00	DT 110	99%	10.00
AUTO227	61%	1.00	DT 130	82%	1.00
AUTO235	70%	1.00	DT 201	89%	2.50
AUTO265	92%	3.00	DT 210	78%	0.00
AUTO290	69%	0.00	DT 211	92%	5.00
			DT 217	78%	3.00
			DT 235	101%	2.80
			DT 250	86%	1.50

Please discuss the trends or shifts you see. What might these trends or shifts mean? Discuss any factors that could have led to significant trends or shifts in course fill rate and unsuccessful enrollment attempts.
The Transportation Technologies Unit automotive and diesel programs tend to have a consistently stable high fill rates. The chart shows a few classes with high unsuccessful enrollment attempts. The Transportation Technologies Unit has addressed these by adding more sections of the affected courses. The AV program shows low class fill rates and the program is under review.

Evidence of Student-Centered Scheduling : Version by **Byington, Sam** on **11/08/2018 18:12**

Describe your department/unit's scheduling and faculty teaching assignment practices. Using the enrollment data provided in the previous sections and/or other data within your department/unit, what is the evidence that the department/unit engages in student-centered and equitable scheduling?
The Transportation Technologies Unit has reviewed the enrollment and other data in the report. The Transportation Technologies unit has made changes to the scheduling and number of sections taught, and the times the sections are offered with regard to student advisement and enrollment trends in the college.

Student Demographics: Credit Load, Status, Age, Gender, and Ethnicity : Version by **Byington, Sam** on **10/20/2018 20:13**

Demographics of Automotive Majors

	Fall 13	Fall 17	% Change
AUTOASE-CT	23	7	-70%
AUTOCT-AAS	97	76	-22%
AUTOGEN-CT	3	6	100%
Total	123	89	-28%
TMCC Headcount	11686	11110	-5%

Fall 2017

Credit Load	AUTO Majors	TMCC
part-time	65.2%	72.3%
full-time	34.8%	27.2%

Status	AUTO Majors	TMCC
New	22.5%	14.0%
New Transfer	7.9%	9.9%
New High School	0.0%	3.8%
Continuing	68.5%	69.8%
Cont. High School	1.1%	2.5%

Age	AUTO Majors	TMCC
under 18	0.0%	5.5%
18-24 yrs	76.4%	56.3%
25-34 yrs	14.6%	23.8%
35-49 yrs	7.9%	10.3%
50+ yrs	1.1%	4.4%

Gender	AUTO Majors	TMCC
female	15.7%	53.7%
male	84.3%	46.3%

Ethnicity	AUTO Majors	TMCC
International	0.0%	0.4%
Native Am	2.2%	1.3%
Asian	3.4%	6.0%
Black	3.4%	2.5%
Hispanic	46.1%	28.8%
Hawaiian/PI	0.0%	0.1%
2+ Races	5.6%	3.5%
Unreported	1.1%	1.7%
White	38.2%	55.7%

Demographics of Unmanned Aircraft Flight Operations Majors

	Fall 13	Fall 17	% Change
UAST-CT	0	10	100%
Total	0	10	100%
TMCC Headcount	11686	11110	-5%

Fall 2017

Credit Load	UAS Majors	TMCC
part-time	60.0%	72.3%
full-time	40.0%	27.2%

Status	UAS Majors	TMCC
New	20.0%	14.0%
New Transfer	0.0%	9.9%
New High School	0.0%	3.8%
Continuing	80.0%	69.8%
Cont. High School	0.0%	2.5%

Age	UAS Majors	TMCC
under 18	0.0%	5.5%
18-24 yrs	40.0%	56.3%
25-34 yrs	10.0%	23.8%
35-49 yrs	10.0%	10.3%
50+ yrs	40.0%	4.4%

Gender	UAS Majors	TMCC
female	10.0%	53.7%
male	90.0%	46.3%

Ethnicity	UAS Majors	TMCC
International	0.0%	0.4%
Native Am	0.0%	1.3%
Asian	0.0%	6.0%
Black	0.0%	2.5%
Hispanic	50.0%	28.8%

Demographics of Diesel Majors

	Fall 13	Fall 17	% Change
DIESL-AAS	43	44	2%
DIESLTC-CT	5	20	300%
Total	48	64	33%
TMCC Headcount	11686	11110	-5%

Fall 2017

Credit Load	DT Majors	TMCC
part-time	50.0%	72.3%
full-time	50.0%	27.2%

Status	DT Majors	TMCC
New	25.0%	14.0%
New Transfer	4.7%	9.9%
New High School	0.0%	3.8%
Continuing	70.3%	69.8%
Cont. High School	0.0%	2.5%

Age	DT Majors	TMCC
under 18	0.0%	5.5%
18-24 yrs	67.2%	56.3%
25-34 yrs	29.7%	23.8%
35-49 yrs	1.6%	10.3%
50+ yrs	1.6%	4.4%

Gender	DT Majors	TMCC
female	6.3%	53.7%
male	93.8%	46.3%

Ethnicity	DT Majors	TMCC
International	0.0%	0.4%
Native Am	0.0%	1.3%
Asian	1.6%	6.0%
Black	1.6%	2.5%
Hispanic	32.8%	28.8%

Hawaiian/PI	0.0%	0.1%
2+ Races	10.0%	3.5%
Unreported	0.0%	1.7%
White	40.0%	55.7%

Hawaiian/PI	0.0%	0.1%
2+ Races	1.6%	3.5%
Unreported	4.7%	1.7%
White	57.8%	55.7%

Briefly describe the typical student profile in terms of credit load, status, age, gender, and ethnicity in your program/unit. In cases where the demographics of your students noticeably differ from those of all TMCC students, please discuss the reasons as you understand them. Please note any potential underserved student populations.
Credit Load distribution within the Transportation Technologies Unit somewhat aligns with the college averages. The average Transportation student tends to be part time or employed person that is improving his/her skill level.
The Transportation Unit virtually mirrors the college averages with respects to continuing students. The Unit does not receive many transfer students due to limited transportation programs in the state of Nevada and other areas.
Students in Transportation Technologies are in general Younger than the college population overall. The Transportation Technologies Unit, as does TMCC, draws its largest population from the 18-24 yrs. age group. The unit draws relatively equally from the 25-34 yrs. age group and the 35-49 yrs. age group. This is consistent with the Transportation Technologies Unit's mission to provide not only entry-level skill-sets to an emerging workforce, but career advancement training as well. The Unit draws slightly lower than TMCC from the 50+ age group. This reflects the higher skill level needed to enter the transportation industry, but the Unit's faculty and programs are committed to advancing the personnel interests of the community it serves.
The gender make-up of the Transportation Technologies programs is consistent with, and a reflection of the related industries, which are traditionally male-dominated. During the study period, 89% of the students were male, compared to 46% for the college. This is also consistent with other programs within the Technical Sciences division.
White males dominate the student population in Transportation Technologies, followed by Hispanic students. This is consistent with the makeup of the transportation industry in general and varies within 18% from the overall make-up of TMCC as well. Nonetheless, it is incumbent upon the programs to increase their efforts to attract a student population that more closely reflects Washoe County's ethnic diversity.
The composition of the student population in Transportation Technologies is a direct reflection of the industry it serves, which is predominantly male. As outlined above, however, the faculty members participate in multiple activities designed for the benefit of underserved populations, including Native Americans and Women. The programs must continue to pursue all opportunities to attract minority populations to these training opportunities.

Student Recruitment Activities : Version by **Byington, Sam** on **10/20/2018 18:48**

Describe any recruitment activities in which the program/unit participates. These may include campus events such as Day on the Hill, external events, or special activities organized by the program/unit. If applicable, describe any partnerships with local high schools or efforts to help high school students enter the program. These might include Career and Technical Education (CTE) agreements, assisting or offering courses for JumpStart, accepting or offering credit by examination, etc. To the best of your knowledge, have these recruiting efforts been successful?
Student Recruitment Activities
The Transportation Technologies Unit programs and the Technical Sciences Division participate in many activities and functions that promote the programs to a variety of individuals and groups. Many Target students directly, while others also involve parents who are evaluating career options for their children. Recent activities include:

- Support and participation in the William N. Pennington Applied Technology Center open house
- Annual Skills USA Competition at the William N. Pennington Applied Technology Center
- Native American Youth Conference at the William N. Pennington Applied Technology Center for individuals from various local Indian Colonies, Tribes and reservations.
- Annual Building Women career exploration fair to introduce women to non-traditional career options.
- Program tours with school district officials from Washoe, Churchill, and Douglas counties in Nevada. Plumas County, California has an annual student tour regarding programs offered through the William N. Pennington Applied Technology Center.
- Faculty serving as primary program advisors to all new students.

Partnerships with Local High Schools
The William N. Pennington Applied Technology Center presently has six TMCC Transportation Technologies Unit courses that are articulated with four area High Schools. They are:

- ACE High School AUTO 101, 111, 112, DT101, 201, 250
- Spanish Springs High School AIT 110, AUTO 101
- North Valleys High School AIT 110, AUTO 101
- Reed High School AIT 110, AUTO 101

Washoe County School District has adopted a Automotive Signature Academy at Reed High School to better prepare high school students to enter TMCC Transportation Technologies Unit. This has proved to help better prepare students to enter the Transportation Technologies Unit.

