**Department/Program Review**

**Self-Study Report Template**

**2019 - 2020**

**Department: 0568-Automotive**

**Section I: Innovations and Accomplishments**

*Please list noteworthy innovations in instruction, curriculum and student learning over the last five years (including student awards, faculty awards, etc.).*

Since the last Program Review, the automotive department continues to be nationally recognized as a leader in automotive education in many aspects. In April 2017, the department was a recipient of a $750,000 National Science Foundation grant to train other automotive college instructors on automated and connected vehicle technology. This was a goal of the department’s from our 2014-2015 Program Review and puts the college at the forefront of training skilled technicians to service semi-autonomous vehicles.

Additionally, the department has exceptional faculty and staff whom perform at a high level. Below is a list of the accomplishments of our faculty and staff since the last review:

* Professor John Porter earned a PhD. in Education/Leadership and Change from Antioch University in 2018.
* Professor John Porter was the recipient of The American Association of Community Colleges Dale P. Parnell Faculty of Distinction Award in 2020
* Annually contracted faculty member, Jim Robinson, was the 2019 Ohio Magazine Excellence in Education recipient.
* Automotive student Brandon Bowen was the college’s student nominee for the Terry O’Banion Student Technology Award for 2019.
* Adjunct faculty member Blaine Heeter was the Science, Mathematics and Engineering Division’s Adjunct of the Year for 2018-2019.
* Professor Jim Truxal was the 2014 Mitchel One Educator of the Year and then again in 2017 as the Cengage Learning/ASE Master Automobile Technician of the year for his top performance on his Automotive Service Excellence (ASE) recertification scores.
* Associate Professor Ralph Miller was the recipient of the Graduate Student Excellence Award in 2017 for his achievement in his Master’s degree coursework.
* Lab technician Kevin Smith was the PIECE of Excellence Award winner for 2017.
* The automotive technology department was the 2015, 2017 and 2018 recipient of the Russell F. and Edith Oyer Jerd Innovation Award.

In 2015 the automotive department successfully implemented the Comprehensive Automotive Service Technology (CAST) program; a cohort-based internship program that supports students in finding employment at local automotive repair facilities not affiliated with one specific automotive manufacturer. These students attend class Monday thru Friday for half of the day and participate in an internship at local repair facilities the other half of the day. This program helps to increase work-based learning opportunities, streamlines internship work scheduling for managers, and aligns with student completion all while helping local shops tap into Sinclair’s automotive technology talent pipeline.

Additionally, due to the increase in popularity and production of diesel powered automobiles and light trucks, the automotive program has added AUT 2240, Automotive Diesel Systems, to our curriculum as an elective for our A.A.S. degree seeking students. This course serves as an option to better prepare students to service and repair passenger cars and light trucks with diesel powertrains.

We have also established corporate relationships with Subaru and Nissan to offer training and internship opportunities at their dealerships. The college has benefited from these relationships through vehicle, equipment and tool donations.

The program supports community alignment by providing educational opportunities to local citizens.

* Professor Porter and Taylor presented to local community members through the Dayton Metro Library in May of 2019 to help educate citizens on automotive maintenance.
* Associate Professors Miller and Singleton, along with lab technician Hanna Weaver-Treon, have been instrumental in working with the Girl Scouts on offering the Car Care Badge instruction in 2018 and 2019.
* Mr. Whitt and Professor Morgan offered the Merit Badge in Automotive Maintenance in 2019 to the Boy Scouts.

These opportunities have been a great way to engage a younger audience in the automotive industry, while showcasing the semi-autonomous technology the industry is moving towards.

During the Citizens for Sinclair Levy Campaign in 2017, the entire automotive faculty and staff supported the levy by staffing the phone bank on the day of voting. Additionally, during veteran’s week, the automotive department offered free oil changes to Sinclair students who currently serve or served in the US military. Historically, the automotive department has also worked to support non-profit organizations through service learning projects involving vehicle maintenance and repair through our AUT 2250 Automotive Service Operations capstone course.

Below is a list of additional activities the department has engaged in over the past five years:

Additional activities supporting the automotive departments continued efforts to connect to local, regional, and global communities include:

* Tornado relief servicing generators and chainsaws
* Automotive Monday consumer videos
* Host of annual SkillsUSA regional contest
* Presented on vehicle safety systems to WiSTEM participants
* Presented on the changing profession of automotive service technicians at Engineers Day
* Workforce Development automotive offerings for local repair facilities
	+ In 2019, Professors Porter and Truxal created curriculum for a basic electrical systems boot camp through workforce development. The training was conducted during the summer and fall semesters with full enrollment and positive reviews.
	+ In 2020, Professor Freels created curriculum for Hybrid Vehicles training for advanced automotive service technicians and offered the course in spring of 2020 through workforce development.
* Cross disciplinary work with Humanities & Ethics Grant
	+ Professor Porter participated in the National Endowment of the Humanities (NEH) grant to create curriculum that would incorporate humanities topics such as ethics, social structures, and power dynamics as they apply to the automotive industry into our capstone course AUT 2250; automotive service operations.
* Professor Porter also presented the outcomes of this curriculum at the 2019 Lilly conference on teaching and learning. Automotive department presence at a national conference.
	+ In 2019, Professor Porter presented a learning session entitled “Reflective Conversations in Laboratory Practicums” at the original Lilly conference at Miami University. The well received presentation was the only session that specifically involved career/tech laboratory experiences at the conference.

**Section II: Completions and Course Success**

**A: Department Trend Data, Interpretation, and Analysis**

**Degree and Certificate Completion Trend Data – OVERALL SUMMARY**

Please login to the **Program Review Dashboard** in SAS Visual Analytics (<https://dawn.sinclair.edu:8443/SASVisualAnalyticsHub/index.jsp>) and review the “**Credential Completion**” tab after selecting your division and department. Provide an interpretation and analysis of the degree and certificate completion trend data provided on this tab. Responses might include, but need not be limited to, the following:

* What overall trends do you see?

The automotive program, on average, completes approximately 45 certificates and 32 degrees a year from 2014-2019. These numbers have fluctuated over the past five years, but there has not been a large increase or decrease in credential earners and are relatively on track to stay the same.

The lack of student persistence has negatively impacted our number of credential earners over the past several years. We have lost graduates to full-time employment at their internship site and interns leave the program for better pay in the medium-heavy duty truck market and other service industries.. Unlike other professions, automotive service technicians do NOT require a specific credential to be gainfully employed causing some students to stop out at the allure of short term gains.

* Are there internal or external factors that account for these trends?

One recent challenge is that the demand for a **general or low skilled** automotive service technician has exceeded the need for **highly skilled** automotive service technicians. Employers are eager to hire interns for full-time employment prior to graduation with higher wages to support their end of the month revenue goals. Therefore our students are gainfully employed prior to completing their credential which has impacted our credential earners.

Entry level wages for automotive interns range from $9.50 to $13.00, which does not entice students to pursue automotive over other professions that have higher entry level wages, yet our associate degree graduates earn $37,000 - $73,000 annually upon completing their degree.

* What are the implications for the department?

For the reasons explained in the previous section and with the increased demand for service technicians, students do not always persist to finish the program and opt to work full time. Ultimately, this negatively impacts the number of credential earners because students decided to stop school and work full-time and learn on the job to become an automotive service technician. The lack of a required local, state, or nationallicensure or credential to service vehicles, does not allow the department to leverage students to complete the program.

* What actions has the department taken that have influenced these trends?

In addition to reducing overall program credit hours from 69 to 65, the department has taken other steps to increase student completion. To help provide a more direct pathway to completion for our general AUT degree seeking students, we started our very successful Comprehensive Automotive Service Technology (CAST) cohort program in fall 2015, coordinated by Associate Professor Chris Murphy. This program is a two-year lock-step program allowing students take a full-time course load, and intern at local repair facilities the other half of the day. This program was implemented in the fall of 2015, and has on average netted 12-15 graduates per year with 99% of the internships resulting in a direct hire upon graduation. Other benefits include a seamless pathway for Tech Prep students to continue at their internship sites from high school into our program and a specified work schedule for scheduling of employees and service, a concern that came from our advisory committee meetings. Although this program has been successful, persistence continues to be a challenge for students in all of the programs.

* What strategies will the department implement as a result of this data?

To increase persistence to completion, we are currently working with our advisory committee employers to adopt a career plan for interns to see the pay scale progression of an intern each semester, at graduation, and then one year out. The goal is to illustrate the pathway from a $12 an hour intern to after graduation earning $37,000 - $73,000 a year.

Ultimately, with our fall start cohort model, high enrollment in the fall with little attrition is the ultimate goal to continue having sizeable credential earners. Over the past five years, our program has averaged about 75% of capacity. The department needs the college’s support to increase fall cohort enrollment through on-going advertisement of our quality program. The college needs to advertise the department through annual television commercials and through digital ads for audiences beyond the Dayton television market. The department has conducted fall and spring open houses, hosts Tech Prep high school visits, on-site registration for Tech Prep seniors, guidance counselor luncheons, in an effort to recruit these students over our competitor schools such as University of Northwest Ohio (Lima), Lincoln Tech (Indianapolis), Ohio Technical College (Cleveland) and Universal Technical Institute (Chicago).

Please see the excerpt from Automotive News or the link for the whole article: <https://www.autonews.com/article/20180820/RETAIL05/180829995/chronic-shortage-of-service-techs-threatens-dealership-profits> .

