Helena College Academic Program Review

Year:	Review:	Author:	Status:
2024-25	Diesel Technology 2024-25	Hauer, Derrick	Published

Section 1: Program Review

Credentials:

A.A.S. Diesel Technology, C.A.S. Diesel Technology

Description:

The Diesel Technology program provides training in maintenance, diagnosis of related electrical/electronic systems, mobile hydraulic systems, manual and hydraulic drive trains, brakes, air systems, diesel engines, general maintenance, alignment and undercarriages, and HVAC as used in equipment common to the diesel repair industry. Major placement areas for diesel technology graduates are agriculture and truck dealerships, truck fleets, construction, mining, oil exploration companies, farms, ranches, and independent truck repair shops.

Misson Statement:

Diesel Technology program prepares the student to enter various segments of the diesel repair industry as an entry-level technician. This includes, but is not limited to, the agricultural, industrial, and the heavy-duty diesel truck repair industry.

Mission Alignment:

Mission alignment is demonstrated through quality instruction and a close connection to industry, which benefits a diverse population of students wishing to enter various segments of the diesel repair industry.

Additional Comments:

Students earn a number of industry-recognized credentials as part of the diesel program, including NC3 certifications, OSHA 10, MACS 609, Daimler Get Ahead, Cummins, and Alison 1K, 2K, 3K, and 4K. Many students choose to enroll in the Commercial Driver's License (CDL) program through Community Education.

Section 2: 5-Year Summary

Previous Recommendations:

Five recommendations in the previous program review have proved challenging, especially with the effects of the COVID-19 pandemic. However, some progress has been made for each recommendation.

1. Using industry standards and advisory committee input, Helena College will update curriculum, equipment, and skill development to include development of Commercial Driver's License as part of, or prerequisite to the program.

Update: The Commercial Driver's License requirement has been a requirement of the C.A.S. in Diesel Technology, but was removed in the spring of 2023. The requirement became an impediment to students receiving their C.A.S. for a number of reasons including the student's age, their work schedule, or their inability to take on the additional credit requirement. Now the pathway advising notes reflect that the CDL is highly recommended, but not required.

2. Helena College will continue to integrate student acquisition of industry-recognized credentials into the curriculum.

Update: The diesel faculty have incorporated a number of certifications into the diesel program. These are outlined in the previous section and increase students' marketability for employment.

3. Increase instructor professional development through attendance at national educators' conferences and institutes.

Update: Derrick Hauer attended NC3 training in the 2022-2023 school year as well as Allison transmission training in the 2018-2019 school year, and the instructors have submitted Perkins grant proposals to seek additional training and professional development in the 2024-2025 academic year.

4. Build career awareness by collaborating with industry partners, secondary schools and US Department of Labor Job Service.

Update: Helena College has hosted the Skills USA Competition for three years (2022, 2023, 2024) which has included a diesel competition that utilizes industry partners and allows high school students to compete. In addition, the diesel program has participated in events marketed to high school students (Manufacturing and Mechanics Night and Student Shadowing days) in an effort to raise awareness of diesel careers and the Helena College academic program.

5. Explore apprenticeship/internship opportunities for students to increased work-based learning experiences.

Update: The class schedule of the diesel program allows students the flexibility to seek employment, and many students are employed while enrolled in the program. Looking at the automotive program as an example, it may be beneficial to pursue a formal partnership for internship or apprenticeship. This will need to be examined more closely and brought to the advisory board for feedback.

Annual Work Plans:

Over the past five years, the diesel program has used annual plans to set goals related to curriculum revision, alignment to industry, building partnerships, effectively utilizes our limited budget, and positively impacts student achievement in the program.

As a program, we have marked over 80% of our goals as "ongoing" and "in-progress" and have completed 13%. Our goals have aligned with strategic goals 1, 2, 3, and 5 under the previous strategic plan, and in the areas of "effectiveness" and "stewardship" under the current strategic plan.

As a program, we can work to set goals that are achievable and able to be marked as "complete" at the end of the academic year. In addition, we can work to align our goals with "impact" and "equity" under the new strategic plan.

Successes/Strengths:

A great strength of the diesel program is our active and engaged advisory board which allows the program to align itself well with the needs of industry.

As a department, we have been able to pursue curriculum changes over the past five years, such as adding an electronic systems class and an OSHA 10 class to the curriculum as well as updating the hydraulic drive train class. In response to industry feedback, we have also added Allison transmission training.

The success of our alignment to industry depends on our ability to train our students on the equipment that industry uses. Through careful budgeting as well as use of grant funds and donations, we have updated our equipment (10 Allison transmissions and 10 ISX engines) as well as acquired new diesel trucks for our students to use for training. In addition, to enhance safety, we purchased new work benches and a crane for the lab area, which allows students to remove engines and other heavy objects safely.

Another strength of the diesel program is the structure of the block schedule which allows students to work in the afternoons after class is completed. Because many students are working and need their tools on the job, the Budget Management Committee approved using the academic equipment fee pot to order 4 Snap On tool boxes with the required tools which we are able to loan to students while they work in the lab.

Challenges:

Challenges include the costs of diesel equipment and consumables as well as the fluctuations in enrollment.

Over the past five years, diesel program enrollment has averaged 27 students. The program cap is currently 30 students (which includes 15 first-year and 15 second-year students). However, the enrollment has declined in recent years, particularly in 22-23 when overall enrollment was only 15 students. This year (23-24) the first year class is full because many students moved from automotive to diesel when the first-year automotive class was canceled.

It is difficult to plan for long-term spending when enrollment fluctuates to such a great extent. And even when enrollment is down, the cost to keep the equipment up-to-date and the training relevant is expensive.