Enrollment Strategies : Version by **Byington, Sam** on **10/30/2018 17:03**

Regarding the most significant enrollment findings, discuss strategies, if needed, to improve enrollment in your program(s)/unit. These may include improving recruitment efforts, especially to underserved students, more efficient scheduling, streamlining pathways to completion, etc. Include an estimated timeline of proposed actions.
Student age in Transportation Technologies tends to closely approximate the college in general. Reflecting the industry it serves, the Unit is predominantly male with only 10% of our students being female. White students make up 45% or the majority of our student population.

Our Hispanic population is approximately 14% above that of the college. African American, Native American, Asian and other populations while closely paralleling the college are under-represented in the programs.

The Transportation Technologies Unit is working on a block-scheduling pathway to better serve our student population and help employers with scheduling of student work hours. We plan to see improved attendance and better retention of curriculum. The Transportation Technologies Unit plans to see a high competition rate and a higher continued enrollment in our automotive technology courses.

The programs must continue to actively recruit students from all demographic categories, but must increase efforts to diversify the student body with outreach to under-represented groups, especially female, African American, Native American, Asian, and other populations.

Are there any internal or external factors anticipated to impact future enrollment? If so, how does the department/unit plan to address these factors?
External factors:
The Transportation Technologies Unit has experienced significant enrollment growth in all of its programs due to demands for more fuel efficient and lower emissions for both automotive and diesel vehicles. As the economy further improves, the demand for heavy earth moving, Mining equipment and more fuel-efficient/Hybrid automobiles will only improve. Transportation

students are increasingly in demand as the job market has strengthen within the transportation industry. While this is, and should be good news it is important to note that the resulting transportation economy will not be the same. In order to be competitive and survive, the transportation industry will have to understand these changes in technology have served to widen the skills gap between transportation jobs and the available work force. It is because of this widening skills gap and the educational services required to close the gap that the TMCC Transportation Unit expects enrollment to grow.

Internal factors:
Most internal challenges confronting the Transportation Technologies Unit and programs will be the result of budget constraints. Inadequate funding resources may disrupt on-going upgrades of equipment, curriculum, and facilities. It will also be necessary to incorporate emerging technologies into each program to remain relevant with the industry.

The transportation Unit requires the adoption and expansion of new technology in order to remain an effective and viable training program capable of meeting industry workforce needs. However, this does not necessarily mean the Unit can discontinue or devalue older technology. This is because this older technology often forms the foundation upon which new skills require to be successful with emerging technologies are built. Students must mastery of these basic skills before they can successfully tackle the newer, more complex or advanced technologies. It is for this reason that the Unit technology expands, so must its size requirements. Automotive and diesel programs are nearing the point where further adoption of new technology may force the elimination or reduction of technology that still holds great value to the program and student development and learning. It is imperative that the TMCC administration understands that our technology does not stand still. Demands for trained students will only increase and the need for improved facilities, equipment and qualified faculty will increase.

VI. STUDENT SUCCESS

Course Pass Rate : Version by **Byington, Sam** on **11/12/2018 19:27**

Course Pass Rate in AUTO Sections	
Fall Term	Avg. Course Pass Rate
Fall 13	91%
Fall 14	95%
Fall 15	97%
Fall 16	93%
Fall 17	95%
5 yr change / average	Avg. Course Pass Rate
AUTO	94%
Division	56%
TMCC	80%

Course Pass Rate in AV Sections	
Fall Term	Avg. Course Pass Rate
Fall 13	76%
Fall 14	85%
Fall 15	84%
Fall 16	92%
Fall 17	93%
5 yr change / average	Avg. Course Pass Rate
AV	86%
Division	88%
TMCC	80%

Course Pass Rate in DT Sections	
Fall Term	Avg. Course Pass Rate
Fall 13	95%
Fall 14	93%
Fall 15	91%
Fall 16	95%
Fall 17	87%
5 yr change / average	Avg. Course Pass Rate
DT	92%
Division	56%
TMCC	80%

Please describe any substantial trends or shifts that you see. What might these trends or shifts mean? Discuss any factors that could have led to these trends or shifts in the data.
The Transportation Technologies Unit pass rates trend to be higher than the college and division due to the importance of a degree or certificate for employment in the transportation industry. The Transportation Technologies Unit instructors spend countless hours developing curriculum that is industry based that aligns with industry and workforce demands.

Graduation and Transfer : Version by **Byington, Sam** on **11/12/2018 19:01**

Automotive, Diesel, and Aviation Degrees Awarded								
AY	AUTOCT-AAS	AUTOGEN-CT	AUTOASE-CT	DIESL-AAS	DIESLTC-CT	UAST-CT	UAFO-AAS	Total
12-13	10	3	4	7	5	0	0	29
13-14	15	0	2	11	3	0	0	31
14-15	6	1	1	8	1	0	0	17
15-16	11	1	1	6	15	0	0	34
16-17	9	0	1	10	7	6	0	33
Total	51	5	9	42	31	6	0	144

Automotive Skills Certificates Awarded						
AY	ASEBSC	ASEDEN	ASEDPT	ASEGS	ASEMA	Total
12-13	0	0	0	5	1	6
13-14	10	10	13	21	13	67
14-15	7	12	11	13	12	55
15-16	12	10	12	22	2	58
16-17	8	9	11	16	16	60
Total	37	41	47	77	44	246

Transfer Rate of Automotive, Diesel, and Aviation Grads					
				TMCC	
	Automotive	Diesel	Aviation	Transfer Degrees	Terminal Degrees
Degrees Earned Fall 12 - Summer 17	56	64	6	4128	2805
# Transferred after graduation	7	3	1	2455	821
% Transferred after graduation	13%	5%	17%	59%	29%

Transfer Schools for Automotive, Diesel, and Aviation Grads			
# of students			
Auto	Diesel	Aviation	Transfer Institution
1			Chemeketa Community College
		1	College of Southern Nevada
1			McPherson College
	1		Southern New Hampshire College
1			University of California - Berkeley
1			University o Nevada, Las Vegas
2	2		University of Nevada, Reno
1			Western Nevada College

Please discuss any trends or shifts that you see. Do your degrees and/or certificates appear to be preparing students to transfer or enter directly into the workforce as intended?
The Transportation Unit Graduated 126 program and certificate graduates during this study period. Students understand the importance of a degree for professional development and an increased demand by industry for an educated workforce. Further increasing the graduation rates remains a unit priority. Students in technical programs, however, do not always finish their degrees because completion of technical skills courses is frequently all that is required by employers. Students are in fact employable prior to graduation and many take that option.

The Transportation Technologies Unit transfer rates are very low. One of the major factors is a lack of transportation courses or degrees offered at UNR. Another factor is the types of employment for Transportation Unit students. Employers in the transportation industries require highly skilled students with training that can be accomplished within our AAS programs.

Student Success Strategies : Version by **Byington, Sam** on **11/12/2018 19:09**

With respect to the student success indicators of credits earned (completion), retention, graduates and transfers, discuss strategies to enhance student success. These may include improving advising and mentoring efforts, improving retention efforts, streamlining pathways to completion, etc.
The number of continuing students and those attending part-time are a reflection of the general college population. The programs must continuously evaluate the class scheduling criteria, instructor workload, and to ensure courses are offered in appropriate sequences, without conflicts, and at times convenient and appropriate for its student population.
Full time faculty, part-time staff, and student FTE along with section numbers have remained steady throughout the review period due to limited classroom space and equipment.
Consistently strong retention rates are attributed to the career-orientation of the Transportation Technologies Units programs and the full-time to part-time faculty ratios.
Graduations rates have been consistently steady throughout the study period, however, the programs must continue to emphasize the importance and benefits of graduation to both its students and industries it serves in order to attain greater completion rates.
Are there any internal or external factors anticipated to impact future student success in your program or unit? If so, how does the department/unit plan address these factors?
No Value

VII. RESOURCES

Faculty Achievement : Version by **Byington, Sam** on **11/26/2018 17:46**

Describe the program/unit's full-time (FT) faculty credentials, experience, and highlights of significant activities and/or contributions to TMCC. Please use the format below for each FT faculty member.
Faculty name
FTE
Degree(s) or professional certification(s) awarded, discipline, awarding institution
Significant accomplishments or examples of expertise outside of academia (Please try to limit to 3)
Number of years teaching at TMCC
Total number of years in academia
Primary courses taught
Significant activities or contributions made to TMCC (Please try to limit to 3)

Faculty name
. . .