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**Course Success Trend Data – OVERALL SUMMARY**

Please login to the **Program Review Dashboard** in SAS Visual Analytics (<https://dawn.sinclair.edu:8443/SASVisualAnalyticsHub/index.jsp>) and review the “**Course Success**” tab after selecting your division and department. Provide an interpretation and analysis of the success rate trends provided on this tab. Responses might include, but need not be limited to, the following:

* What overall trends do you see?

Since 2014, the automotive department continually exceeds the college and division course success rates. The department course success rate has been as high as 90% in 15-16 and as low as 83% in 16-17, and over the past five years is typically around 87-89%. From this data, it appears automotive students are historically more successful than both the division and college average. The college hovers around 75-76% success rate and the division is similar at 73-75%. Our success rates are roughly 11-12% higher than the college and the division, however we need to improve students persisting in the program to complete their credential as discussed in the **Degree and Certificate Completion Trend Data – OVERALL SUMMARY** section above.

* What trends do you see in your high enrollment courses?

Although not a high enrollment course for the college, AUT 1114 is a gatekeeper first semester course for our program that is academically challenging and a pre-requisite to several courses. This is usually a first semester course that students enroll in and often are unsuccessful due to inconsistent attendance in the first few weeks of an eight week course. The program review committee should be aware that 99% of our automotive classes are eight week sessions, two to three days a week, with a typical class session being three to five hours with lab. Missing just two to three class periods in the first four weeks of the term places a student behind in the class making it extremely difficult to catch-up and successfully pass this course. This makes this course an ideal candidate for participation in the college’s Early Alert system.

* What trends do you see in courses used largely by other departments?

This section is not applicable as our courses are not utilized by other academic departments.

* Are there courses that have experienced changes in success? Why?

Although AUT 1114 continues to be a course that has a lower than average success rate for the department, this course has had a slight increase over the past three academic years from 68% in 16/17 to 83% in 18/19. Unfortunately, the department does not have a direct link to the increase in student success. The majority of the other AUT courses have remained relatively stable over the past five academic years with very little increase or decrease.

* What actions have the department taken that have influenced these trends?

The department emphasizes a student’s consistent attendance and its direct correlation to student success in the classroom by having an attendance policy in our Student Guide. The Student Guide is a packet provided on the first day of automotive classes with detailed institution resources, departmental rules and expectations to help students succeed. Our intentions are to leverage students to attend class every day and on-time by discussing expectations on the first day of the class. Grades and attendance is tracked department wide in eLearn to be transparent with students. Furthermore, the chairperson stresses consistent attendance and its direct correlation to student success with perspective students and parent tours to lay groundwork early in our program’s enrollment process.

To increase persistence, we are working with our advisory committee to adapt a career plan for interns to illustrate long term benefits and compensation.

* What strategies will the department implement as a result of this data?

After an Illume workshop in fall of 2019 with the Provost office and RAR, the department decided to send a nudge campaign email using the Communication Request form to inform students prior to class starting the importance of attendance as well as contacting the instructor early on if they are struggling in weeks two through four of this eight week course. To fully support the six sections of AUT 1114 in the fall, the department feels strongly that the use of the Early Alert system has real potential to positively impact our completion rates. We respectfully ask that the College seriously consider allowing the system to be utilized for AUT 1114. This was a past recommendation from a program review and was unable to be implemented because it was only available for high enrollment courses at the college.

**B: Progress Since the Most Recent Review**

**Goals from the last Program Review**

Your department’s most recent Annual Update report on goals from the last Program Review is provided in **Appendix A**. Please provide a brief summary of your department’s progress on goals from the last Program Review Self-Study.

The four items below are the goals for the department from the last program review:

1. Diesel Technology
2. Automotive Collision
3. Bachelor’s Degree in Automotive Technology
4. Autonomous Car Training

**Goal 1: Diesel Technology:**

**Progress:** Since our last program review, the department has added AUT 2240 Automotive Diesel. This class, added in fall of 2017 was developed by Professor Tom Freels and is an elective to help studentsprepare to service light duty diesel vehicles which have seen an increase in production. However, a medium/heavy duty diesel technology program is an associate degree that the college needs to strongly consider moving forward to implement. According to Ohio Means Jobs there are over 1,100 openings for Bus & Truck Mechanics in the state. Many of our automotive interns and graduates are being hired by Dayton RTA, Sandy’s Towing, The Service Center, and other Dayton employers to meet their hiring demands. Almost every Tech Prep school has a diesel program that would act as a feeder to this program. Furthermore, with the I-70/I-75 corridor, the trucking market is prominent in the greater Dayton area.

The ideal location for this program would be the expansion of building 20 to capitalize on existing trainers, classrooms and staff to serve this program. In the summer of 2019, an automotive staff member conducted a feasibility study analysis that can be shared with college administration to better understand this proposal.

**Goal 2: Automotive Collision Program:**

**Progress:** Although there is demand for collision technicians to serve the automotive collision industry in the Miami Valley, lab space is another constraint of this program. The college had the opportunity to purchase Stebbins High School collision equipment at a significant discount during spring of 2016 when their program was being eliminated. However, with no options to store and install the equipment, the decision was made to decline the equipment because we were past the capital equipment submission date for the year to provide additional funding. At the current time, the medium/heavy duty diesel program and the applied baccalaureate degree are the top initiatives the department should move forward with based on demand and potential enrollment.

**Goal 3: Bachelor’s Degree in Automotive Technology:**

**Progress:**  The department, with the support from the college, submitted for an Applied Baccalaureate degree in Automotive Technology late in the summer of 2017. However, the Ohio Department of Higher Education denied the request stating there was not enough evidence of workforce demand. The President’s office would like to move forward with reapplying for 2019-2020 with this degree and the department has been preparing to make the case to illustrate job opportunities with this credential for submission in 2020.

**Goal 4: Autonomous Car Training:**

**Progress:** As stated previously, the automotive department has been one of very few automotive programs nationally that has offered training on automated and connected vehicles. This has netted three vehicles purchased with $750,000 National Science Foundation grant funds for the department to conduct outreach with K-12 programs to recruit underrepresented populations in automotive technology. Professor Ralph Miller has visited local career centers like Ponitz CTC, provided ride alongs to local Girl Scouts, and supported WiSTEM to engage these populations on advanced automotive technology and encourage them to seek a profession as an automotive service technician.

The department has hosted two of three summer institutes training other college automotive instructors from all over the nation on automated and connected vehicle technology. The intention is for them to use our training to develop lessons in their programs around this technology. The department has utilized its relationships with manufactures such as Fiat-Chrysler, General Motors, Honda, Mercedes-Benz, Subaru, Tesla, and Toyota to offer this high caliber training.

This training has been funded through the National Science Foundation, and it is likely the department will continue to seek out additional grant funding opportunities. This type of funding is noteworthy, because it offsets payload along with fringe benefits for faculty within the department that would typically be the college’s fiscal responsibility.

**Recommendations from the last Program Review**

Your department’s most recent Annual Update report on Review Team recommendations from the last Program Review is provided in **Appendix B**. Please provide a brief summary of your department’s progress on recommendations from the last Program Review Self-Study.