Section 3: Student Learning

Credential Learning Outcomes:

Diesel Technology AAS

1. Perform maintenance, diagnosis, and repair of diesel electrical/electronic systems.
2. Perform maintenance and repair of mobile hydraulic systems, manual and hydraulic drive trains.
3. Perform general maintenance, alignment and undercarriages, and HVAC systems as used in equipment common to the diesel repair industry.
4. Demonstrate the ability to work safely in a shop environment.
5. Demonstrate the ability to exhibit professionalism in the workplace.

Assessment:

Students are primarily assessed using lab sheets. We have found that this benefits the greatest number of students by allowing them to apply their learning in a hands-on manner. In addition, we use lab sheets in place of final exams and have students demonstrate their learning by following instructions and documenting their ability to perform tasks identified in the course learning outcomes. Attached are examples of lab sheets used to assess student learning in DST 240 HD Manual Drive Trains (Clutch Adjustment Assessment) and DST112 Diesel Electrical Systems (Starter System Testing).

Curriculum/Assessment Changes:

As we have evaluated our course outcomes in the Assessment Database, we learned that we had too many outcomes in many courses. We spent time identifying, with our advisory board, which outcomes were highest priority. We also ensured that each outcome was measurable. We now have 3-4 outcomes for each course, rather than 12-15.

In 2019-2020 the program moved to a block schedule. Students now take one class at a time in each five-week block. Due to this change, we needed to combine some classes and evaluate the best sequence of coursework. Changes to curriculum have included: adding a new course (DST 108) which replaced DST 107 and now aligns with University of Montana Northern and includes OSHA 10 certification; adding DST 107 outcomes to DST 145; combining DST 110 & 111 to create DST 112 which is a better use of student and instructor time; creating DST 295 (live lab) to better assess cumulative student learning in the final semester by allowing students to take on a project from the community.

Section 4: Alignment with Community Needs

Community Partnerships:

The diesel program participates in the Daimler Get Ahead program which allows students to participate in Daimler dealership-level training. In 2019, the Helena College diesel program was recognized by Daimler as an exceptional teaching program and we received a truck in donation as well as discounts in training aids to support student learning.

From 2022-2024 the diesel program coordinated the Montana State Skills USA competitions for both secondary and post-secondary students throughout Montana. This required connection to industry and educational partners to produce a high-quality competition.

In addition, Helena College students graduate with a number of certifications, including NC3, OSHA 10, MACS 609, Cummins, and Alison 1K, 2K, 3K, and 4K. Many students choose to enroll in the Commercial Driver's License (CDL) program through Community Education. All of these opportunities are recognized and valued by regional employers.

Advisory Board:

The Helena College diesel program advisory board meets once per year and always has great attendance from local and regional employers.

The advisory board consists of:
Steven Burch- Missouri River Contractors, Jim Dusenberry- J&D Truck Repair, Dave Gardner- Diversified Truck Leasing, Ryan Rouns- R&K Trucking, Travis Sandau and Adam Kvilvang- I-State Truck Center, Mike Holliday- TriState Truck & Equipment.

All advisory board membership and minutes is posted publicly on the Helena College website. We begin each meeting with program updates and spend the majority of the meeting asking questions to better align our program with industry needs. Many Helena College alumni are working for the employers who make up our advisory board, which is a good chance to assess what is included or may be missing from students' education. Most curricular changes have happened in consultation with the advisory board (see Section 3). The focus of the last 2 advisory board meetings has been helping to educate more young people about the opportunities available in the diesel industry. Skills USA is a great opportunity for this.

Section 5: Data Review

Enrollment/Annual Average FTE:

Diesel program enrollment has declined over the past five years which could be the result of a variety of factors. Overall Helena College full-time student enrollment has also declined in the same five year period as more of our enrollment consists of part-time students, including dual enrollment. The diesel program requires full-time enrollment. In addition, the economy has remained relatively strong over the same period and skilled trades program enrollment typically increases during times of economic recession. The program is a hands-on program, and so enrollment was also challenged by the COVID-19 pandemic when classes were moved online and recruitment efforts were more difficult.

Enrollment has recovered slightly since the 2022-2023 school year that is last reported on the attached program summary. This is partly the result of first-year automotive students moving from auto to diesel when the first-year classes were canceled in the 2023-2024 school year. Early indication shows that the 2024-2025 school year will be closer to 50% capacity in first and second-year classes which is an improvement from 2022-2023.

Retention:

Despite the fluctuations in diesel program enrollment, our retention of students remains strong. Our 5-year average is 82% fall-to-fall retention, and that percentage would be much greater if it wasn't for the poor retention of fall 2021 which can be primarily attributed to COVID-19.

In fact, the diesel program retention as compared to the overall Helena College retention appears very notable. In the fall of 2022, 100% of students were retained despite the smaller program enrollment numbers.

Strong retention is most likely a product of the cohort-based model of our diesel classes and the ability of students to work while attending school. Students can see the value of their education because we have supportive advisory board members and employers who encourage them to complete their degree.

Degree/Certificate Production:

Diesel program degree attainment has remained relatively consistent over the past 5-years with 14 credentials awarded in 2018-2019 and the same number awarded in 2021-2022. The five-year average is 11, which includes CAS degrees and AAS degrees.

The low number of CAS degrees awarded can be attributed to the Commercial Driver's License requirement, which has not been a requirement of the AAS program. In consultation with the diesel program advisory board, and in an effort to improve credential completion, the CDL requirement was removed from the CAS degree plan in 2024-2025 (it was changed to "highly encouraged" on the degree pathway). We predict that this will immediately affect degree completion of the CAS.

The diesel program would also like to see overall degree completion improve and we predict that the following measures will continue to impact completion positively: the removal of the cost to apply for a degree, having a full-time advisor on the Airport Campus, and the new advising notes which require an instructor signature if students do not complete the required M 111 and COMX 106 classes. We predict that most students who do not earn a diesel credential have not completed these related instruction classes, and we would like to analyze this further in an attempt to improve degree attainment.