Name	FTE	Degree(s) or Professional Certifications Awarded, Discipline and Awarding Institution	Number Of years Teaching At TMCC	Courses Taught	Total Years in Academia
Sam Byington	1.0	Land Rover Master Technician Cadillac Master Technician Buick Master Technician Mopar CAP Level 0 and Level 1 Certified ASE Master Technician ASE L1 Advanced Engine Performance	8	Auto Electricity 1,2,3 Automatic Transmissions Heating and Air Conditioning Engine Repair Engine Performance 1,2,3 Introduction to Auto Mechanics	34
Cliff Bartl	1.0	Bachelor of Science in Education 1984 Mathematics / Agricultural Mechanics University of Nevada-Reno ASE Master Technician	19	ACE High School Auto/Diesel Course of Study (11 courses)	29
Jeremy Coggin	1.0	200 Certifications from Volvo, Mack, Peterbilt	1	All Diesel courses	8

Paul Seybold	1.0	ASE Master Technician ASE L1 Advanced Engine Performance A9- Light Vehicle Diesel Engines C1-Automobile Service Consultant L2-Electronic Diesel Engine Diagnosis T2-Diesel Engines	3	Introduction to Auto Mechanics Engine Performance 1,2,3 Engine Repair Light Duty Engine Performance Basic Diesel Engines Advanced Diesel Engines Diesel Electronic Injection 2 Heavy Duty Hydraulics	4
Wyatt Ziebell	1.0	Associate of Applied Science Automotive Certified Technician ASE Master Technician ASE L1 Advanced Engine Performance Mopar CAP Level 0 and Level 1	3	Brakes Steering and Suspension Introduction to Auto Mechanics Auto Electricity 1 Heating and Air Conditioning Manual Drivetrains	5

All Instructors are members of the various college committees. (ASA,FACULTY SENATE,CRC,WEB COLLEGE,SALARY BENEFITS & BUDGETTARY CONCERNS,STUDENT APPEALS AND PROFESSIONAL STANDARDS)

All instructors have extensive working in the field expertise. This brings a wide variety of work experience to our students to help them with their growth and knowledge in the field there studying.

Faculty Workload : Version by **Clifford, Donna** on **03/25/2019 18:37**

AUTO Faculty FTE and Headcount

	Full-Time		Part-Time	
	Headcount	FTE	Headcount	FTE
Fall 2013	4	3.6	2	0.53
Fall 2014	3	3.6	2	0.53
Fall 2015	5	3.9	2	0.53
Fall 2016	5	4.2	2	0.8
Fall 2017	5	3.9	2	0.53

AV Faculty FTE and Headcount

	Full-Time		Part-Time	
	Headcount	FTE	Headcount	FTE
Fall 2013	0	0	1	0.27
Fall 2014	0	0	1	0.27
Fall 2015	1	0.2	1	0.27
Fall 2016	1	0.8	1	0.27
Fall 2017	1	0.6	1	0.27

AUTO Student Credit Hours Taught

	Full-Time		Part-Time	
	SCH	% SCH	SCH	% SCH
Fall 2013	815	85%	144	15%
Fall 2014	904	86%	148	14%
Fall 2015	855	86%	136	14%
Fall 2016	934	86%	156	14%
Fall 2017	767	84%	144	16%

AV Student Credit Hours Taught

	Full-Time		Part-Time	
	SCH	% SCH	SCH	% SCH
Fall 2013	0	0%	68	100%
Fall 2014	0	0%	52	100%
Fall 2015	48	44%	60	56%
Fall 2016	165	75%	56	25%
Fall 2017	99.0	73%	36	27%

DT Faculty FTE and Headcount

	Full-Time		Part-Time	
	Headcount	FTE	Headcount	FTE
Fall 2013	2	1.5	0	0
Fall 2014	2	1.3	1	0.13
Fall 2015	3	2.3	1	0.13
Fall 2016	3	2.1	1	0.13
Fall 2017	3	2.3	1	0.13

DT Student Credit Hours Taught

	Full-Time		Part-Time	
	SCH	% SCH	SCH	% SCH
Fall 2013	400	100%	0	0%
Fall 2014	258	88%	34	12%
Fall 2015	552	94%	38	6%
Fall 2016	485	94%	32	6%
Fall 2017	539	94%	32	6%

Automotive Technologies				
	Full-Time (Your Dept)		Other Instructors	
	Headcount	FTE	FT	PT
Fall 2013	3	3.1	1	2
Fall 2014	2	2.8	1	2
Fall 2015	3	3.1	2	2
Fall 2016	3	2.8	2	2
Fall 2017	3	3.1	2	2

	Full-Time (Your Dept)		Full-Time (other Dept)		Part-Time	
	SCH	% SCH	SCH	% SCH	SCH	% SCH
Fall 2013	695	72%	120	13%	144	15%
Fall 2014	716	68%	188	18%	148	14%
Fall 2015	731	74%	124	13%	136	14%
Fall 2016	709	65%	225	21%	156	14%
Fall 2017	607	67%	160	18%	144	16%

Diesel Techology				
	Full-Time (Your Dept)		Other Instructors	
	Headcount	FTE	FT	PT
Fall 2013	2	1.5	0	0
Fall 2014	2	1.3	0	1
Fall 2015	3	2.3	0	1
Fall 2016	2	1.4	1	1
Fall 2017	3	2.3	0	1

	Full-Time (Your Dept)		Full-Time (other Dept)		Part-Time	
	SCH	% SCH	SCH	% SCH	SCH	% SCH
Fall 2013	400	100%	0	0%	0	0%
Fall 2014	258	88%	0	0%	34	12%
Fall 2015	552	94%	0	0%	38	6%
Fall 2016	307	59%	178	34%	32	6%
Fall 2017	539	94%	0	0%	32	6%

Describe the trends or shifts in the number of full-time (FT) and part-time (PT) faculty, and the number of student credit hours (SCH) taught by FT and PT faculty since the last program/unit review. What impact, if any, have these trends or shifts had on the program/unit?
The average Transportation Technologies Unit full-time to part-time faculty ratio is significantly higher than the college. This is due primarily to the intensely technical nature of the Unit offerings and contributes greatly to the Units higher than average retension rates.

Support Staff : Version by **Byington, Sam** on **11/09/2018 17:08**

Describe the program/unit's support staff, including their FTE, major duties, and any specialized credentials necessary to carry out their duties. Is the number of staff adequate to support the program/unit? Explain.
The program is supported by the dean's office staff which includes a director, executive assistant and administrative assistant. In addition, the college employs a full-time tool room attendant. This staffing is adequate at this time based on current enrollment.

With the constantly changing technology in the transportation industry there will be a need for more faculity to cover the expansion of the tranportation units programs and courses.

Facilities and Technology : Version by **Byington, Sam** on **11/12/2018 20:33**

Describe the facilities and technology used by the program/unit, and discuss any unique requirements. These may include labs, studios, off-campus sites, computer classrooms, specialized equipment, etc.
The majority of the Transportation Technologies Unit course offerings take place in specialized classrooms and labs located at the William N. Pennington Applied Technology Center. The automotive lab covers approximately 10,000 square feet. The diesel lab covers approximately 12,000 square feet. Automotive has two dedicated classrooms adjecent to the automotive lab area. Diesel has one dedicated classroom adjecent to the diesel lab area. The Transportation Technologies Unit also has access to other classrooms when needed for workshop classes. All technical course offerings require intensive hands-on lab components necessary to master skills required for competency within the industry. With advancing technology, Faculty update training is mandated by NATEF to maintain certification, and advisory committee members voiced concerns that students recieve the latest technology information available. It is and will remain necessary for the programs to periodically update cirriculum, software, and equipment as new and advanced technology emerges in order to maintain relevancy with the transportation industry.
Are the program's/unit's facilities and technology adequate to support the program? Explain.

While every effort is made by Unit faculty to provide quality educational experiences within each individual program, considerable facilities upgrades are required to ensure continued excellence and NATEF minimum space and equipment requirements per student.

Funding and Instructional Expenditures : Version by **Byington, Sam** on **11/14/2018 17:04**

Working with your academic dean, describe the most significant funding source(s) and part-time faculty dollars allocated to the program/unit. These may include regular operating budgets, grants, lab fees, differential tuition, etc. Are funding sources adequate to maintain or grow the program? Should enhanced lab fees or differential tuition be explored?

The state operating budget for the Transportation Technologies Programs is $72,295, which includes a general operating budget, automotive lab budget, an emissions workshop account, a diesel technology lab budget and travel. In addition, there is a $404,010 budget for full-time staffing (professional and classified salaries including fringe).

In addition, student lab fees of $9,308 are collected and may be used on direct instructional needs in the classroom. This balance is consistent with NSHE policy related to lab fees.

This program was included in the 2017 NSHE legislative initiative to adjust the higher education funding formula to double the weighting on the student credit hours (WSCH from 2.0 to 4.0). This additional amount will help support the program's larger needs as needed.

Discuss how part-time faculty dollars have been allocated and used in the program, and discuss their impact on the program/unit's FTE. Was the program/unit able to offer more sections and/or increase FTE? Were part-time faculty hired to meet student demand for courses?

The college employs five full-time faculty members in the Transportation Technologies department, as well as a full-time tool room technician. There is one current (2018-2019) vacancy in the diesel program for a full time instructor that will be search in spring 2019.