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| **RECOMMENDATIONS** | **Progress or Rationale for No Longer Applicable** |
| The Automotive Department has extremely impressive assessment practices in place - other departments on campus could benefit from learning about what they are doing. The department is strongly encouraged to share their approach to assessment with other departments through workshops and presentations at Fall Faculty Professional Development Day, through the CTL, and in other venues.  | The department implemented locally developed rubrics to assess general education outcomes in our capstone AUT 2250 Service Operations course. With the college utilizing OTM courses to assess general education outcomes the department’s assessment strategy is now less impactful to other departments conducting assessment.The department never conducted a FFPD day or CTL session due to the implementation of the standardized rubrics in eLearn college wide.  |
| There are a number of opportunities for new programs that this department is considering offering, and the Review Team strongly recommends that the department continue exploring these opportunities. The diesel program partnership with RTA is particularly promising, and the department should continue its current aggressive work laying the foundation for this partnership. Programs in collision repair and emergency vehicle repair are also possibilities, and the department should consider the potential demand, costs, and possible partnerships that would be associated with these new programs. | Please see page 7 of the self-study titled: **B: Progress Since the Most Recent Review.** |
| The department should document the timing and demand for housing needs, and use that documentation to begin developing arrangements with local apartments or motels to house the students who come to the program from distant parts of the country. The department made a compelling case that housing is needed - a schedule should be developed that displays a timeline over the course of an academic year for when housing would be needed and when there would be transitions of students rotating in and out. The department may be able to arrange ongoing housing arrangements for its students based on this schedule. While it may be difficult for students to find rental agreements for only 8 weeks on their own, if Sinclair has a block of apartments/rooms set aside for these students that based on a schedule of transitions between students, Sinclair may be able to provide students with improved housing opportunities. Any arrangements that the department is able to work out will need to be coordinated with Business Services. | After approximately 2.5 years of meetings and discussion, the automotive program has solidified a Memo of Understanding to allow Sinclair automotive students to stay in Wright State housing. Two students utilized WSU housing in 2018-2019.However, now students will pay WSU directly, minimizing institutional risk for collecting housing payment, all while providing cohort students from Indiana, north and south eastern Ohio an outlet for housing. This is a monumental win for Sinclair and will be fully implemented for fall 2020.For 2019-2020, the department has requested the Marketing department to add a web link from our SCC automotive homepage to the WSU housing application so potential students know this exists when researching on-line. |
| While this was not discussed in the meeting with the department, the Review Team noted that a recommendation from the previous Program Review directed the department to increase the diversity of its faculty. This remains a challenge for the department, one that should continue to be addressed. The department may want to consider whether the Grow Our Own program provides an opportunity to increase the diversity of faculty in the department. This is an issue that will need to be addressed in coming years and cannot be ignored. | The automotive department recognizes the inherent value of a diverse faculty and staff, but unfortunately has continually struggled with finding enough qualified applicants for our staff and faculty positions. In recent searches, none of the one to five qualified applicants were from underrepresented populations. During our last ACF opening, only two applicants met the minimum requirements, and unfortunately, neither were from an underrepresented population of the automotive industry.”The Department has been successful with diversifying our student worker population. During the last five years, all four of the department’s student workers have been from underrepresented populations.As of January 2020, the department has hired a full-time lab technician, Hanna Weaver-Treon, a past Sinclair automotive graduate who will be an excellent addition to the team and illustrate to female students, that this historically male dominated profession is a great career path for females.The department understands opportunities still exist around increasing diversity within the department, and we continually look to improve the diversity of our faculty and staff, and we would welcome any input from the Human Resources Department on methods to do so. |
| The self-study noted the challenges that non-attendance and absenteeism present to student success, and the department should be commended for the steps it has already taken to address this. Additional steps may become possible with the transition to the new Learning Management System in Summer 2015, and as the Lift! Initiative begins implementation. While the Early Alert system is not currently available for the department, these other tools will allow for the early identification of students who are not attending, and will allow for targeted interventions with these students. Perhaps faculty in the department could serve in a "success coach" role, contacting students with attendance issues early in the term. The department may want to consider a collaborative, team-based approach where faculty in the department work together to identify and contact students whose attendance is problematic. Perhaps time could be set aside in some department meetings to discuss individual students and what has been done to reach out to them, helping to establish this as a formalized process in the department. | It is pertinent that students take ownership in the success of their own education. The department continually stresses the importance of attendance at the beginning of every course and has a stated attendance policy in the department’s Student Guide. Students are required to sign, date and submit this document to their instructor as an acknowledgement that they understand the policies and the expectations of our program.Since the last update the chairperson implemented an idea from Assistant Professor Troy Singleton to conduct review sessions five minutes before the class start time for a quiz that will follow at the beginning of the class. This has been very successful in the chairpersons summer and fall courses. The chair will be highly recommending other faculty to try this in upcoming courses of their own.Since 2018, our student’s attendance is being tracked department wide in eLearn, which in itself is not user friendly. The department asked about being part of the pilot for the Early Alert system to let advisors know of people struggling with attendance, however the top 40 courses at the college are priority, which is understandable. The department is requesting the use of the Early Alert system for AUT 1114 sections to help increase persistence and completion. Currently, our coordinators that help place interns, leverage their jobs as a reason to attend early and on time to class. |
| The department noted the relatively low success rates of the Electrical course, and described some excellent strategies that have already been developed to address this. The department is encouraged to assess the impact of the videos that are being developed for the course, and is likewise encouraged to consider whether a prerequisite might be appropriate for this course. | The department utilized the SME division’s Jerd Award to develop instructional videos for automotive courses. The primary focus was our AUT 1114 course that historically has the lowest success rate of the program. Unfortunately, there has been no significant impact on the course success rate that can be attributed back to the videos, even though survey data from students commented that they were helpful in reviewing the content. The department did not move forward with adding a prerequisite to this course due to already being at the maximum credit hour limit for a degree. |
| The department is encouraged to consider and explore online and hybrid offerings. While there are clearly some courses in Automotive that would be inappropriate as online offerings, there may be other courses where it may be a possibility. Hybrid courses may allow the department to shift some content to online, while still giving students the hands-on experience that the discipline relies on heavily. Hybrid courses may also help reduce problems with attendance - students may be more willing to attend class when there are fewer classes to attend and when they are able to receive some of the content online an a more flexible basis. | Hybrid and on-line course development is typically selected based off of high enrollment courses where multiple sections are offered every term. With automotive courses not falling into that category, it is not likely that our course will be priority at this time. However, our AUT 1111, Automotive Management, course is one that could be converted to hybrid or on-line for the future. |
| Finally, Sinclair has recently begun offering 6000 level course non-credit offerings for students who are not seeking a degree, but still want to avail themselves of educational experiences. Could non-credit automotive courses be developed for individuals who are seeking basic non-professional level skills? How cost-prohibitive would this be? | The automotive department has recently been offering short-term training, partnering with the Workforce Development office. The department has offered an Electrical Boot Camp twice and a Hybrid Advanced training course. The goal is to offer training to local repair facilities that serve on our advisory committee, whom may not enroll in our typical 8 or 16 week semester format.Furthermore, the department encourages community members, specifically members over the age of 60 to take AUT courses for audit to enrich their knowledge of the automotive trade.  |

**C: Assessment of General Education & Degree Program Outcomes**

**General Education Outcomes**

All available General Education Outcome rubric data for your department is provided in **Appendix C**. Please provide a brief summary and analysis of these assessment results. In addition to this data, please review and briefly discuss any assessment work your department might have done in these areas in the past five years. Also, please provide a response to the following two questions:

* **Are changes planned as a result of the review of general education outcomes assessment data for your students? If so, what are those changes?**

The General Education Outcomes data available at this time for our budget code 0568 represents a very small sample size (n=3). The department attributes this to the fact that standardized, institutional rubrics have only been implemented within the past two academic years. As such, the department feels that planning changes based upon such a small sample size is inappropriate at this time. But anticipates that as more data is gathered, meaningful changes may be possible as a result of the analysis.

With the sample that has been provided, the largest concern is in the area of Cultural Diversity & Global Citizenship (CDGC). Of the three students assessed, 67% were competent or proficient in “demonstrates an understanding of multiple cultures and worldviews in local, regional, national, and global contexts” as well as “applies awareness and knowledge to contemporary global systems.” With such a small sample size, it is likely premature to consider CDGC truly an area of concern. However, as more data becomes available, the department will certainly analyze the data to ascertain if some type of remediation will become necessary.

While Sinclair’s use of standardized General Education rubrics for institution-wise assessment is relatively new. The AUT department has been assessing program-specific general education outcomes using the Service Manager evaluation rubric in our capstone AUT 2250 Service Operations course since the inception of eLearn. Although, this rubric may not fit the current institutional model for the assessment of general education outcomes, the tool has been utilized consistently allowing the department to assess our students to determine if opportunities for improvement are necessary. Our intent of the tool was to assess the general education outcomes as it relates to the automotive industry.

Below is the Service Manager evaluation for our AUT 2250 course where oral communication, computer literacy, and information literacy are assessed through locally-developed rubrics. The example below is from spring 2019.



Below is the data from the Service Manager evaluation for all the AUT 2250 Service Operations students for spring 2019 as it relates to their repair order/invoice accuracyand information literacy.**

* **How will you determine whether those changes had an impact?**

Moving forward, the majority of the institutional General Education assessment data will be gathered for AUT students through our Ohio Transfer Module (OTM) required courses. The Information Literacy outcome will be assessed within program AUT 2250 Service Operations using the standardized institutional rubric beginning in (note the semester here). As discussed earlier, until more general education assessment data is available for AUT students, the department does not believe any changes should be made at this time.

**Degree Program Outcomes**

Your department’s most recent Annual Update report on assessment of program outcomes is provided in **Appendix D**. Please provide a brief summary and analysis of assessment results for your program outcomes since the last Program Review. Also, please provide a response to the following two questions:

The department implemented the National Automotive Technicians Education Foundation (NATEF) end of program testing in 2010, (now known as the Automotive Service Excellence (ASE) Entry Level certification exams as of 2015). Starting in 2019, these exams are now an entry level industry recognized credential administered by our accrediting agency, the ASE Education Foundation. ASE Education Foundation sets the standard for skilled tasks that students must perform. These same tasks are correlated to an ASE test question to evaluate comprehension of the task. The department utilizes these exams to alter curriculum, implement new skill tasks in lab, update midterms and final exams to better prepare students for the automotive service industry and ASE exams.

Historically, the department only administered these exams to our capstone students, whom had not interned in a repair facility throughout the program. This group was a relatively small sample (n=8-10 students per year), but was easy to capture, without being cost prohibitive to the department. In 2017, the department utilized our newly formed CAST cohort associate degree students that intern each semester as an additional sample. The department was curious if the internship-based students would score higher than those whom had not interned and participated in our AUT 2250 Service Operations course. For 2017 & 2018, our CAST students scored the same or higher in every ASE subject area than our non-interning students from our capstone course. From the department’s perspective, work based learning reinforces typical face to face classroom instruction and students perform better on ASE Entry Level exams. Please see Appendix D, Optional Data for CAST intern scores vs. AUT 2250 Service Operation scores. The table is labeled: NATEF End of Program Testing Average Percentage

**Are changes planned as a result of the assessment of program outcomes? If so, what are those changes?**

In 2017-2018, the department reviewed every ASE Education Foundation task and correlated each task to a specific course or deemed the task irrelevant, as permitted by the ASE Education Foundation. The intention of this was to ensure all necessary tasks were being taught throughout the program curriculum. In 2018-2019 the department reviewed the lab sheets for the ASE areas that on average had the lowest scores, which were Manual Drivetrains (AUT 1142), HVAC (AUT 1146), and Steering & Suspension (AUT 1116). Due to the historically low success rates in Electrical I (AUT 1114), content experts in this area reviewed the lab sheets and made necessary changes to improve the learning outcomes of each task through curriculum and delivery methods.