Market Analysis:

According to market analysis, there will be a 12% growth rate of diesel mechanics in Montana projected by 2030, which is higher than the U.S. as a whole (1% increase by 2032). This only partially aligns with what our advisory board tells us: that they are in desperate need of qualified mechanics. Their reported need would suggest an even higher need regionally. We also hear that they are offering signing bonuses and other perks to attract employees which doesn't necessarily align with the reports that show the program's average starting salary in line with the overall Helena College starting salary ($49,619 as a five-year average).

In addition, many Helena College diesel students are planning to use their skills on a family farm, rather than by entering the diesel industry, and they may not be captured in an accurate way on reports. Perhaps this and other factors (student pursuing a second degree in welding or automotive, for instance) are affecting the program job placement rate which has averaged 74% over the past five years.

Financial Impact per FTE:

The diesel technology program is an expensive program to operate. When looking at the program revenue vs. expenditure, the diesel program in the past 4 out of the 5 years has brought in more revenue than it has expended. However, it is clear that compared to the overall Helena College program expenditure per student, the diesel program costs much more to run than most programs. Unfortunately, the cost of the equipment, parts, and consumables needed to run the program effectively risen considerably in price over the past five years. Program costs have risen much more than Helena College's tuition and fees have increased.

The program looks for ways to be efficient with funds. One of the identified challenges relates to the variation in enrollment: just because enrollment fluctuates doesn't mean that the cost to run the program varies in the same way. Some costs are fixed, and things can break and need to be replaced in lean years. Even with forecasting and forethought, it is sometimes difficult to determine the yearly needs.

One change that we hope will positively influence the program is the consolidation of most of our course fees into a program fee. This will allow our program to purchase consumables with fees as before, but we are also working with the Executive Director of Fiscal Services to design a long-term replacement plan for equipment, allowing us to be strategic in our buying and spending. Program fees, in conjunction with Perkins grant funds, allow the program to be forward thinking.

If the diesel technology program continues to be responsive to industry needs, we will require expensive equipment so that our students are training on the industry-standard. One idea that hasn't fully been explored is to find industry sponsors. It would be helpful for the Helena College Foundation to help with this effort.

Other Comments:

Section 6: Resources

Faculty & Staff:

Name	Title	FTE	Years	Highest Education
Derrick Hauer	Diesel Technology Instructor	1.00	11.00	Associate
Rick Purcell	Diesel Technology Instructor	1.00	17.00	Associate
Stephanie Hunthausen	Executive Director of Career Technical Education	1.00	3.00	Masters

Professional Development:

Budget:

The diesel program budget (H05030) has remained relatively consistent over the past five years, with the exception of FY20 when it appears much lower than the other four years. Spending has likewise remained consistent with the lowest spending years being FY22 and FY23. The course fees for the program have also been budgeted consistently (H60280) over the past five years.

For a number of years the diesel budget has been created without faculty consultation. It seems to be based primarily on past spending, rather than on upcoming needs. The faculty would like to be involved in the creation of the budget prior to the summer.

As mentioned in previous sections, the diesel program has looked to a variety of sources to purchase items needed for student learning, including the academic equipment fee pot, the Perkins grant, and private donations. In addition, the establishment of a program fee, which was instituted in 2022-2023, will allow the program to plan ahead for equipment replacement.

Resource Needs:

The following items have been identified in consultation with the diesel program advisory board, allowing students to train on industry-standard equipment: new hydraulic trainers, Allison transmissions, a new diesel truck with disc brakes and an automatic transmission.

In addition, the program would like to replace the lab tops in the lab area.

The faculty plan to continue participating in NC3 certification training over the next two years to expand the certifications we are able to offer to students. This will be funded by the Perkins grant.

Section 7: Recommendations

Rec #	Title	Recommendation
1	Enrollment Strategy	Key Recommendation: The diesel program would like to work collaboratively with enrollment services and the marketing department to develop a recruitment strategy. Rationale: Due to declining enrollment and the demonstrated need for diesel technicians regionally, the program would like to strategize and plan to enroll more students. Success Target: In the next 5 years we would like to increase our enrollment by 15% each year, with the goal of reaching program capacity in the first-year class. Success Strategy: In consultation with the advisory board, the program may consider adopting a work-based learning process or other marketable strategies for student recruitment. A series of marketing materials will be developed, and the program will collaborate with recruiters and K-12 Partnerships to participate in events and experiences for prospective students. Success Resource: Resources include time devoted to developing a recruitment and marketing strategy which involves enrollment services, marketing, the Executive Director of CTE, program faculty, the diesel advisory board, and diesel program alumni. Resp. Party: Diesel Technology APRC Response: The target needs a second look. A 5% annual increase in enrollment from a baseline of 6 first-year students in Fall 2022 (or even 8 in fall 2024) does not result in the program reaching full capacity in 5 years. An annual increase of 15% (if starting from 8) or 20% (from 6) would be necessary to meet that goal. Cabinet Feedback: We strongly support this recommendation. There was a great conversation with the faculty regarding upcoming industry changes to electronic technology in large engines. We highly encourage the PD and training to move our program in this direction to stay relevant and to work with our enrollment team to promote to new students.