The college supports the program with overload funds for full-time faculty members as well as funds for part-time instructors as needed to expand offerings. However, due to limitations in lab space, only so many classes may be offered. When classes are added, full-time faculty may take an overload contract (up to 6 credits over their required load) or part-time faculty may be hired. College funds are used to cover the contracted amount (as opposed to departmental sources).

VIII. FUTURE DIRECTIONS

Five-Year Plan : Version by **Byington, Sam** on **11/14/2018 18:23**

Using your curriculum, enrollment, and student success strategies, and after evaluating your proposed resource needs, develop a 5-year plan for the program or unit. Please address the following quesitons.

What are the major goals that the department or unit hopes to accomplish in the next 5 years? Include an estimated timeline of goal completion.

The Transportation Technologies Unit plans for the next five years will include the following:

1. Search out and develop a Hybrid Program track for the AAS degree. Includes development of curriculum, Submitting course titles and numbering, descriptions, objectives, outcomes and measures to CAP.
2. Search out and develop factory-authorized training for our students with partnerships in training of our students and faculty.
3. Expand the NC3 program to include more up to date technology.
4. Update our Training vehicles for student hands-on experiences.
5. Update and streamline class schedules to give students better chance to finish degree in two-year period.
6. Update Diesel training aides to newere technology.

How does the department or unit plan to improve degree/certificate completion and/or course completion if the department or unit does not offer any degrees/certificates?

No Value

How does the department or unit plan align to the College's Strategic Master Plan (http://www.tmcc.edu/accreditation/strategic-master-plan/)? To which Core Themes and Objectives does the program or unit plan align?

Truckee Meadows Community College promotes student success, academic excellence and access to lifelong learning by supporting high-quality education and services within our diverse community.

To deliver thorough, industry-relevant curriculum and effective student-centered instruction capable of providing students with the intellectual tools and physical skill-sets required to pursue successful employment, career advancement, and personal growth within the transportation industries.

The Transportation Technologies Units mission statement aligns with the college mission statement. All themes, objectives and indicators align with the college.

Resource Requests : Version by **Byington, Sam** on **11/26/2018 18:26**

Faculty and/or Staff Positions

1. Request
2. Estimated time to hire or time the request will be made
3. Projected measurable outcomes: What does the program hope to introduce, develop, improve, accomplish, etc. as a result of the request?
4. Institutional Funding Priority: Indicate which of the following institutional funding priorities your request addresses:
    1. Compliance with mandates and requirements.
    2. Address and/or mitigate issues of liability.
    3. Address compensation equity.
    4. Improve efficiency and/or effectiveness.
    5. Leverage resources, investments with returns.
    6. Promote professional development.
5. Alignment to the College's Strategic Master Plan (http://www.tmcc.edu/accreditation/strategic-master-plan/)
    1. Core Theme(s)
    2. Objective(s)

1. Faculty and/or staff position requested

The Transportation Technologies Unit will need a new instructor for the expansion of our program in the direction of Hybrid Technology.

1. Estimated time to hire

The Transportation Technologies Unit will need to hire a new faculty member in the next two years.

1. Projected measurable outcome(s):

The Transportation Technologies Unit hopes to add extensive training for all areas of Hybrid Technology.

1. Institutional Finding Priority

4. Improve efficiency and/or effectiveness.

1. Alignment to the College’s Strategic Master Plan

Core Theme 3: Access to Lifelong Learning
Objective
2.2. Offer high-quality programs that meet the workforce educational needs of our community.

Capital Improvement (Facilities)

1. Request
2. Estimated time to hire or time the request will be made
3. Projected measurable outcomes: What does the program hope to introduce, develop, improve, accomplish, etc. as a result of the request?
4. Institutional Funding Priority: Indicate which of the following institutional funding priorities your request addresses:
    1. Compliance with mandates and requirements.
    2. Address and/or mitigate issues of liability.
    3. Address compensation equity.
    4. Improve efficiency and/or effectiveness.
    5. Leverage resources, investments with returns.
    6. Promote professional development.
5. Alignment to the College’s Strategic Master Plan (http://www.tmcc.edu/accreditation/strategic-master-plan/)
    1. Core Theme(s)
    2. Objective(s)

1.

1. Capital improvement or facilities requested

There is one current (2018-2019) vacancy in the diesel program for a full time instructor that will be search in spring 2019.

1. Estimated time for request

Within 1 Year

1. Projected measurable outcome(s):

To continue educating students to the level needed to enter the workforce.

1. Institutional Finding Priority

4. Improve efficiency and/or effectiveness.

1. Alignment to the College’s Strategic Master Plan

Core Theme 3: Access to Lifelong Learning
Objective
1.1. Improve successful completion of students' educationa goals, including graduation, transfer, and CTE completion.
2.

1. Capital improvement or facilities requested

Reorganization of shop area to develop more shop space and storage space.

1. Estimated time for request

Within 2 Years

1. Projected measurable outcome(s):

To continue educating students to the level needed to enter the workforce.

1. Institutional Finding Priority

4. Improve efficiency and/or effectiveness.

1. Alignment to the College’s Strategic Master Plan

Core Theme 1: Student Success
Objective
1.1. Improve successful completion of students' educationa goals, including graduation, transfer, and CTE completion.

Technology or Specialized Instructional Resources

1. Request
2. Estimated time to hire or time the request will be made
3. Projected measurable outcomes: What does the program hope to introduce, develop, improve, accomplish, etc. as a result of the request?
4. Institutional Funding Priority: Indicate which of the following institutional funding priorities your request addresses:
    1. Compliance with mandates and requirements.
    2. Address and/or mitigate issues of liability.
    3. Address compensation equity.
    4. Improve efficiency and/or effectiveness.
    5. Leverage resources, investments with returns.
    6. Promote professional development.
5. Alignment to the College’s Strategic Master Plan (http://www.tmcc.edu/accreditation/strategic-master-plan/)
    1. Core Theme(s)
    2. Objective(s)

1.

1. Technology or specialized instructional resources requested

Updated vehicle fleet.

1. Estimated time for request

Soon as possible.

1. Projected measurable outcome(s):

To continue educating students to the level needed to enter the workforce.

1. Institutional Finding Priority

4. Improve efficiency and/or effectiveness.

1. Alignment to the College’s Strategic Master Plan

Core Theme 3: Access to Lifelong Learning
Objective
2.1. Maintain and improve the quality of course, general educatin, and progrm offerings through systematic assessment and review.

2.

1. Technology or specialized instructional resources requested

Update diagnostic equipment

1. Estimated time for request

Soon as possible.

1. Projected measurable outcome(s):

To continue educating students to the level needed to enter the workforce.

1. Institutional Finding Priority

4. Improve efficiency and/or effectiveness.

1. Alignment to the College’s Strategic Master Plan

Core Theme 3: Access to Lifelong Learning
Objective
2.1. Maintain and improve the quality of course, general educatin, and progrm offerings through systematic assessment and review.

3.

1. Technology or specialized instructional resources requested

Laptop cart and laptops.

1. Estimated time for request

Soon as possible.

1. Projected measurable outcome(s):

To continue educating students to the level needed to enter the workforce.

1. Institutional Finding Priority

4. Improve efficiency and/or effectiveness.

1. Alignment to the College’s Strategic Master Plan

Core Theme 1: Student Success
Objective
2.1. Maintain and improve the quality of course, general educatin, and progrm offerings through systematic assessment and review.

4.

1. Technology or specialized instructional resources requested

New NC3 programs.

1. Estimated time for request

Soon as possible.

1. Projected measurable outcome(s):

To continue educating students to the level needed to enter the workforce.

1. Institutional Finding Priority

4. Improve efficiency and/or effectiveness.

1. Alignment to the College’s Strategic Master Plan

Core Theme 2: Academic Excellence
Objective
1.1. Improve successful completion of students' educationa goals, including graduation, transfer, and CTE completion.

Professional Development

1. Request
2. Estimated time to hire or time the request will be made
3. Projected measurable outcomes: What does the program hope to introduce, develop, improve, accomplish, etc. as a result of the request?
4. Institutional Funding Priority: Indicate which of the following institutional funding priorities your request addresses:
    1. Compliance with mandates and requirements.
    2. Address and/or mitigate issues of liability.
    3. Address compensation equity.
    4. Improve efficiency and/or effectiveness.
    5. Leverage resources, investments with returns.
    6. Promote professional development.
5. Alignment to the College’s Strategic Master Plan (http://www.tmcc.edu/accreditation/strategic-master-plan/)

1. Core Theme(s)
2. Objective(s)

1. Professional development opportunities requested

NC3 training for instructors

1. Estimated time for request

Soon as possible.

1. Projected measurable outcome(s):

The Transportation Technologies Unit hope to promote stronger student understanding and learning in the transportation industry.