* **How will you determine whether those changes had an impact?**

Our intentions are to utilize the 2020 ASE scores to see what impact the updated lab sheets had on ASE Entry Level scores and make updates each year as we have done over the past five years. Our goal is to improve testing score averages to 75-80% for all ASE skill areas. The department has made significant gains in all ASE subject areas since we implemented the testing in 2010. It should be noted, that actual ASE certification exams require two years of full-time automotive experience, which could be impacting our scores because of the lack of relevant work experience.

**Section III: Overview of Department Mission**

1. **Mission of the department and its programs(s)**

Please provide the department’s mission statement, and then address the following questions:

* What is the purpose of the department and its programs?

The purpose of the program is to educate and prepare students to work in the automotive service and repair industry. Students are encouraged to think critically and become lifelong learners to keep up with the evolving technology and help serve the community. Students and graduates often become service technicians in tire service facilities, new car dealerships, and independent repair facilities. We also provide training for students to work in automotive management positions such as service advisors, shop foreman’s, and service managers. Students wanting to pursue employment options beyond that of a service technician are encouraged to transfer to one of the colleges or universities that we have transfer/articulation agreements with.

* What publics does the department serve through its instructional programs?

The automotive department has contractual agreements with the following automotive manufactures and their affiliated technician training programs:

* General Motors Automotive Service Educational Program (ASEP)
* Honda Professional Automotive Career Training (PACT)
* Mopar Career Automotive Program (MCAP)
* Nissan Technical Training Academy (NTTA)

Per our agreement guidelines the department provides specific coordinators that recruit and advise students, facilitate required internships, and ensure specific program curriculum is being followed. The automotive manufactures provide the department with access to training, vehicles, components, and specialty tools to facilitate the program.

To accommodate other automotive service facilities in the region the automotive program has implemented the Comprehensive Automotive Service Technology program in fall of 2015. This program supports other new car dealerships, family owned service repair facilities, tire repair facilities, etc.

* What positive changes in students, the community and/or disciplines/professions is the department striving to effect?

The department is focused on improving the quality of life of our students and graduates by helping them locate gainful employment in our community, while simultaneously helping local business owners fulfill their need of skilled automotive service technician’s to operate prosperous businesses in the greater Dayton region.

1. **Department Completion Plans**

Below are five milestones that are highly predictive of students graduating in a timely manner. What specific strategies or plans does the department have to help more students achieve one or more of these milestones?

* Students solidify their choice of major within the first or second term
* Students receive a MAP to completion within the first or second term
* Students complete a college-level Math and English class within the first year
* Student take 30 credits within the first year, including summer
* Students take 9 credits in their major area of interest within the first year, including summer

Please describe any work the department has done over the past five years which may have impacted these milestones.

The automotive program has four associate degree programs that are in a closed cohort model where the students are enrolled into 12 credit hours or more each term to complete the 65 credit hour program in two years or five semesters. Students enroll into automotive courses the fall semester with a minimum of nine credits in automotive. Our cohort’s schedules are a very rigid format where students have a faculty advisor/coordinator responsible for enrolling the students each semester, evaluating their graduation check, and visiting their required internship site each semester to meet with their supervisor one-on-one. Students not enrolled into one of these programs are enrolled into our open enrollment automotive certificate or general automotive technology degree and utilize a STEM advisor or the automotive chairperson for scheduling.

1. **Specialized Accreditation**

Does your department have any specialized accreditations or other form of external review?

\_\_\_X\_\_\_\_ Yes \_\_\_\_\_\_\_\_ No

If yes, please briefly summarize any commendations or recommendations from your most recent accreditation or external review. Note any issues that the external review organization indicated need to be resolved.

The recommendations and commendations are verbatim from our last ASE Education Foundation site visit document. The safety concerns have been remedied that were listed as recommendations. However, a notable concern that has not been addressed that this time is the need for more lab space for smaller group numbers on vehicles. Additionally, the need for more release time for coordinating and managing our selective admission internship cohort programs is still outstanding. The independent shop program was fully implemented in 2015, and is known as the Comprehensive Automotive Service Technology program. (CAST).

Safety recommendations/concerns (all addressed):

* Floor hazard striping between bays and around machinery.
* Install fire extinguishers sign in all labs.
* Recommend signage over first aid kits and safety lift training.
* Recommend removing eye wash station in main lab where battery charger was at.

Other recommendations concerns:

* Recommend increased lab space to accommodate student learning.
* Recommend more time and resources visiting and recruiting for more two way communications with dealerships and repair facilities. Recruiting time is essential for continued college growth and understanding industryneeds. Institute independent shop program along with dealer program.

Commendations:

* Instructors cross trained in all areas.
* Physical facility is exemplary with seven specific lab/shops to accommodate four programs. Separate computer and theory labs.
* All labs are well ventilated, clean and organized.
* Ample inside and outside storage for fleet parking.
* Vehicle fleet of approximately 80 vehicles
* All hazards secured in a metal storage cabinet.
* Theory specific labs adjacent to main large lab.
* Entrance to automotive department is highly professional with seven vehicles, engines, signage, etc. Program has large professional office and conference rooms.
* Material Safety Data Binder mounted in main hall between shops
* Impressive engine/transmission storage facility. Room is stacked six high on both side and is 15 deep.
* Manufacture tool and equipment rooms set up adjacent to lab/shop areas.
* First aid kits available in all labs and for most part well stocked.
* A-tech boards/trainers for each program
* Students in main shop area all engaged in various tasks, etc.
* The small labs all “satellite” to center large lab, with 12 lifts and 4 alignment racks.
* Safety compliance officer is on-staff at college.

**Section IV: Overview of Environmental Factors**

1. **Analysis of environmental factors**

Based on your discussion with the Assistant Provost in the Environmental Scan process, how is the department responding to the (1) current and (2) emerging needs of the community? The college?

The automotive department continues to support to the communities and colleges evolving needs. A bulleted list has been documented of the activities

* 2019 chainsaw and generator repair for tornado victims
* 2019 service learning project for Seeds of Peace youth agency. Seeds of Peace is a non-profit supporting 8 -16 year old boys to have life experiences that most children take for granted.
* 2019 Workforce development offerings to local automotive technicians in need of remedial or advanced training
* 2018 Joseph Auto group ASE test prep workforce training
* 2015 Comprehensive Automotive Service Technology program

The department uses two advisory committees in the spring and fall semester for each of the four AAS programs. We invite hiring managers/service managers, shop foremen, Tech Prep automotive instructors, manufacture representatives and others to provide feedback twice a year on how the automotive program is operating. The minutes are discussed at departmental meetings and action items are implemented based upon what the department has control over. On average, the department has 40-60 attendees at each meeting.

We solicit feedback from our Tech Prep automotive instructors at our annual Tech Prep Summit meetings in the spring term to discuss transfer pathways, articulation agreements, statewide initiatives, and other concerns. Minutes are taken and reviewed by the Tech Prep office to implement changes to strengthen the automotive program.

1. **Evidence of program quality from sources outside of the department (e.g., advisory committees, accrediting agencies, other departments on campus, transfer partners, etc.)**

What evidence does the department have about department/program quality from sources outside the department?

During our last accreditation site visit, the following written notes were documented by our Evaluation Team Leader:



**Section V: Student Demand, Placement of Graduates, Cost Effectiveness**

1. **Evidence of student demand for the program**

Please login to the **Program Review Dashboard** in SAS Visual Analytics (<https://dawn.sinclair.edu:8443/SASVisualAnalyticsHub/index.jsp>) and review the “**Enrollment**” tab after selecting your division and department. Provide an interpretation and analysis of the enrollment trend data provided on this tab. Responses might include, but need not be limited to, the following:

* How has/is student demand for the program changing? Why?

Since 2014, our annual FTE has remained relatively stable between 130-136 FTE. However, our overall seat count and head count dropped from 2014 through 2016. Since 2016, the head count and seat count has stabilized.

The largest decrease in annual FTE enrollment occurred in the fall of 2015. Since the late 1990s, the automotive department earned FTE from our workforce development contract with General Motors Training Center and Raytheon by dual enrolling GM service technicians into AUT restricted courses. In 2015, due to a restructure of GM/Raytheon contract language and billing challenges, it was in the best interest to put a hiatus on enrolling these individuals. With significant change in the workforce development leadership, this practice of dual enrollment has not been revisited. This program on average produced about 30-40 FTE annually that the department lost. The department is scheduled to meet with the Workforce Development office in January of 2020 to revisit this offering.

In 2016, the Ohio Department of Education limited program credits for associate degrees to 65 semester hours. In order to comply with this mandate the automotive department removed two automotive credits resulting in a loss of tuition revenue from 82 credit hours and a 2.6 FTE annual loss.

Lastly, policies promoting a single program of study, implemented in 2014, has negatively impacted overall FTE’s as well. Prior to this date, students were able to enroll into the automotive degree and the high-performance certificate and other automotive elective courses congruently inflating enrollment. Now students are required to pay out-of-pocket for these courses and students typically do not have the financial means to pay for additional classes outside of their degree audit.

This information is documented to explain why the enrollment has dropped drastically since around 2013, but has now stabilized the past five years. However, the demand for automotive service technicians is the highest it has been in decades and is documented in periodicals such as Automotive News – Fixed Ops August 2018 edition mentioned earlier in this document.

* Should the department take steps to increase the demand? Decrease the demand?