2	Assessment of program needs	Key Recommendation: Work with the Executive Director of CTE & Dual Enrollment to create a 5-year plan for equipment replacement and upgrades to best serve the diesel program students. Rationale: The program anticipates a number of purchases over the next 5 years: a combination of tools and equipment needing replaced, new training tools for students, and new types of equipment that maintain industry-level standards. This may also include an exploration of hybrid or electric training. With the ever-increasing price tag of items, it is important that we work closely with the Executive Director to budget and create a long-term plan for spending. Success Target: The diesel program faculty will be an integral part of the budgeting process and will determine the highest priority items for their budgets. A long-range equipment replacement plan will be created and necessary equipment will be identified as well as the appropriate source of funding. In addition, the faculty will work on building a master shopping list for consumables that can help in anticipating program needs and beginning the purchasing process at the start of each fiscal year. Success Strategy: In year one an equipment inventory will be completed and faculty will work with the Executive Director of CTE to build 2025-2026 budget. Year two will be focused on determining spending priorities for the next four years and building the master shopping list for yearly consumables. Years three and four will be spent looking for alternative funding sources (private industry) as well as a forecasting of program fee revenue and budgeting. In year five, the program will evaluate the process. Success Resource: The program will work closely with the Executive Director of CTE who will rely on guidance from the Budget Management committee as well as the Executive Director of Fiscal Services. Resources will be identified as appropriate depending on the plan that is created. Resp. Party: Diesel Technology APRC Response: The committee is glad to see a goal to create a 5-year plan for equipment replacement and upgrades. It appears to be a model that other programs could follow. Cabinet Feedback: This recommendation helps set the program up for successful resource management in the future. We would like to also see an additional element included in this recommendation. In additional to long-term planning for purchases and resource allocation, it would be helpful to prepare an inventory of consumables and supplies needed for fall semester classes that can be given to the CTE program manager during spring term to allow for purchasing at the start of the fiscal year. This will allow for more distributed purchasing throughout the year as well as alleviate pressure immediately prior to the start of the academic year.

Section 8: APRC Committee Proposed Determination & Rationale

APRC Proposed Determination:

Continue

APRC Rationale:

As with many of our trades programs, the value to our communities is apparent in feedback from the advisory board and firsthand observations from faculty. Given the period of low enrollment currently faced by the program, the instructors acknowledged the importance of working to recruit more students and the committee appreciates seeing the first goal of working collaboratively across campus to get the word out.

The diesel technology program faculty have done a great deal of work to ensure students are prepared to enter the industry, including updating curriculum and equipment. Keeping equipment current will be a challenge as costs of materials rise and initial investments can be significant, which is reflected in the recommendation to create a 5-year plan for equipment replacement and upgrades.

APRC Additional Feedback:

The committee appreciates the work put into the second iteration of the report. The added context and analysis provide an excellent picture of the current state of the program, especially its strengths and current challenges.

Section 9: Dean's Cabinet Feedback

Dean's Cabinet Approval of APRC Determination:

Approve APRC Determination

Overall Cabinet Feedback:

Very good discussion with the faculty and director about the future of the program and the need for better long-term planning of resource allocation. We appreciate the extra effort that was put forth to create a comprehensive review of the diesel program.

Section 10: Final Determination for BOR Report

Final Determination for BOR Report:

Continue

Supporting Rationale:

Attached Files

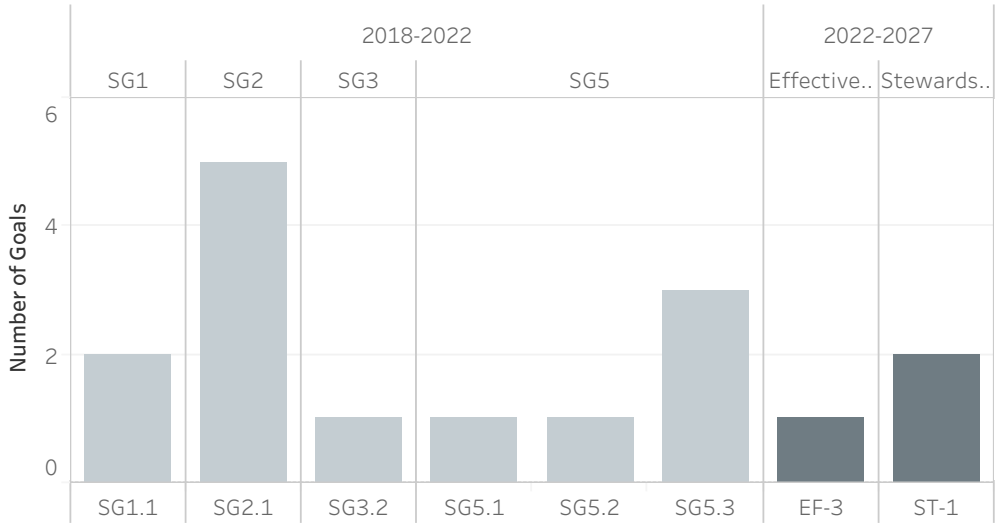
Attachment #	Attachment Title	Attachment URL
57	Data Summary	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=57
58	CT Program Review	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=58
59	Assess Matrix V1	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=59
61	Assess Matrix V1	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=61
62	ITP Curriculum Changes	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=62
63	Annual Work Plan 5-Year Summary	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=63
65	Assess Report	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=65

Updated 9/15/2023

Diesel Technology | AY 2018-19 to AY 2022-23

Hover over a data point to see strateigc goal objective or defining characteristic values.
Click on a data point to see the associated action items.