1. Institutional Finding Priority

1. Compliance with mandates and requirements.

1. Alignment to the College's Strategic Master Plan

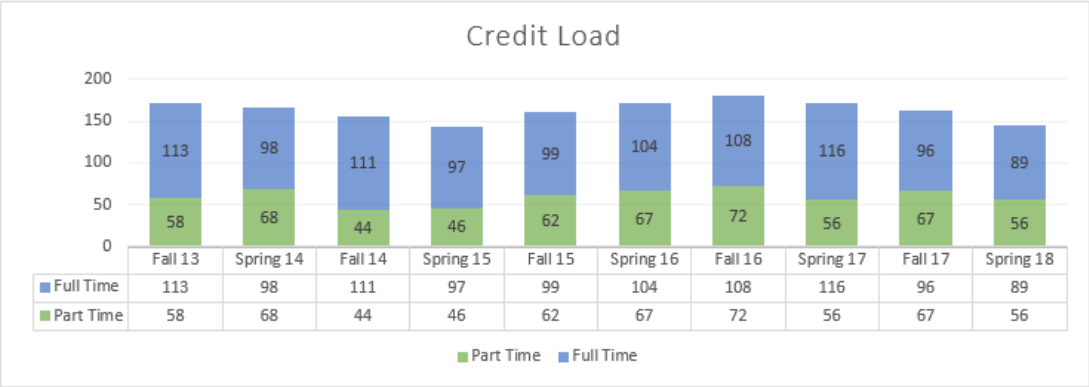
Core Theme 3: Access to Lifelong Learning
Objective
2.3. Create a learning environment that promotes academic growth for a diverse student population.

APPENDICES

Appendix A: Detailed Enrollment and Demographics

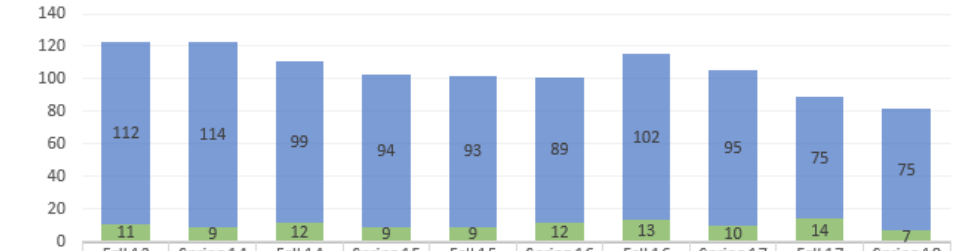
Additional Appendices : Version by **Deadmond, Melissa** on **04/29/2019 17:52**

Appendix A
Demographics for Transportation Technology
(Fall 13 - Spring 18)



	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Full Time	113	98	111	97	99	104	108	116	96	89
Part Time	58	68	44	46	62	67	72	56	67	56

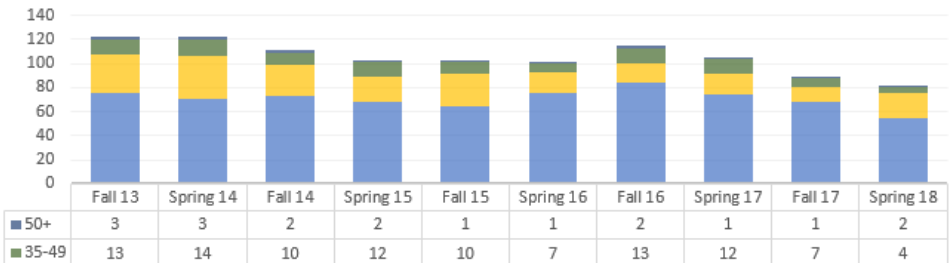
Gender



	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Male	112	114	99	94	93	89	102	95	75	75
Female	11	9	12	9	9	12	13	10	14	7

Female Male

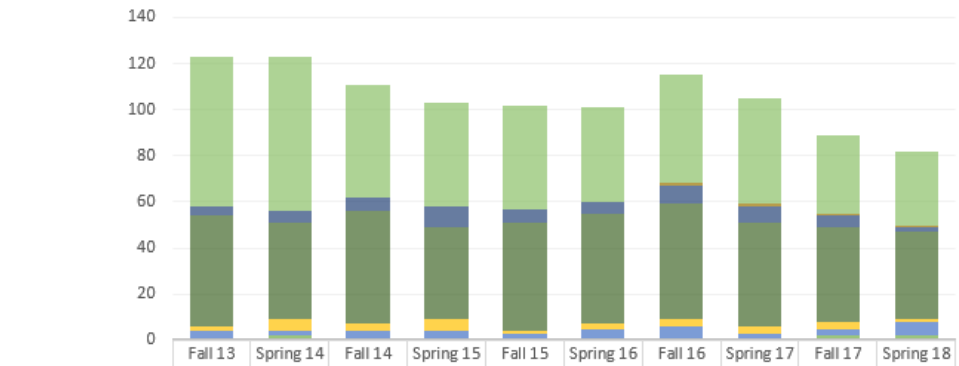
Age Range



	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
50+	3	3	2	2	1	1	2	1	1	2
35-49	13	14	10	12	10	7	13	12	7	4
25-34	32	35	26	21	26	18	16	18	13	21
18-24	74	70	73	67	65	75	84	74	68	55
<18	1	1	0	1	0	0	0	0	0	0

<18 18-24 25-34 35-49 50+

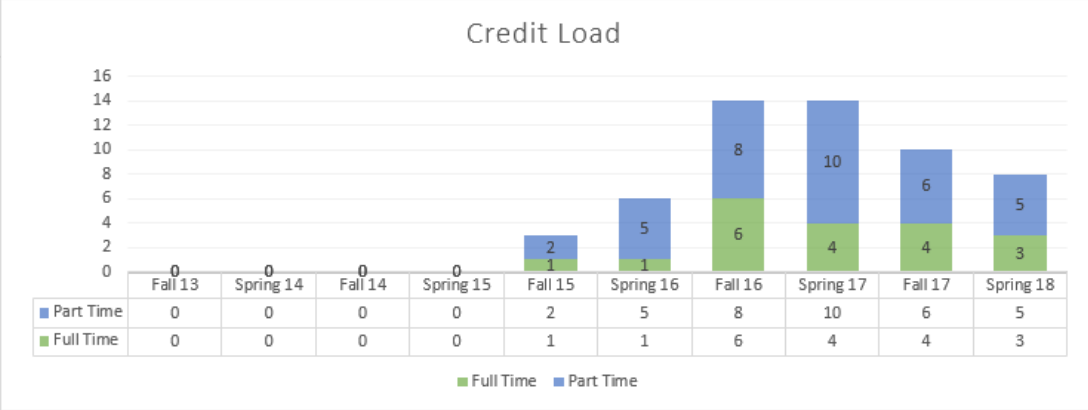
Ethnicity



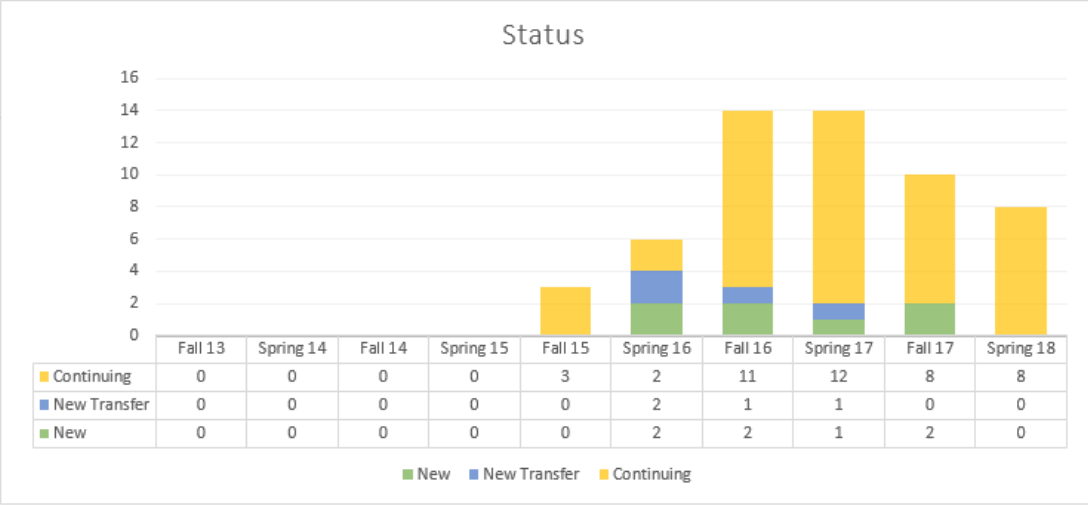
	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
White	65	67	49	45	45	41	47	46	34	32
Unknown	0	0	0	0	0	0	1	1	1	1
Two or more races	4	5	6	9	6	5	8	7	5	2
Hispanic	48	42	49	40	47	48	50	45	41	38
Black	2	5	3	5	1	2	3	3	3	1
Asian	3	2	3	4	3	4	5	2	3	6
Native Am.	1	2	1	0	0	1	1	1	2	2