The college should continue to promote this program and strongly considering expanding offerings. To increase manufacturer partnerships and to offer a medium/heavy Duty. The need for service technicians is the highest is has been in decades. Manufactures such as Subaru, Mercedes-Benz, and Nissan have asked to partner with the automotive department since the last program review to fulfill hiring needs for their detailers. Data that supports this demand is illustrated below:

* 75 interns at local automotive repair facilities for fall & spring terms, with capacity for more work based learning opportunities
* On average 95% of our graduates are employed after graduation
* $37,000 - $73,000 earnings first year after graduation
* Annual department career fair has a waiting list for employers participating in our ongoing employment information sessions that brings in local employers such as BMW, Firestone, Honeywell, and Crown Lift trucks.
* What is the likely future demand for this program and why?

It is likely the demand for automotive service technicians will continue on average growth due to the aging workforce that is occurring nationally. With 70-80 interns enrolled in a semester and graduate employment at 95% this data illustrates a steady demand for automotive technicians. The agreements with GM, Honda, Mopar and Nissan allows the department to recruit beyond the typical commuter student from the Miami Valley and increase our pool of perspective students. Working with limited funds to advertise and market our offerings, the department will pilot geo-fenced Google and social media ads over Indianapolis, Columbus, and Cincinnati to help improve fall cohort enrollment. It is crucial that the college supports specific and consistent program level marketing.

1. **Evidence of the placement/transfer of graduates**

Please login to the **Program Review Dashboard** in SAS Visual Analytics (<https://dawn.sinclair.edu:8443/SASVisualAnalyticsHub/index.jsp>) and review the “**Graduate Outcomes**” tab after selecting your division and department. Provide an interpretation and analysis of the placement and/or transfer trend data provided on this tab. What is your interpretation of the available transfer and placement data?

Four of the automotive program tracts have embedded work-based learning/internships that carry over each semester. The intentions of this schedule are that upon graduation students are typically hired by their internship site. This is evident because since 2014 our students have an employment rate from 92 – 97% within a month of earning their credential. The data reiterates the fact that there is a strong employment need in this industry.

In most cases, students do not need to obtain a four-year degree to be an automotive service technician. However, 2-10% of our students move forward with furthering their education to obtain a four-year degree, positioning themselves for other positions within the automotive industry.

1. **Evidence of the cost-effectiveness of the department/program**

Please login to the **Program Review Dashboard** in SAS Visual Analytics (<https://dawn.sinclair.edu:8443/SASVisualAnalyticsHub/index.jsp>) and review the “**Course Characteristics**” tab. Provide an interpretation and analysis of the average class size and faculty ratio trend data provided on this tab. Also, please discuss any measures the department has taken to reduce costs. Responses might include, but need not be limited to, the following:

* What is the department doing to manage costs? Examples might include:
	+ Managing Average Class Size
	+ Managing full-time/part-time ratios
	+ Specific cost saving measures implemented by the department

Our average class size has been on the rise since 2014 at 10.1 students per section to the highest in the past five years in 2018-2019 at 12.9. The department has made significant efforts to increase fall cohort enrollment in each of the four AUT cohorts and reduce section count when applicable. Our department’s fall enrollment numbers are significant because ultimately it will drastically impact ACS, credential earners, and FTE over the span of two years.

One challenge the department continues to face is the ability to utilize more part-time instructors. Agreements with General Motors, Honda and Mopar require credentialed faculty to teach their courses, that a typical part-time faculty would not possess. To sustain the required training levels instructors travel to Illinois, Maryland, Michigan, Pennsylvania, among other states for two-three day courses several times a year, a requirement that would be difficult for adjuncts to fulfill.

Many of our course sections are operated during the typical work day hours, when a qualified adjunct would be working at repair facility as a technician. Also, the part time wages are not lucrative enough to recruit these individuals. Many service technicians moonlight at their home earning better wages in less time than adjunct pay. Our full-time to part-time instructor ratio tends to be around 92% FT to 8% PT over the past five years.

* What additional efforts could be made to control costs?

Although the automotive department appears costly to operate on based on the following criteria it does not take into consideration the following revenue:

* The department brought in over $750,000 to the college through an NSF grant in 2017
* The department received a $100,000 plus endowment for automotive scholarships in 2017
* The department received over $100,000 for GM ASEP scholarships for 2019-2021
* What factors drive the costs for the department, and how does that influence how resources are allocated?

Other outside factors that have impacted our contribution margin is the reduction in our degree credit hours from 69 to 65. With 40 AAS earners annually, that equated to 80 less credit hours earned a year in AUT and 2.7 less FTE per year due to the reduction in credit hours. Additional factors that drive the cost for the department are the supplies budget and our full time faculty required to cover corporate credentials.

Furthermore, the lab pay has increased since the last program review from 0.75 to 0.85 increasing payload costs to the department.

The department provides a service in our AUT 2250 capstone course to provide free labor to faculty and staff in the spring semester. The department does mark-up parts prices to generate revenue in case of mishaps to ensure the class is self-sustaining without using department lab supplies budget. The department generates approximately $3,000-$4,000 annually that returns to the college’s general budget.

**Section VI: Department/Program Status and Goals**

1. Based on the environmental scan, data in the Program Review Dashboard, information provided in this self-study, and other factors, please briefly list the department’s/program’s Strengths, Weaknesses, Opportunities, and Threats (SWOT analysis). Please list as many as appropriate in each category.

Strengths:

* Strong industry partners that employ 70-80 automotive interns a semester.
* 95% of graduates are employed within a month of earning their credential
* Four manufacture affiliated programs with GM, Honda, Mopar, and Nissan.
* Housing available for students beyond commuting distances.

Weaknesses:

* Limited lab space for current offerings and expansion
* No consistent specific program level marketing plan to compete with for-profit automotive programs
* Need dedicated full-time outreach person for automotive

Opportunities:

* Baccalaureate degree
* Medium/Heavy Duty Diesel program
* Electrical vehicle courses or training
* Increasing corporate partnerships ex: Tesla, Toyota, etc.
* Power sports program (motorcycles and personal watercraft)

Threats:

* Highly competitive automotive program in Lima (University of Northwestern Ohio) with dorms
* University of Northwestern Ohio offers a medium/heavy duty diesel program
* Intern compensation not attractive compared to similar trade industries
1. **What are the department’s/program’s goals for expanding and improving student learning, including new courses, programs, delivery formats and locations? Please note that the department goals listed in this section will be reviewed for progress on Annual Updates and in your next Program Review.**

1. Applied baccalaureate degree in automotive technology
2. Electric vehicle curriculum
3. Medium/heavy duty diesel program
4. Increase student persistence to completion
5. **What resources and other assistance are needed to accomplish the department’s/program’s goals?**
* For the applied baccalaureate degree the department will need employment data from RAR to illustrate the workforce demand in the area of automotive engineering technicians. If approved, the department will need the support documented in the Request for Information submitted to the Ohio Department of Higher Education.
* To implement electric vehicle curriculum the department will need access to electric vehicles such as: Tesla models, Chevrolet Bolt, Nissan Leaf, Honda Clarity and others. Capital funds may be necessary to purchase these vehicles.
* The department would need to expand building 20 to offer the medium/heavy duty diesel program because of the dedicated labs that differ from automotive technology.
* The department would like access to the Early Alert system for AUT 1114 to increase students success and potentially persistence

**Section VII: Appendices: Supporting Documentation**

* **Appendix A: Progress on goals from the last Program Review**
* **Appendix B: Progress on recommendations from the last Program Review**
* **Appendix C: General Education Rubric Data**
* **Appendix D: Program Outcome Assessment Data from the last Annual Update**

**Appendix A: Progress on goals from the last Program Review**

Below are the goals from Section IV part E of your last Program Review Self-Study. Describe progress or changes made toward meeting each goal over the last year. Responses from the previous year’s Annual Update are included, if there have been no changes to report then no changes to the response are necessary.

|  |  |  |
| --- | --- | --- |
| **GOALS** | **Status** | **Progress or Rationale for No Longer Applicable** |
| The automotive department would like to continue to explore opportunities to expand or program offerings in:1. Diesel Technology
2. Automotive Collision
3. Bachelor’s Degree in Automotive Technology
4. Autonomous Car training
 | In progress XCompleted [ ] No longer applicable [ ]  | 1. Training with RTA has not made any progress over the past year and it does not appear there will be a partnership in the near future. We have put a diesel course through CMT and it is being offered as a special topics course until it is approved for fall 2017. Additionally, we have put in a diesel/ag operator certificate into CMT for fall 2017. There is still significant interest for medium/heavy duty diesel. The fire science technology lab would be an adequate lab to get this program started. A diesel stakeholders meeting was convened in fall of 2017. Ten to twelve local medium and heavy duty employers in the region attended, including Dayton RTA whom would like to see this program operate. The chairperson met with the SME Dean and Provost in late 2017 to bring this initiative to their attention, in case there is movement on FST moving to Centerville LC.2018 update- The chairperson sat down with Jake Whitt, previous Clark State Diesel Coordinator and now Sinclair Automotive Lab Technician. We have a program layout with curriculum and have met with the budget office to discuss viability of the program. With the official purchase of Centerville, now would be a good time to look at the FST lab becoming a diesel technology lab for AUT.

The collision program has not made any progress. We had the ability to buy equipment from Stebbins at a significant discount but it was decided with no space to put the equipment, it was not necessary. 2018 no update. This will require a strategic initiative from the college and more lab space.1. The chair has met with the consultant for the bachelor’s degree and pending legislation approval automotive is a pick for the SME division. No more progress due to lack of progress within the State of Ohio. No update for AUT bachelor’s, but the chairperson still thinks this should be a priority. I would hate for Columbus State to pick this program up before us.