Detailed Strategic Plan Alignment

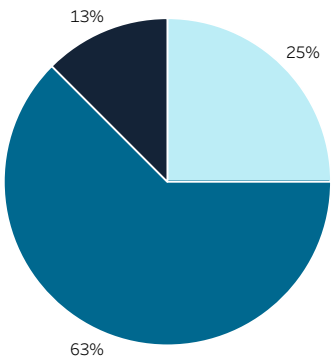


Filter to Year
All

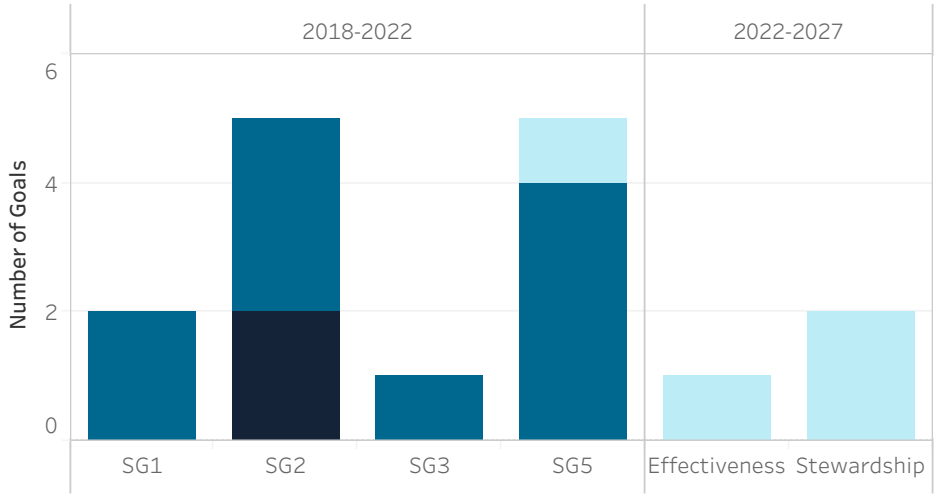
Goal Status
- In Progress
- Ongoing
- Completed

Overall Goal Status

100% positive progress



Strategic Plan Alignment and Goal Status



AWPs

Area1	Year	Goal #	Sgo/Dc	Action Item1	
Diesel Technology	2018-19	1	SG1.1	All students in the diesel technology program will be instructed in and obtain OSHA 10 safety certification and continue to exhibit safety in the workplace for the remainder of their term in the program.	Ongoing
		2	SG2.1	Provide a thorough understanding through technologically advanced training systems an in depth knowledge of all diesel systems and components including hydraulics, electrical, etc.	Ongoing
		3	SG1.1	Students in the program will obtain the skills to adequately diagnose and repair diesel equipment as they would in an actual working experience.	Ongoing
	2019-20	1	SG2.1	All students in the diesel technology program will be instructed in and obtain OSHA 10 safety certification and continue to exhibit safety in the workplace for the remainder of their term in the program.	Ongoing
		2	SG3.2	Students in the program will obtain the skills to adequately diagnose and repair diesel equipment as they would in an actual working experience. Students will take in community projects as part of ..	Ongoing
		3	SG5.1	With Perkins Funding the diesel program will purchase new transmissions to update technology in the diesel laboratory.	Ongoing
	2020-21	1	SG2.1	All students in the diesel technology program will be instructed in and obtain OSHA 10 safety certification and continue to exhibit safety in the workplace for the remainder of their term in the program.	Ongoing
		2	SG5.2	The diesel program will acquire necessary equipment that is industry standard and will maintain a greater level of safety in the shop environment by purchasing a jib crane.	Ongoing
		3	SG5.3	The diesel faculty will do a data review to determine cause of high course completion and low degree completion.	Ongoing
		4	SG5.3	The diesel program will purchase 3 Alison transmissions and tools to accompany the transmissions in order to update technology in this area.	Ongoing

AWPs

Area1	Year	Goal #	Sgo/Dc	Action Item1	
Diesel Technology	2021-22	1	SG2.1	All students in the diesel technology program will be instructed in and obtain OSHA 10 safety certification and continue to exhibit safety in the workplace for the remainder of their term in the program.	Comple..
		2	SG5.3	The diesel faculty will do a data review to determine cause of high course completion and low degree completion.	In Progress
		3	SG2.1	The diesel program will convert lab space into lab/classroom and increase student participation and knowledge through classroom experience.	Comple..
	2022-23	1	EF-3	The diesel faculty will do a data review to determine cause of high course completion and low degree completion.	In Progress
		2	ST-1	Students in the program will obtain the skills to adequately diagnose and repair diesel equipment as they would in an actual working experience. Students will take in community projects as part of ..	In Progress
		3	ST-1	Students in the program will obtain the skills to adequately diagnose and repair diesel equipment as they would in an actual working experience. Students will take in community projects as part of ..	In Progress

Diesel Technology A.A.S

2022-23 Pathway

Courses	Sequence in Pathway	Last Term Assessed	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
DST108	1	202270				I	I
DST112	1	202270					
DST142	1	202270		I I M		I I M	I I M
DST145	2	202330					
DST240	2	202330		I M		I M	I M
DST245	2	202330		I		I	I
DST200	3	202270					
DST210	3	202270					
DST255	3	202270			I	I	I
DST130	4	202330					
DST211	4	202330					
DST295	4	202330	I	I	I	I	I

Outcome 1	Perform maintenance, diagnosis, and repair of diesel electrical/electronic systems.
Outcome 2	Perform maintenance and repair of mobile hydraulic systems, manual and hydraulic drive trains.
Outcome 3	Perform general maintenance, alignment and undercarriages, and HVAC systems as used in equipment common to the diesel repair industry.
Outcome 4	Demonstrate the ability to work safely in a shop environment.
Outcome 5	Demonstrate the ability to exhibit professionalism in the workplace.

Observations
All outcomes have at least one assessed mapping at at least the introductory level.
3 of 5 outcomes have at least one assessed mapping at the mastery level
Outcomes 2, 4, and 5 are assessed at the mastery level earlier in the sequence than some introductory assessments
6 of 12 courses do not have asssessed course outcomes mapped to program outcomes.

Diesel Technology CAS

2022-23 Pathway

Courses	Sequence in Pathway	Term Asse:	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
DST108	1	202270	I	I			
DST112	1	202270					
DST142	1	202270	I I M	I I M			
DST145	2	202330					
DST240	2	202330	I M	I M			
DST245	2	202330	I	I	I	I	

Outcome 1	Demonstrate the ability to safely work in a shop environment.
Outcome 2	Demonstrate their work ethic and professionalism.
Outcome 3	Demonstrate the knowledge of operation of diesel system and functions of components.
Outcome 4	Demonstrate the basic ability to properly diagnose diesel systems and perform minor repairs.
Outcome 5	Obtain a commercial drivers license compiling with current regulations.