Native Am. Asian Black Hispanic Two or more races Unknown White

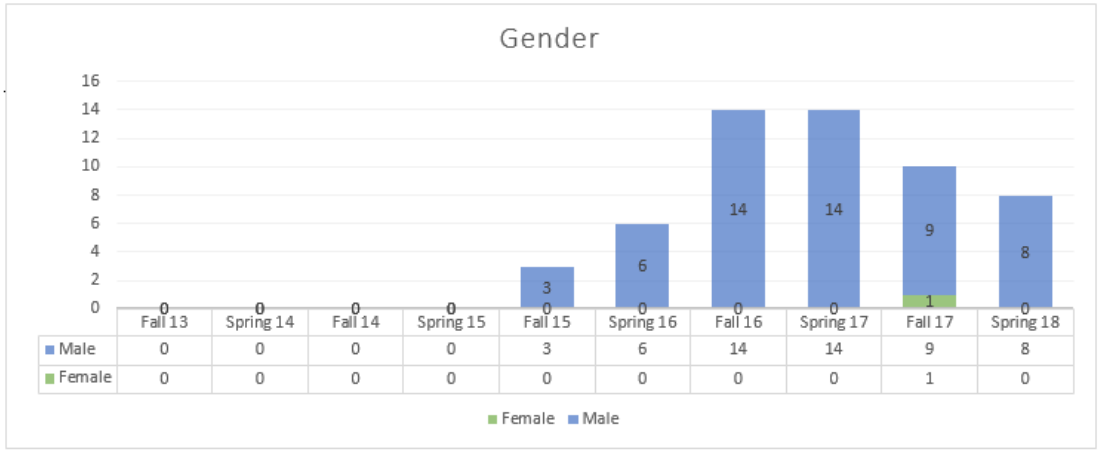
Appendix A
Demographics for UAS Majors
(Fall 13 - Spring 18)



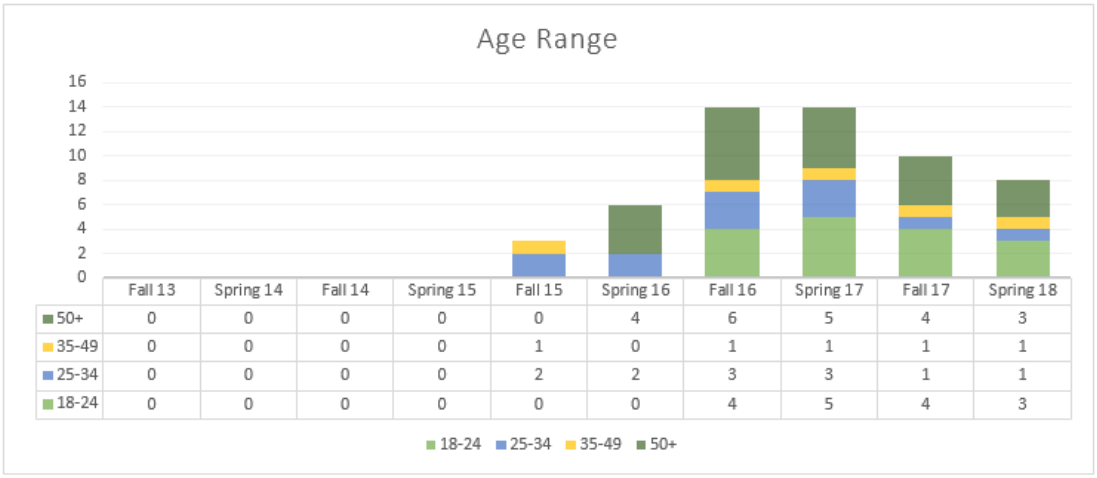
	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Part Time	0	0	0	0	2	5	8	10	6	5
Full Time	0	0	0	0	1	1	6	4	4	3



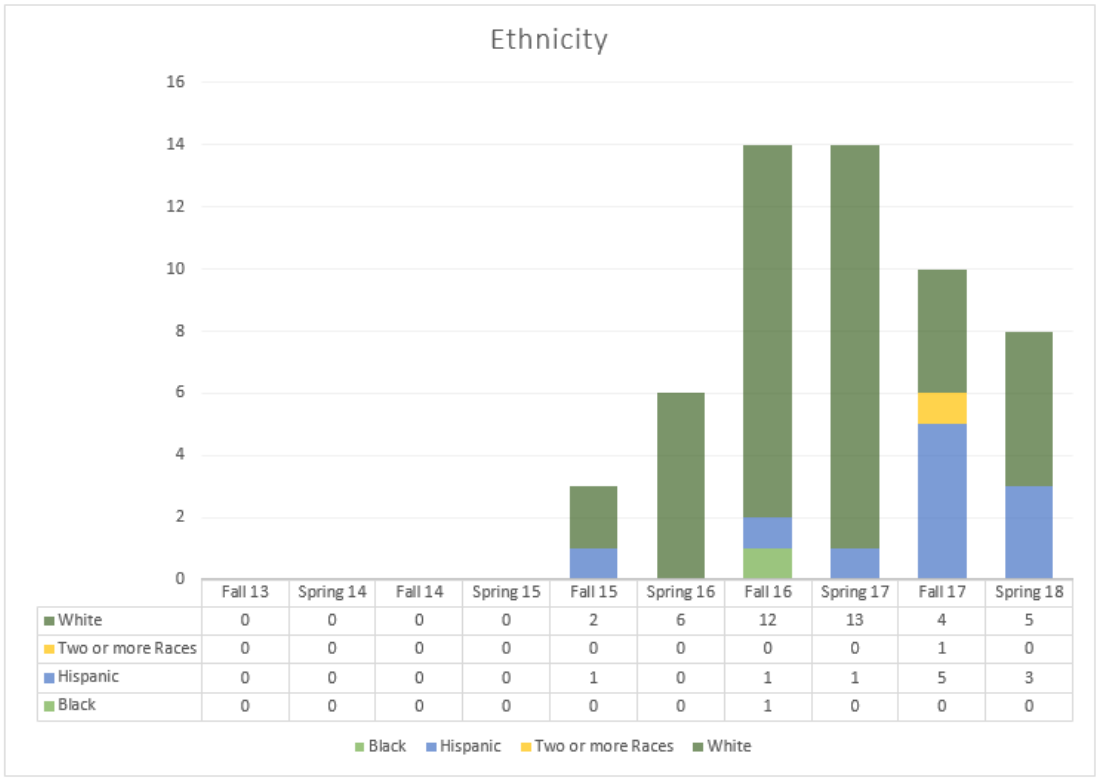
	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Continuing	0	0	0	0	3	2	11	12	8	8
New Transfer	0	0	0	0	0	2	1	1	0	0
New	0	0	0	0	0	2	2	1	2	0



	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Male	0	0	0	0	3	6	14	14	9	8
Female	0	0	0	0	0	0	0	0	1	0

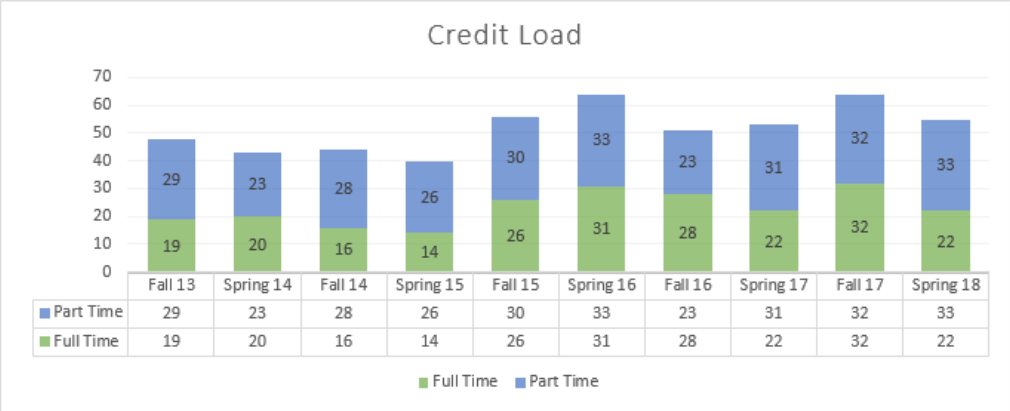


	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
50+	0	0	0	0	0	4	6	5	4	3
35-49	0	0	0	0	1	0	1	1	1	1
25-34	0	0	0	0	2	2	3	3	1	1
18-24	0	0	0	0	0	0	4	5	4	3