2018 update – We submitted an RFI for a baccalaureate degree in automotive technology over the summer of 2018. The proposal was rejected by the State, but is being revaluated by the State thanks to Dr. Johnson inquiring about the rejection. It is believed that politics and/or employment data was to blame for the initial rejection. We are still waiting to hear from the State on the status of the updated information requested.1. The autonomous car grant has been submitted to NSF as of 3/1/17 and we are answering follow-up questions that NSF has requested.

We have received $750,000 from NSF for a three year grant and will be delivering a summer institute in late July with GM, FCA, Honda, and Toyota. This is a first of its kind in the nation. 2018 update- The automotive department facilitated a successful Automated and Connected Vehicle Institute in late July with 40 college automotive instructors attending from all over the nation. The college has purchased two level 3 autonomous vehicles with grant funds and we will be facilitating the second of three institutes this summer at Sinclair.  |

**Appendix B: Progress on recommendations from the last Program Review**

Below are the Recommendations for Action made by the review team. Describe the progress or changes made toward meeting each recommendation over the last year. Responses from the previous year’s Annual Update are included, if there have been no changes to report then no changes to the response are necessary.

|  |  |  |
| --- | --- | --- |
| **RECOMMENDATIONS** | **Status** | **Progress or Rationale for No Longer Applicable** |
| The Automotive Department has extremely impressive assessment practices in place - other departments on campus could benefit from learning about what they are doing. The department is strongly encouraged to share their approach to assessment with other departments through workshops and presentations at Fall Faculty Professional Development Day, through the CTL, and in other venues.  | In progress XCompleted [ ] No longer applicable [ ]  | The department is trying to implement rubrics to assess general education outcomes in our capstone AUT 2250 course. Once we get our own department assessment aligned with the new LMS and feel it is worthy, we will be glad to share with other departments on campus. Since, the last annual update, I have found the report function of the rubrics is not very user friendly, which is difficult to retrieve the data. However, we continue to use this tool to assess and evaluate general education outcomes. |
| There are a number of opportunities for new programs that this department is considering offering, and the Review Team strongly recommends that the department continue exploring these opportunities. The diesel program partnership with RTA is particularly promising, and the department should continue its current aggressive work laying the foundation for this partnership. Programs in collision repair and emergency vehicle repair are also possibilities, and the department should consider the potential demand, costs, and possible partnerships that would be associated with these new programs. | In progress XCompleted [ ] No longer applicable [ ]  | Please see the above information in Appendix A referencing GOALS. |
| The department should document the timing and demand for housing needs, and use that documentation to begin developing arrangements with local apartments or motels to house the students who come to the program from distant parts of the country. The department made a compelling case that housing is needed - a schedule should be developed that displays a timeline over the course of an academic year for when housing would be needed and when there would be transitions of students rotating in and out. The department may be able to arrange ongoing housing arrangements for its students based on this schedule. While it may be difficult for students to find rental agreements for only 8 weeks on their own, if Sinclair has a block of apartments/rooms set aside for these students that based on a schedule of transitions between students, Sinclair may be able to provide students with improved housing opportunities. Any arrangements that the department is able to work out will need to be coordinated with Business Services. | In progress XCompleted [ ] No longer applicable [ ]  | The department chairperson and SME Dean met with Wright State housing director Dan Bertos to discuss possibilities. He would allow SCC automotive students to stay on campus, however Wright State students are first priority. With increasing housing needs at Wright State, SCC automotive students were unable to take advantage of this in 2015 fall or 2016 spring. Dan’s recommendation was to have the Sinclair Foundation work with a local agency to help get Sinclair preferred housing in downtown Dayton area. The chairperson feels more support from Sinclair will be needed for this recommendation to be successful.In addition to last year’s comments, I would add that we now have three students staying at the extended stay Hawthorne Suites. These seem to be a decent option for students that need housing, but not the best option.Same for 2016-2017. Dan at WSU and UD housing have both declined having automotive students staying on their campus during the school year.No update, except we are still currently using Hawthorne Suites north. University of Dayton and WSU do not want to help. I spoke with Scott Markland and sub 503c could operate locally to provide assistance if the Board of Trustees and college was seriously interested.2018 update- Sinclair and the automotive department have successfully come to an agreement with Wright State University to house automotive students needing housing. This is a spin off MOU, similar to the Wright Path agreement. This will be important moving forward with our regional manufacture affiliated dealership cohort programs. This will be fully implemented for fall 2019, pending any unforeseen hurdles.  |
| While this was not discussed in the meeting with the department, the Review Team noted that a recommendation from the previous Program Review directed the department to increase the diversity of its faculty. This remains a challenge for the department, one that should continue to be addressed. The department may want to consider whether the Grow Our Own program provides an opportunity to increase the diversity of faculty in the department. This is an issue that will need to be addressed in coming years and cannot be ignored. | In progress XCompleted [ ] No longer applicable [ ]  | Currently we have hired a female student worker, who is performing wonderfully. As mentioned in the review, the department relies on qualified candidates applying for these positions. Often the requirements for the lab technician and full-time faculty rolls are so stringent that we only receive a few applicants. Any ideas from the college to increase applicants are appreciated. Since the last update, we replaced a lab technician position. Unfortunately, no underrepresented individuals applied for this position in 2017.2017-2018 – We hired a student worker, Mauro Herrea a young Hispanic man whom is enrolled in our program. He will support our lab technicians moving vehicles, setting up labs, and maintaining equipment.2018-2019 Update- The department had an ACF opening with only two applicants, neither of which were a minority. However, the department has hired a female student lab technician and also held a professional development opportunity for the entire department in which female automotive graduates and a current student were able to talk about their challenges in the automotive industry. This occurred late in fall of 2018. This was very well received.  |
| The self-study noted the challenges that non-attendance and absenteeism present to student success, and the department should be commended for the steps it has already taken to address this. Additional steps may become possible with the transition to the new Learning Management System in Summer 2015, and as the Lift! Initiative begins implementation. While the Early Alert system is not currently available for the department, these other tools will allow for the early identification of students who are not attending, and will allow for targeted interventions with these students. Perhaps faculty in the department could serve in a "success coach" role, contacting students with attendance issues early in the term. The department may want to consider a collaborative, team-based approach where faculty in the department work together to identify and contact students whose attendance is problematic. Perhaps time could be set aside in some department meetings to discuss individual students and what has been done to reach out to them, helping to establish this as a formalized process in the department. | In progress [ ] Completed [ ] No longer applicable X | It is pertinent that students take ownership in the success of their own education. The department continually stresses the importance of attendance at the beginning of every course and has a stated attendance policy for the department Student Guide. Students are required to sign and date this document and turn it into their instructor that they understand the policies and the expectations of our program.Since the last update I have tried an idea from Assistant Professor Troy Singleton to have review sessions five minutes before the class start time for a quiz that will follow at the beginning of the course. This has been very successful in my summer and fall courses. I will be highly recommending other faculty to try this in upcoming courses of their own. Same as above for 2017.Same for 20182018-2019 – Our student’s attendance is being tracked department wide in eLearn, which in itself is not user friendly. The department asked about being part of the pilot for the Early Alert system to let advisors know of people struggling with attendance, however the top 40 courses at the college appear to take priority, which is understandable. The coordinators that help place interns, leverage their jobs as a reason to attend early and on time to class.  |
| The department noted the relatively low success rates of the Electrical course, and described some excellent strategies that have already been developed to address this. The department is encouraged to assess the impact of the videos that are being developed for the course, and is likewise encouraged to consider whether a prerequisite might be appropriate for this course. | In progressCompleted [x] No longer applicable [ ]  | The department is currently working on seeing what impact the videos had on this course. Hopefully we can compare 14-15 to 15-16 data.2017 - The course success rate does not show any impact based on the videos.2018 - The course success rate does not show any impact based on the videos.2019 – I would call this completed, as the videos have no impact based on the success rate of that course. |
| The department is encouraged to consider and explore online and hybrid offerings. While there are clearly some courses in Automotive that would be inappropriate as online offerings, there may be other courses where it may be a possibility. Hybrid courses may allow the department to shift some content to online, while still giving students the hands-on experience that the discipline relies on heavily. Hybrid courses may also help reduce problems with attendance - students may be more willing to attend class when there are fewer classes to attend and when they are able to receive some of the content online an a more flexible basis. | In progress XCompleted [ ] No longer applicable [ ]  | The department is looking at offering AUT 1111 (Management) in a hybrid or on-line format in the future. Furthermore, it is likely some of the automotive courses for our proposed bachelor’s degree will be a hybrid course or an on-line format.No change for 2017. However, the department uses the LMS for gradebook and attendance tracking department wide.No change for 2018. Other departments and classes with large enrollments typically get priority and rightfully so.No change for 2018-2019. Other departments and classes with large enrollments typically get priority and rightfully so. |
| Finally, Sinclair has recently begun offering 6000 level course non-credit offerings for students who are not seeking a degree, but still want to avail themselves of educational experiences. Could non-credit automotive courses be developed for individuals who are seeking basic non-professional level skills? How cost-prohibitive would this be? | In progress Completed [x] No longer applicable [ ]  | The department offers training through advisory partners currently in the evening. There is the possibility we could look at offering these classes as 6000.The department offered an Advanced Steering and Suspension course through workforce that was relatively low attended in 2016. I am not sure there is enough interest.2017 – The department has changed AUT 1100 Basic Automotive Systems to Consumer Automotive Systems to draw more enrollment.2018- There has not been enough enrollment to run AUT 1100.2018-2019 – We offered a class for Joseph Toyota service technicians through Workforce Development to provide training on the Brakes Automotive Service Excellence Exam. Additionally, we have 5-10 students that audit automotive courses for non-credit. Some of these students are over 60.  |