Out of 6 courses and 5 credentials:
2 courses have no mapped assessments of credential learning outcomes
1 credential outcome is not assessed in any course
4 credential outcomes are assessed at the introductory level at least once
2 credential outcomes are assessed at the mastery level twice

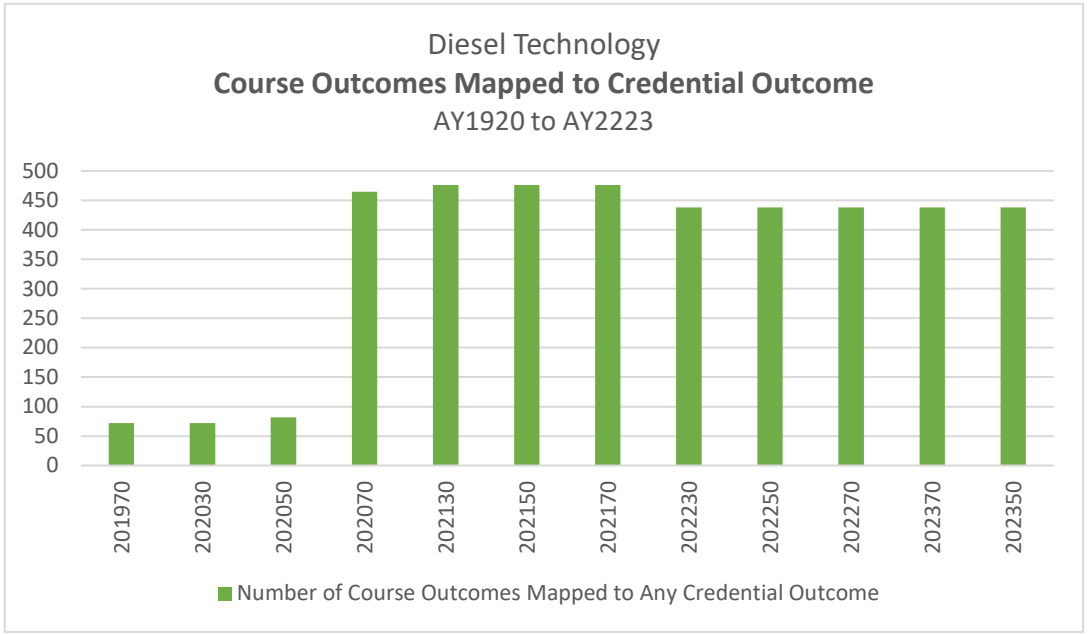
No results for other terms not listed

I would recommend completing mapping for all courses and completing course assessments.

Learning Outcome Mapping

Diesel Technology AY1920 to AY2223

TermCode	Number of Course Outcomes Mapped to Any Credential Outcome
201970	72
202030	72
202050	82
202070	465
202130	476
202150	476
202170	476
202230	438
202250	438
202270	438
202370	438
202350	438



Assessments Completed by Term

Diesel Technology AY1920 to AY2223

Term Code	Count Planned Assmnts	Count Term Assmnts	Count Complete Term Assmnts	Percent Complete Term Assmnts	Count Section Assmnts	Count Complete Section Assmnts	Percent Complete Section Assmnts	Comments
201930	0	0	0	0%	0	0	0%	
201970	0	0	0	0%	0	0	0%	
202030	0	0	0	0%	0	0	0%	
202070	4	1	0	0%	1	0	0%	
202130	81	65	65	100%	65	65	100%	Both faculty completed all assessments
202170	120	52	51	98%	52	51	98%	Both faculty completed most assessments
202230	137	82	43	52%	82	43	52%	Likely only one faculty completed assessments
202270	146	22	20	91%	22	20	91%	Both faculty completed most assessments
202330	171	90	51	57%	90	51	57%	Likely only one faculty completed assessments
Average	**131**	**62**	**46**	**80%**	**62**	**46**	**80%**	
Average excludes terms with 0 assessments								

Definitions	
Planned Assessment	Assessment planned, can be reused each term until inactivated
Term Assessment	All section assessments roll up into one term assessment
Section Assessment	Assessment administered in one section (may have more than one section assessment if more than one section taught in a semester, will roll into one term assessment)
Complete Assessment	Assessment administered and results entered in database. All section assessments must be completed in order for term assessment to be marked complete

Assessments Meeting Target

Diesel Technology AY1920 to AY2223

Assessment Activity by Term

Row Labels	Sum of Count Term Assmnt	Sum of Count Term Assmnt Met Target	Average of Term Assmnt Percent Complete	Average of Term Assmnt Percent Met Target
202130	58	51	100%	93%
202170	52	33	58%	49%
202230	82	42	50%	48%
202270	26	20	40%	50%
202330	90	51	50%	50%
Grand Total	**308**	**197**	**60%**	**58%**

Assessment Activity by Course - All Courses

Term (Multiple Items)

Row Labels	Sum of Count Term Assmnt	Sum of Count Term Assmnt Met Target	Average of Term Assmnt Percent Complete	Average of Term Assmnt Percent Met Target
DST108	29	22	100%	82%
DST112	4	1	25%	50%
DST130	72	20	33%	28%
DST142	23	8	71%	66%
DST145	12	4	33%	33%
DST200	0	0	0%	0%
DST210	0	0	0%	0%
DST211	33	8	33%	24%
DST240	37	37	100%	100%
DST245	43	43	100%	100%
DST255	22	22	100%	100%
DST295	33	32	100%	97%
Grand Total	**308**	**197**	**60%**	**58%**

Assessment Activity by Course - All Courses with Term Assessments

Count Term Assessment (Multiple Items)