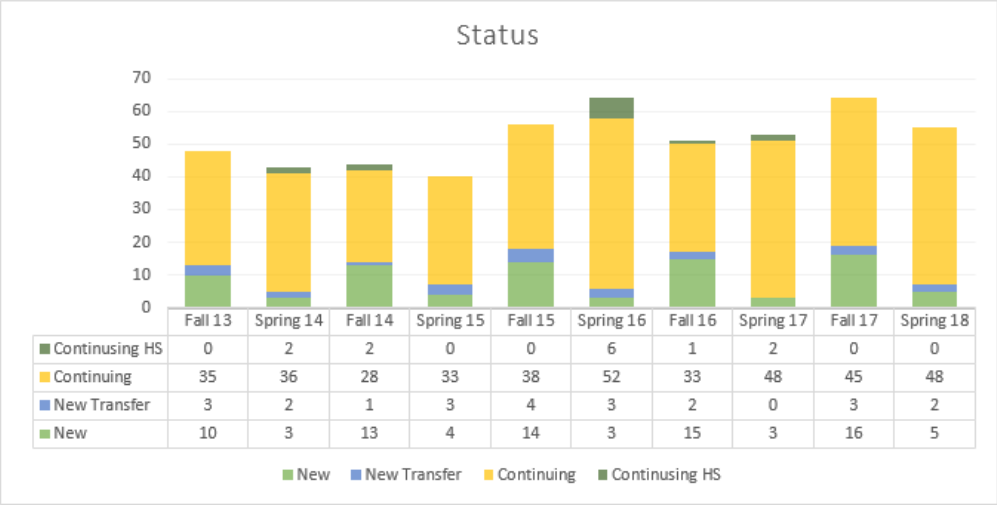


	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
White	0	0	0	0	2	6	12	13	4	5
Two or more Races	0	0	0	0	0	0	0	0	1	0
Hispanic	0	0	0	0	1	0	1	1	5	3
Black	0	0	0	0	0	0	1	0	0	0

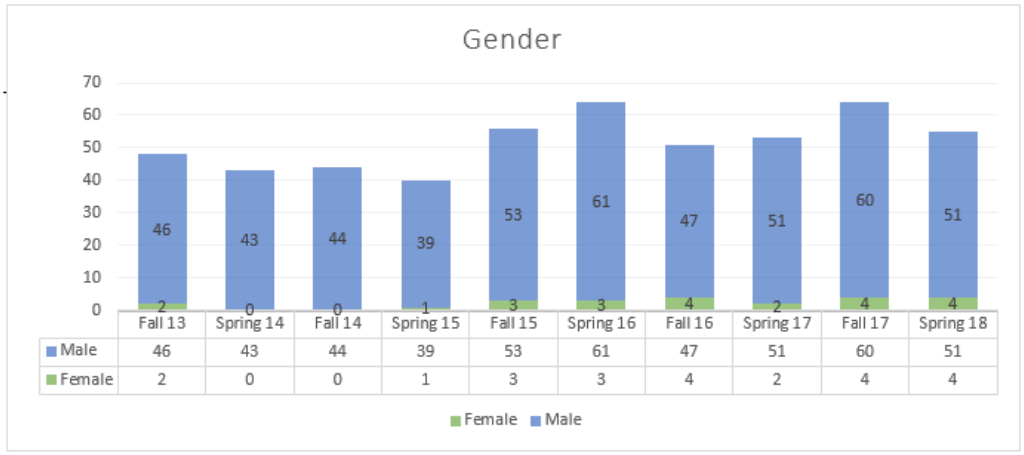
Appendix A
Demographics for Diesel Majors
(Fall 13 - Spring 18)



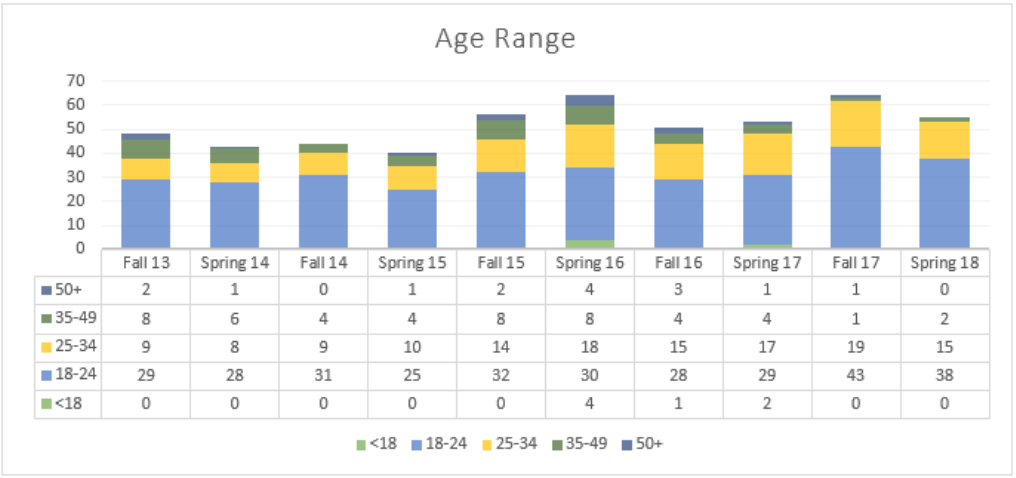
	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Part Time	29	23	28	26	30	33	23	31	32	33
Full Time	19	20	16	14	26	31	28	22	32	22



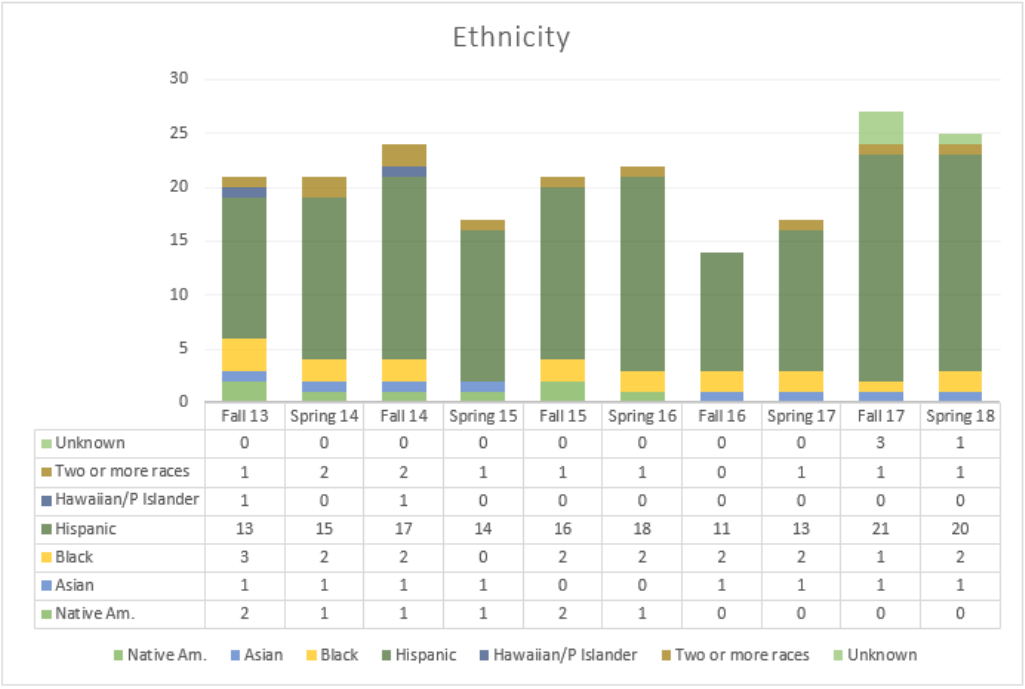
	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Continusing HS	0	2	2	0	0	6	1	2	0	0
Continuing	35	36	28	33	38	52	33	48	45	48
New Transfer	3	2	1	3	4	3	2	0	3	2
New	10	3	13	4	14	3	15	3	16	5



	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Male	46	43	44	39	53	61	47	51	60	51
Female	2	0	0	1	3	3	4	2	4	4



	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
50+	2	1	0	1	2	4	3	1	1	0
35-49	8	6	4	4	8	8	4	4	1	2
25-34	9	8	9	10	14	18	15	17	19	15
18-24	29	28	31	25	32	30	28	29	43	38
<18	0	0	0	0	0	4	1	2	0	0



	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16	Spring 17	Fall 17	Spring 18
Unknown	0	0	0	0	0	0	0	0	3	1
Two or more races	1	2	2	1	1	1	0	1	1	1
Hawaiian/P Islander	1	0	1	0	0	0	0	0	0	0
Hispanic	13	15	17	14	16	18	11	13	21	20
Black	3	2	2	0	2	2	2	2	1	2
Asian	1	1	1	1	0	0	1	1	1	1
Native Am.	2	1	1	1	2	1	0	0	0	0

Academic Dean's Findings and Recommendations : Version by **Walden, Barbara** on **07/18/2019 20:22**

Academic Dean's Findings:

The Transportation program has steady enrollment and above average course completion rates. In the past two years, the instructors have worked on outreach to the regional employers and have seen more engagement as a result. Work for this program needs to be ongoing to ensure the program technology stays current to the employment market. The transportation

program has gone through many changes in the past two years. The automotive side had added new equipment and updated the content to add a new emphasis. It has also changed the delivery format of the course to a block schedule intended to benefit students by being quicker to complete and easier to schedule. The diesel technology side has challenges with outdated technology. Both sides have added new instructors and in AY18-19 went with a vacant instructor position. Once fully staffed, the program will have room for growth and increased student capacity.