**Appendix C: General Education Rubric Data**

(Please see the table that is below the charts for information on number of students included in each analysis)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **RUBRIC** | **CriterionName** | **Division** | **Dept** | **FY2016-17 n size** | **FY2016-17 % Competent or Proficient** | **FY2017-18 n size** | **FY2017-18 % Competent or Proficient** | **FY2018-19 n size** | **FY2018-19 % Competent or Proficient** |
| Critical Thinking (General Education Rubric) | Criterion 1: Defines the problem Objectively and comprehensively identifies and articulates the parameters of a problem or issue | SME | 0568 |   |   |   |   | 2 | 100% |
| Critical Thinking (General Education Rubric) | Criterion 1: Defines the problem Objectively and comprehensively identifies and articulates the parameters of a problem or issue | SME | DIVISION-WIDE |   |   | 16 | 100% | 262 | 92% |
| Critical Thinking (General Education Rubric) | Criterion 1: Defines the problem Objectively and comprehensively identifies and articulates the parameters of a problem or issue | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 32 | 88% | 2209 | 91% |
| Critical Thinking (General Education Rubric) | Criterion 2: Evaluates assumptions and perspectives in self and others Examines and critically evaluates the assumptions and perspectives that influence arguments made by self and others | SME | 0568 |   |   |   |   | 2 | 100% |
| Critical Thinking (General Education Rubric) | Criterion 2: Evaluates assumptions and perspectives in self and others Examines and critically evaluates the assumptions and perspectives that influence arguments made by self and others | SME | DIVISION-WIDE |   |   | 16 | 100% | 259 | 93% |
| Critical Thinking (General Education Rubric) | Criterion 2: Evaluates assumptions and perspectives in self and others Examines and critically evaluates the assumptions and perspectives that influence arguments made by self and others | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 32 | 84% | 2202 | 92% |
| Critical Thinking (General Education Rubric) | Criterion 3: Assesses supporting arguments and evidence Critically assesses the quality, accuracy, and relevance of data or evidence used to support an argument or position | SME | 0568 |   |   |   |   | 2 | 100% |
| Critical Thinking (General Education Rubric) | Criterion 3: Assesses supporting arguments and evidence Critically assesses the quality, accuracy, and relevance of data or evidence used to support an argument or position | SME | DIVISION-WIDE |   |   | 16 | 100% | 262 | 92% |
| Critical Thinking (General Education Rubric) | Criterion 3: Assesses supporting arguments and evidence Critically assesses the quality, accuracy, and relevance of data or evidence used to support an argument or position | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 31 | 90% | 2207 | 92% |
| Critical Thinking (General Education Rubric) | Criterion 4: Formulates valid implications and conclusions Draws logical conclusions and inferences based on valid evidence and well-supported reasoning | SME | 0568 |   |   |   |   | 2 | 100% |
| Critical Thinking (General Education Rubric) | Criterion 4: Formulates valid implications and conclusions Draws logical conclusions and inferences based on valid evidence and well-supported reasoning | SME | DIVISION-WIDE |   |   | 16 | 81% | 260 | 90% |
| Critical Thinking (General Education Rubric) | Criterion 4: Formulates valid implications and conclusions Draws logical conclusions and inferences based on valid evidence and well-supported reasoning | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 32 | 75% | 2187 | 89% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 2 Knowledge: Demonstrates an understanding of multiple cultures and worldviews in local, regional, national and global contexts. | SME | 0568 |   |   | 1 | 100% | 3 | 67% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 2 Knowledge: Demonstrates an understanding of multiple cultures and worldviews in local, regional, national and global contexts. | SME | DIVISION-WIDE |   |   | 38 | 95% | 138 | 90% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 2 Knowledge: Demonstrates an understanding of multiple cultures and worldviews in local, regional, national and global contexts. | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 333 | 94% | 1499 | 90% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 3 Application, Cultural Diversity: Applies awareness and knowledge of diverse perspectives and worldviews when interacting with others. | SME | 0568 |   |   | 1 | 100% | 2 | 100% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 3 Application, Cultural Diversity: Applies awareness and knowledge of diverse perspectives and worldviews when interacting with others. | SME | DIVISION-WIDE |   |   | 39 | 87% | 139 | 84% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 3 Application, Cultural Diversity: Applies awareness and knowledge of diverse perspectives and worldviews when interacting with others. | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 344 | 86% | 1477 | 87% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 4 Application, Global Citizenship: Applies awareness and knowledge to contemporary global systems. | SME | 0568 |   |   | 1 |   | 3 | 67% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 4 Application, Global Citizenship: Applies awareness and knowledge to contemporary global systems. | SME | DIVISION-WIDE |   |   | 38 | 89% | 140 | 81% |
| Cultural Diversity and Global Citizenship (General Education Rubric) | Criterion 4 Application, Global Citizenship: Applies awareness and knowledge to contemporary global systems. | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 329 | 87% | 1491 | 85% |
| Information Literacy (General Education Rubric) | Criterion 1: Pose valid research or discovery questions based on need and formulate thesis idea and purpose connected to research. | SME | 0568 |   |   | 4 | 100% | 3 | 100% |
| Information Literacy (General Education Rubric) | Criterion 1: Pose valid research or discovery questions based on need and formulate thesis idea and purpose connected to research. | SME | DIVISION-WIDE | 16 | 100% | 74 | 96% | 325 | 90% |
| Information Literacy (General Education Rubric) | Criterion 1: Pose valid research or discovery questions based on need and formulate thesis idea and purpose connected to research. | SINCLAIR OVERALL | SINCLAIR OVERALL | 138 | 99% | 661 | 83% | 3624 | 82% |
| Information Literacy (General Education Rubric) | Criterion 2: Organize and integrate information and use information ethically. | SME | 0568 |   |   | 4 | 100% | 3 | 100% |
| Information Literacy (General Education Rubric) | Criterion 2: Organize and integrate information and use information ethically. | SME | DIVISION-WIDE | 16 | 94% | 74 | 92% | 323 | 91% |
| Information Literacy (General Education Rubric) | Criterion 2: Organize and integrate information and use information ethically. | SINCLAIR OVERALL | SINCLAIR OVERALL | 138 | 96% | 655 | 86% | 3608 | 85% |
| Information Literacy (General Education Rubric) | Criterion 3: Select sources that are appropriate, credible and relevant to the idea being supported. | SME | 0568 |   |   | 4 | 100% | 3 | 100% |
| Information Literacy (General Education Rubric) | Criterion 3: Select sources that are appropriate, credible and relevant to the idea being supported. | SME | DIVISION-WIDE | 16 | 88% | 74 | 92% | 323 | 93% |
| Information Literacy (General Education Rubric) | Criterion 3: Select sources that are appropriate, credible and relevant to the idea being supported. | SINCLAIR OVERALL | SINCLAIR OVERALL | 138 | 94% | 648 | 86% | 3564 | 86% |
| Oral Communication (General Education Rubric) | Diverse Opinions and Conflict Management | SME | 0568 |   |   | 27 | 100% | 39 | 97% |
| Oral Communication (General Education Rubric) | Diverse Opinions and Conflict Management | SME | DIVISION-WIDE |   |   | 228 | 99% | 225 | 97% |
| Oral Communication (General Education Rubric) | Diverse Opinions and Conflict Management | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 1612 | 98% | 1466 | 98% |
| Oral Communication (General Education Rubric) | Listening Behaviors | SME | 0568 |   |   | 7 | 57% | 35 | 97% |
| Oral Communication (General Education Rubric) | Listening Behaviors | SME | DIVISION-WIDE |   |   | 122 | 91% | 232 | 95% |
| Oral Communication (General Education Rubric) | Listening Behaviors | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 1075 | 93% | 1577 | 95% |
| Oral Communication (General Education Rubric) | Message Composition | SME | 0568 |   |   | 34 | 100% | 74 | 100% |
| Oral Communication (General Education Rubric) | Message Composition | SME | DIVISION-WIDE |   |   | 350 | 99% | 457 | 99% |
| Oral Communication (General Education Rubric) | Message Composition | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 2687 | 99% | 3015 | 99% |
| Oral Communication (General Education Rubric) | Message Delivery | SME | 0568 |   |   | 34 | 100% | 74 | 100% |
| Oral Communication (General Education Rubric) | Message Delivery | SME | DIVISION-WIDE |   |   | 350 | 99% | 456 | 100% |
| Oral Communication (General Education Rubric) | Message Delivery | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 2687 | 100% | 3010 | 99% |
| Written Communication (General Education Rubric) | Criterion 1: Topics and Controlling Ideas / Prepare written material with a clear topic and sufficient supporting evidence. | SME | 0568 |   |   | 1 | 100% | 10 | 100% |
| Written Communication (General Education Rubric) | Criterion 1: Topics and Controlling Ideas / Prepare written material with a clear topic and sufficient supporting evidence. | SME | DIVISION-WIDE |   |   | 78 | 90% | 189 | 86% |
| Written Communication (General Education Rubric) | Criterion 1: Topics and Controlling Ideas / Prepare written material with a clear topic and sufficient supporting evidence. | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 400 | 86% | 1508 | 87% |
| Written Communication (General Education Rubric) | Criterion 2: Structure of the Message / Prepare written material that flows logically and whose message is shaped to appeal to appropriate audiences and situations. | SME | 0568 |   |   | 1 | 100% | 10 | 100% |
| Written Communication (General Education Rubric) | Criterion 2: Structure of the Message / Prepare written material that flows logically and whose message is shaped to appeal to appropriate audiences and situations. | SME | DIVISION-WIDE |   |   | 78 | 91% | 189 | 92% |
| Written Communication (General Education Rubric) | Criterion 2: Structure of the Message / Prepare written material that flows logically and whose message is shaped to appeal to appropriate audiences and situations. | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 400 | 90% | 1511 | 91% |
| Written Communication (General Education Rubric) | Criterion 4: Critical Response / Prepare written material that effectively incorporates written sources. | SME | 0568 |   |   | 1 | 100% | 10 | 80% |
| Written Communication (General Education Rubric) | Criterion 4: Critical Response / Prepare written material that effectively incorporates written sources. | SME | DIVISION-WIDE |   |   | 77 | 82% | 185 | 83% |
| Written Communication (General Education Rubric) | Criterion 4: Critical Response / Prepare written material that effectively incorporates written sources. | SINCLAIR OVERALL | SINCLAIR OVERALL |   |   | 399 | 82% | 1474 | 78% |