Row Labels	Sum of Count Term Assessment	Sum of Count Term Assmnt Met Target	Average of Term Assmnt Percent Complete	Average of Term Assmnt Percent Met Target
DST108	29	22	100%	82%
DST112	5	1	17%	33%
DST130	72	20	33%	28%
DST142	23	8	71%	66%
DST145	12	4	33%	33%
DST211	33	8	33%	24%
DST240	37	37	100%	100%
DST245	43	43	100%	100%
DST255	22	22	100%	100%
DST295	33	32	100%	97%
Grand Total	**309**	**197**	**66%**	**64%**

Summary of Curriculum Changes

Diesel Technology AY1819 to AY2223

Count of ShortName	AY					
Type of Change	**1819**	**1920**	**2021**	**2122**	**2223**	**Grand Total**
Curriculum Revision		6	12	6	2	26
Inactivation			5			5
New Course	2					2
Grand Total	**2**	**6**	**17**	**6**	**2**	**33**

All Curriculum Change Activity

Diesel Technology AY1819 to AY2223

Curriculum Change Author	Signature	FullName	ShortName	Category	Creation Date	AY	Status
Heinitz, Melanie	Melanie Heinitz	New Course: DST108 Industrial	New Course: DST108	New Course	4/12/2019	1819	Completed
Heinitz, Melanie	Melanie Heinitz	New Course: DST112 Diesel	New Course: DST112	New Course	4/12/2019	1819	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for HYDRAULICS	Revision to DST142	Curriculum Revision	12/19/2019	1920	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for APPLIED LAB EXPERIENCE	Revision to DST265	Curriculum Revision	2/25/2020	1920	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for APPLIED FIELD WORK	Revision to DST295	Curriculum Revision	2/25/2020	1920	Completed
Purcell, Rick	Rick Purcell	Curriculum revision for PRECISION MEASUREMENT	Revision to DST107	Curriculum Revision	3/12/2020	1920	Completed
Purcell, Rick	Rick Purcell	Curriculum revision for DIESEL ENGINE REPAIR	Revision to DST145	Curriculum Revision	3/12/2020	1920	Completed
Purcell, Rick	Rick Purcell	Curriculum revision for HD MANUAL DRIVE TRAINS	Revision to DST240	Curriculum Revision	3/12/2020	1920	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for DIESEL ENGINE REPAIR	Revision to DST145	Curriculum Revision	11/8/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for HD MANUAL DRIVE TRAINS	Revision to DST240	Curriculum Revision	11/8/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for HD HYDRAULIC DRIVE TRAIN	Revision to DST245	Curriculum Revision	11/8/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for PRECISION MEASUREMENT	Revision to DST107	Curriculum Revision	11/8/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for DIESEL ENGINE PERFORMANCE	Revision to DST200	Curriculum Revision	11/8/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for HD BRAKES AND UNDERCARRIAGE	Revision to DST255	Curriculum Revision	11/8/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for DIESEL MAINTENANCE PRACTICES	Revision to DST210	Curriculum Revision	11/8/2020	2021	Completed

Curriculum Change Author	Signature	FullName	ShortName	Category	Creation Date	AY	Status
Hauer, Derrick	Derrick Hauer	Curriculum revision for DIESEL HVAC	Revision to DST130	Curriculum Revision	11/8/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for ELECTRONIC SYSTEMS	Revision to DST211	Curriculum Revision	11/8/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Inactivation of INDUSTRIAL SAFETY FOR DIESEL TECHNOLOGY	Inactivation of DST105	Inactivation	11/16/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Inactivation of DIESEL ELECTRICAL I	Inactivation of DST110	Inactivation	11/16/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Inactivation of DIESEL ELECTRICAL II	Inactivation of DST111	Inactivation	11/16/2020	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for HD HYDRAULIC DRIVE TRAIN	Revision to DST245	Curriculum Revision	4/13/2021	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for APPLIED FIELD WORK	Revision to DST295	Curriculum Revision	4/13/2021	2021	Completed
Hauer, Derrick	Derrick Hauer	Inactivation of PRECISION MEASUREMENT	Inactivation of DST107	Inactivation	4/13/2021	2021	Completed
Hauer, Derrick	Derrick Hauer	Inactivation of APPLIED LAB EXPERIENCE	Inactivation of DST265	Inactivation	4/13/2021	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for DIESEL ENGINE REPAIR	Revision to DST145	Curriculum Revision	4/15/2021	2021	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for DIESEL ENGINE PERFORMANCE	Revision to DST200	Curriculum Revision	9/14/2021	2122	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for DIESEL MAINTENANCE PRACTICES	Revision to DST210	Curriculum Revision	9/14/2021	2122	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for HYDRAULICS	Revision to DST142	Curriculum Revision	10/19/2021	2122	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for HD BRAKES AND UNDERCARRIAGE	Revision to DST255	Curriculum Revision	10/19/2021	2122	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for HD MANUAL DRIVE TRAINS	Revision to DST240	Curriculum Revision	10/19/2021	2122	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for Industrial Practices for Diesel Technology	Revision to DST108	Curriculum Revision	11/10/2021	2122	Completed

Curriculum Change Author	Signature	FullName	ShortName	Category	Creation Date	AY	Status
Hauer, Derrick	Derrick Hauer	Curriculum revision for HD HYDRAULIC DRIVE TRAIN	Revision to DST245	Curriculum Revision	3/6/2023	2223	Completed
Hauer, Derrick	Derrick Hauer	Curriculum revision for APPLIED FIELD WORK	Revision to DST295	Curriculum Revision	3/6/2023	2223	Completed

CLUTCH ADJUSTMENT ASSESMENT

USING THE TRUCK ASSIGNED TO YOU DEMONSTRATE TO **ME** HOW TO ADJUST A EATON 15 ½ INCH CLUTCH THAT IS OUT OF ADJUSTMENT. YOU CAN USE ALL RESOURCES YOU HAVE IE... DNTA, HANDOUTS, INTERNET SEARCHES ETC.... **I AM AVAILABLE FOR HELP BUT I WILL DEDUCT POINTS IF YOU NEED MY HELP**. THE MAIN THING IS YOU KNOW HOW TO PERFORM THIS TASK.