Strengths:

Both the diesel and the auto move programs now have courses scheduled in block formats (daytime) which allow for faster program completion and provides students with more flexibility in their work/life schedule. Manufacturer certified training programs will be provide added benefit to students and local employers. In recent years, the automotive program has resources allocated to upgrade the fleet, purchase tools and expand the inventory of trainers. The automotive curriculum and lab resources currently meet industry standards. The diesel and auto programs have 5 FT faculty (2 of which can teach both programs) and a 6th position is being searched to start for fall 2019. This allows 85-95% of courses to be taught by full time instructors. The automotive and diesel course pass are strong and exceed division and institutional rates. The embedded Math and Human Relations content offer an advantage to students who are more confident with applied math and it also reduces the required number of credits for the Associate Degree levels.

Areas for Improvement:

For the 2018-19 AY, enrollment has been impacted by having a vacant FT teaching position. Technology within the diesel program is in need of upgrades which will required curriculum changes. The employed opportunities projected for the UAS program have not emerged as expected.

1- Rotation of courses for PT degree completion.
2- Fully staff faculty in the department.
3- Upgrade technology in Diesel program.

Summary Action Recommended (Continue program, significantly revise, etc. followed by explanation):

Automotive program should continue to work on the two year scheduling plan with rotation of evening courses for degree completion. This will assist students to plan schedules in advance and help with program completions. Diesel program will need to revise and update curriculum as newer technology is added. When an additional instructor is added, the diesel program should look at the rotation of evening courses for degree completion.
Recommendations and Implementation Timeline:

AY18-19 Document need and pursue resources for equipment/facility needs identified for during the course assessment reviews and by employer Advisory Boards.
AY19-20 Review all credentials for complete alignment of CLOs with the credential SLOs; revise course CLOs if gaps are identified; submit changes as needed for CRC approval.
AY20-21 Review Diesel program for addition/deletion of courses as needed to incorporate new technology. Make sure new courses are consistent with format for CLO and SLO alignment developed in previous year.

AYs 18-19, 19-20, 20-21 Follow up with resource allocation to obtain new equipment as it is identified and edit courses as need. The large investment needed to upgrade Diesel might take 2-3 years.

Resources Necessary for Implementation of Recommendations:

The primary resources needed for recommendations is funding for equipment and facilities. Funding for program improvement is not expected to impact PLOs unless new technology requires changes to CLOs. This maps to Core Theme 2: Academic Excellence; Objective 2: Offer high quality programs that meet the workforce education needs of our community.

Faculty time will be needed to map PLOs, SLOs and CLOs, analyze for gaps and make changes to ensure outcome alignment; additional resources such as templates or training would help to ensure quality and consistency of the review.

Impact of Recommendations on Division Planning:

The equipment needs for technology upgrades in the diesel program are significant. The allocation plan will need to be stretched across multiple years and will need to be balanced with other program resource needs in the division. The completion and implementation of a 2 year rotation of classes (daytime) and 6-8 years (evening) in Automotive program could become the division model if effective to increase completions and retention. New part-time instructors may need to be recruited to meet the expanded schedule.

Impact of Recommendations on Program/Unit Faculty:

Program faculty will be responsible for curriculum changes and CRC approval (as needed) for new technology/equipment and CLO/PLO alignment review findings. The impact on individual faculty can be minimized by planning a review cycle in advance and dividing the tasks among faculty. Full time faculty may need to mentor new part time instructors to ensure quality.

Academic Standards and Assessment Committee Findings and Recommendation : Version by **Deadmond, Melissa** on **07/03/2019 20:40**

Academic Standards and Assessment Committee's Findings:
Program/Unit Reviewed: Transportation Technology **Year of Review: 2019**
Division: Technical Sciences
Self-Study Committee Chair: Sam Byington
Date Reviewed by Academic Standards and Assessment Committee: 4/19/2019

Academic Standards and Assessment Committee's Findings:
The Transportation Technology program at TMCC was in the first round of programs to complete the new revised PUR, and the first to do so using the eLumen software application. In addition, the Transportation Technology PUR was among the first to be evaluated by the Academic Standards and Assessment Committee using an assessment rubric. The committee acknowledges that both the PUR and the rubric can still be improved. The ASA Committee aims to move TMCC away from assessing courses in isolation and toward program learning outcomes assessment. Furthermore, the committee acknowledges that "programs" can be defined as degrees and certificates as well as general education courses if departments serve more students in general education than in their majors. The committee plans to make this distinction clearer in further revisions of the PUR template.

The Academic Standards and Assessment Committee found that the Transportation Technology department/program has achievable and well-thought-out ideas to address rapidly changing technologies in the transportation sector, is closely tied to an advisory committee that keeps curriculum and instructors connected to national best practices and standards, has clear and

specific Program Student Learning Outcomes, and offers multiple, flexible program pathways and student-centered course scheduling. The committee has concerns that the Course Program Student Learning Outcome assessment does not yet clearly map to the Program Student Learning Outcomes, and that Automotive enrollments are showing a slight decline during a time frame when the rest of the division is showing a slight increase. Furthermore, the committee recommends creating a narrative that clearly ties the program mission to the college's mission, that the program clearly and specifically tie capital and staffing needs to Program Student Learning Outcomes and the TMCC Strategic Master Plan, measure the embedded General Education learning outcomes through assessment, and evaluate and analyze how Program Student Learning Outcomes are achieved through the Course Student Learning Outcomes assessment tools.

Program Strengths:

Program Strengths:

The five-year plan has some attainable and intriguing ideas to stay current with rapidly changing transportation technologies including: a hybrid program track; factory authorized training; updates to the NC3 program; training vehicles; diesel technologies; and block scheduling to enable students to complete programs in two years.

The program is closely tied to an advisory committee for accreditation and external review using nationally recognized standards.

There are specific Program Student Learning Outcomes listed for each degree and certificate offered.

There are very detailed descriptions of assessment instruments and the results of most assessments are mapped to individual Course Student Learning Outcomes.

The program offers stackable certificates and different tracks to earn the AAS.

Flexible scheduling often allows students to graduate in two years or less.

Areas of Concern or Improvement:

Areas of Concern or Improvement:
The relationship of the Course Student Learning Outcomes to Program Learning Outcomes alignment is unclear from this report, but it appears to have been mapped.

Automotive (not including Diesel Technology) enrollments show a 5-year average decline in enrollment that is slightly higher than the TMCC average; meanwhile the rest of the division shows a 5-year average increase.

Recommendations:

Recommendations:
Add a narrative describing how the program missions align to the TMCC mission.

The committee supports the recommendations for additional equipment and staffing needs.

Clearly and specifically tie requested staffing and capital improvement needs to Program Student Learning Outcomes and the Strategic Master Plan.

Measure the embedded Math and Human Relations/Communications Course Student Learning Outcomes for General Education assessment.

The program needs to evaluate how well the Course Student Learning Outcomes of individual courses are helping meet the Program Student Learning Outcomes of the degrees and certificates. There seems to be a clear correlation, but little to no analysis.

Other comments:

Other Comments:
On the first page, under Program or Unit Mission, edit the second sentence of the second paragraph for clarity.

Under the Five-Year Plan Summary (#1) "CAP" should be changed to "CRC".

Vice President of Academic Affairs' Findings and Recommendations : Version by **Clifford, Donna** on **07/30/2019 20:30**

VPAA's Findings:
The Transportation Department has worked hard this past few years to ensure that students will be able to test and earn specialized manufacturer certifications that directly positively affect their earning potential. Faculty attended a Webinar on block scheduling and immediately implemented a pilot. The enrollment numbers were down due to a staffing opening but should recover well now that positions were successfully filled. This department is open to new pedagogy, scheduling models, and other actions that will help their students be successful, not just in the classroom but in their profession.

Strengths:
Well qualified faculty with excellent professional experience. The pilot block scheduling will enable students to complete more quickly than before. The department has a strong advisory board and community respect and support. The structure of the stackable credentials leading to degrees helps students obtain just what they need, while gaining confidence in their ability to succeed in higher education and then continue on to a degree.

Areas for Improvement:
Outdated equipment is a major detriment to a program that teaches students how to work on and maintain said equipment. The UAV program must be either revamped or discontinued as it is structured now, it does not respond to our local industry needs.

(NOTE: In the PUR under the Student Success (section VI), the pass rates given for the Division are not consistent)

The following recommendations made by the Academic Standards and Assessment Committee and Dean are upheld, and/or additional recommendations include the following: (Please include an implementation timeline.)
The Dean's recommendations supported are:
1 (ASAC's #2), 2(ASAC's #5), 3, and 4. And the remaining ASAC's recommendations are supported. I also agree with the Dean's timeline.

The following recommendations made by the Academic Standards and Assessment Committee and Dean are not upheld: (Please provide an explanation.)
No Value
In order to implement recommendations towards program improvement, the following resource requests are upheld, and/or additional recommended resources include the following:
NA

The following resource requests are not upheld: (Please provide an explanation.)
No Value
Summary Action Recommended (Continue program, significantly revise, or discontinue, followed by explanation):
No Value