**Appendix D: Program Outcome Assessment Data from the last Annual Update**

The Program Outcomes for the degrees are listed below. Responses from previous years are provided below. **All program outcomes must be assessed at least once during the 5 year Program Review cycle, and assessment of program outcomes must occur each year**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Program Outcomes** | To which course(s) is this program outcome related? | Year assessed or to be assessed. | Assessment MethodsUsed | What were the assessment results? (Please provide brief summary data) |
| Apply effective customer communication skills in an automotive service environment. Apply good management skills in operating an automotive service business. Develop and analyze an automotive business facility layout. Demonstrate business computer skills. | AUT 1111COM 2206ENG 1101AUT 1170AUT 1171AUT 1172AUT 1173 |  Assessed in 2018-19. | Linked outcomes to eLearn rubric.  | 2018 Communicates through oral communication effectively with customerExcellent – 60%Above expectations 40% |
| Demonstrate knowledge of social and human skill sets in supporting community, work and/or the college experience. | OTM (Art/Hum)AUT 1170AUT 1171AUT 1172AUT 1173SOC 1101AUT 2250 | 2019 | Service Learning Project in AUT 2250 | Students participated in a Service Learning project supporting a non-profit organization called Seeds for Peace. Students provided on vehicle service and inspection.  |
| Diagnose and repair automatic transmission/transaxle systems, torque converters and 4 wheel drive/all wheel drive systems. | AUT 2241 | Assessed annually | ASE Entry Level Certification Auto Trans exam | 2018 Average 2250- 73%2018 Average cohort – 80%2017 Average cohort- 78%2016 Averages – 68%2015 Averages – 63%2014 Averages – 70%2013 Averages - 65%2012 Averages - 65%2011 Averages - 66%2010 Averages - 59%     Student scores have been gradually increasing. We believe the scores will level off near the 75% range. |
| Diagnose and repair heating and air conditioning systems including automatic climate-control systems. | AUT 1146 | Assessed annually | ASE Entry Level Certification HVAC exam | 2018 Average 2250- 72%2018 Average cohort – 74%2017 Average cohort- 73%2016 Averages – 66%2015 Averages – 67%2014 Averages – 73%2013 Averages - 72%2012 Averages - 71%2011 Averages - 72%2010 Averages - 66%Student scores have been gradually increasing. We believe the scores will level off near the 80% range. |
| Diagnose and repair manual transmission systems, drivelines and differentials. | AUT 1142 | Assessed annually | ASE Entry Level Certification Drivetrains exam | 2018 Average 2250- 64%2018 Average cohort – 73%2017 Average cohort- 74%2016 Averages – 63%2015 Averages – 61%2014 Averages – 82%2013 Averages - 63%2012 Averages - 66%2011 Averages - 64%2010 Averages - 55%Student scores have been gradually increasing. We believe the scores will level off near the 85% range. |
| Diagnose automotive electrical and accessory system problems. Utilize DVOM meters, scopes and other electrical testing equipment to troubleshoot battery, charging and hybrid propulsion systems. | AUT 1114AUT 2214 | Assessed annually | ASE Entry Level Certification Electrical exam | 2018 Average 2250- 77%2018 Average cohort – 79%2017 Average cohort- 77%2016 Averages – 68%2015 Averages – 77%2014 Averages – 76%2013 Averages - 75%2012 Averages - 73%2011 Averages - 70%2010 Averages - 70%Student scores have been gradually increasing. We believe the scores will level off near the 80% range. |
| Diagnose fuel injection, delivery and emission control systems.  | AUT 1115AUT 2215 | Assessed annually | ASE Entry Level Certification Engine Performance exam | 2018 Average 2250- 73%2018 Average cohort – 83%2017 Average cohort- 73%2016 Averages – 59%2015 Averages – 63%2014 Averages – 75%2013 Averages - 72%2012 Averages - 73%2011 Averages - 69%2010 Averages - 69%Student scores have been gradually increasing. We believe the scores will level off near the 80% range. |
| Diagnose/repair brake, anti-lock and power booster systems. Diagnose/repair suspension and steering components. Perform vehicle alignments.  | AUT 1165AUT 1116 | Assessed annually | ASE Entry Level Certification Brakes exam | 2018 Average 2250- 73%2018 Average cohort – 80%2017 Average cohort- 84%2016 Averages – 65%2015 Averages – 72%2014 Averages – 78%2013 Averages - 73%2012 Averages - 72%2011 Averages - 71%2010 Averages - 67%Student scores have been gradually increasing. We believe the scores will level off near the 80% range. |
| Perform entry-level engine overhaul, precision measurements; perform machining and engine mechanical service. | AUT 1102AUT 1108CAM 1109 | Assessed annually | ASE Entry Level Certification Engines exam | 2018 Average 2250- 81%2018 Average cohort – 822017 Average cohort- 86%2016 Averages – 71%2015 Averages – 73%2014 Averages – 80% 2013 Averages - 71%2012 Averages - 74%2011 Averages - 77%2010 Averages - 71%Student scores have been gradually increasing. We believe the scores will level off near the 85% range. We plan on incorporating data from our dealer interns to see what impact it has on the data. The drop in 2015 seems to be caused by one student’s abnormally low results. Student grades are not impacted based on their passing scores, so the student may not have taken them seriously. Currently, we have a faculty looking at the correlation from test score percentage to course grade.2017 – The 2017 scores show a significant increase. This is because this cohort group worked at a service facility for the 2 years as an intern while earning the AAS compared to the previously groups whom did not intern. This difference illustrates that on the job training helps student’s scores. |
| Utilize scan tools, scopes, DVOM meters and other test equipment in troubleshooting engine and Diagnose and repair automatic transmission/transaxle systems, torque converters and 4-wheel drive/all-wheel drive systems. | AUT 1142AUT 2241 | Assessed annually  | ASE Entry Level Auto Trans Certification | 2018 Average 2250- 73%2018 Average cohort – 80%2017 Average cohort- 78%2016 Averages – 68%2015 Averages – 63%2014 Averages – 70%2013 Averages - 65%2012 Averages - 65%2011 Averages - 66%2010 Averages - 59%     Student scores have been gradually increasing. We believe the scores will level off near the 75% range. |

|  |  |
| --- | --- |
| **Are changes planned as a result of the assessment of program outcomes? If so, what are those changes?**  | For 2019-2020, our graduating GM ASEP, Honda PACT, and Mopar CAP students will be participating in the A1-A8 ASE Education Entry Level certifications, formerly the NATEF End of Program test. Our focus is to provide an industry credential and to broaden our reach of students that participate in the testing. |
| **How will you determine whether those changes had an impact?**  | Currently, we are reviewing our lab sheets for AUT 1146, 1116, and 1142 to ensure specific learning outcomes in each course correlate to our program outcomes. These have routinely been the areas that have the lower average scores.  |

**OPTIONAL:**

Please use the space below to keep track of any annual data that your department wishes to maintain. This section is completely optional and will not be reviewed by the Division Assessment Coordinators.

NATEF End of Program Testing Average Percentage

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AUT 2250 Spring course | Steer/Suspension | Brakes | Electrical | Engine Performance | Engines | Auto | Drivetrains | HVAC |
| 2010 AUT 2250 | 69 | 67 | 70 | 69 | 71 | 59 | 55 | 66 |
| 2011 AUT 2250 | 65 | 71 | 70 | 69 | 71 | 66 | 64 | 72 |
| 2012 AUT 2250 | 70 | 72 | 73 | 73 | 74 | 65 | 66 | 71 |
| 2013 AUT 2250 | 65 | 73 | 75 | 72 | 71 | 65 | 63 | 72 |
| 2014 AUT 2250 | 65 | 78 | 76 | 75 | 80 | 70 | 82 | 73 |
| 2015 AUT 2250 | 64 | 72 | 77 | 63 | 73 | 63 | 61 | 67 |
| 2016 AUT 2250 | 57 | 65 | 68 | 59 | 71 | 68 | 63 | 66 |
| 2017 AUT 2250 | 70 | 76 | 74 | 73 | 75 | 71 | 70 | 70 |
| 2017 CAST | 74 | 84 | 77 | 73 | 86 | 78 | 74 | 73 |
| 2018 AUT 2250 | 64 | 72 | 77 | 73 | 81 | 73 | 64 | 72 |
| 2018 CAST | 73 | 78 | 79 | 83 | 82 | 80 | 73 | 74 |