1. VERIFY AND TELL ME WHY YOU THINK THE CLUTCH NEEDS ADJUSTMENT
   _____
   _____
2. CHECK ADJUSTMENT **AT THE CLUTCH** AND LIST WHAT DIMENSIONS THE CLUTCH IS AT. IE.....CLEARANCES BETWEEN COMPONENTS, BRAKE SQUEEZE ETC....
   _____
   _____
3. IF INTERNAL ADJUSTMENT IS NEEDED WHAT CONDITIONS NEED TO BE MET FOR THIS ADJUSTMENT_____
   _____
   _____
4. DOCUMENT AND SHOW ME HOW AND WHY YOU ADJUSTED THIS OUT OF ADJUSTMENT CONDITION_____
   _____
   _____
   _____
   _____
5. DOCUMENT FINAL DIMENSIONS OR PROCEDURES IE.... CLEARANCES BETWEEN COMPONENTS, BRAKE SQUEEZE ETC....
   _____
   _____
   _____
   _____
   _____

NAME_____ DATE_____ TRUCK_____

INSTRUCTOR INITIAL_____ GRADE_____ 100 POINTS TOTAL POSSIBLE, EACH LINE 25 POSSIBLE.

STARTER SYSTEM TESTING

INSTRUCTION: USING VEHICLE ASSIGNED, PERFORM COMPLETE STARTER SYSTEM ANALYSIS. FOLLOW ALL DIRECTIONS FROM HANDOUTS AND CLASS DISCUSSION, **WHEN READY TO PERFORM ANY OF THE TESTS THAT REQUIRE CRANKING THE ENGINE OVER HAVE INSTRUCTOR INSPECT ENGINE COMPARTMENT !!!!!!**

ALL TOOLS MUST BE PUT BACK INTO THERE PROPER PLACE, DO NOT LEAVE THEM ON THE BENCHES OR YOUR TOOL BOXES !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! BE CAREFUL NOT TO SHORT POWER TO GROUND

1. Perform battery terminal inspection and load test batteries individually in the pack. Initial Volts batteries -
   1)_____2)_____3)_____4)_____
2. Cold cranking amps for batteries-
   1)_____2)_____3)_____4)_____
3. Batteries pass/fail-
   1)_____2)_____3)_____4)_____
4. load test battery pack- available amps_____
5. Using amperage clamp installed near starter, check starter amperage draw while cranking-AMPS_____
6. Test voltage at starter positive lug from battery while cranking-VOLTS_____
7. Test voltage at battery cable positive lug while cranking-VOLTS_____
8. Check voltage at starter positive lug that feeds voltage directly to starter motor from solenoid-VOLTS_____
9. Was the difference in voltage (volt drop) from test 6 and 8 acceptable? And what was the reading?
   _____
10. Was the difference in voltage (volt drop) from test 6 and 7 acceptable? And what was the reading? _____
11. Test voltage at starter solenoid start positive terminal while cranking-
    _____
12. Give your opinion on the results of this test? if the batteries load test correctly and the voltage during cranking remains within spec. at the starter and the engine was slow turning over, what would you
    conclude_____
    _____
    _____

NAME_____DATE_____

Program Review Data Summary - Diesel Technology AY 2018-19 to AY 2022-23

Market Analysis

Metric	Current MT (2020)	Projected MT (2030)	Annual Projected MT	Current U.S. (2022)	Projected U.S. (2032)	Annual Projected U.S.		Program Notes	Source
Job openings from related occupations	990	1,110	110	291,600	294,100	24,300		See "Occupations" tab	Career OneStop, U.S. Dept. of Labor
Percent change in job openings for related occupations		12%			1%				Career OneStop, U.S. Dept. of Labor
Median hourly wage/annual salary for related occupations	$49,910 annual	$23.99 hourly		$54,360 annual	$26.14 hourly				Career OneStop, U.S. Dept. of Labor

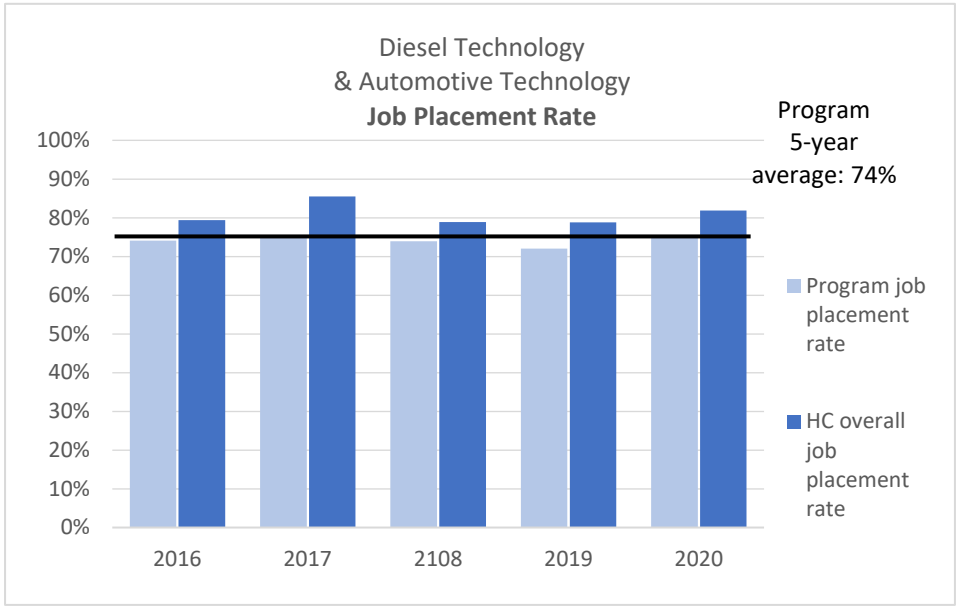
Program Data

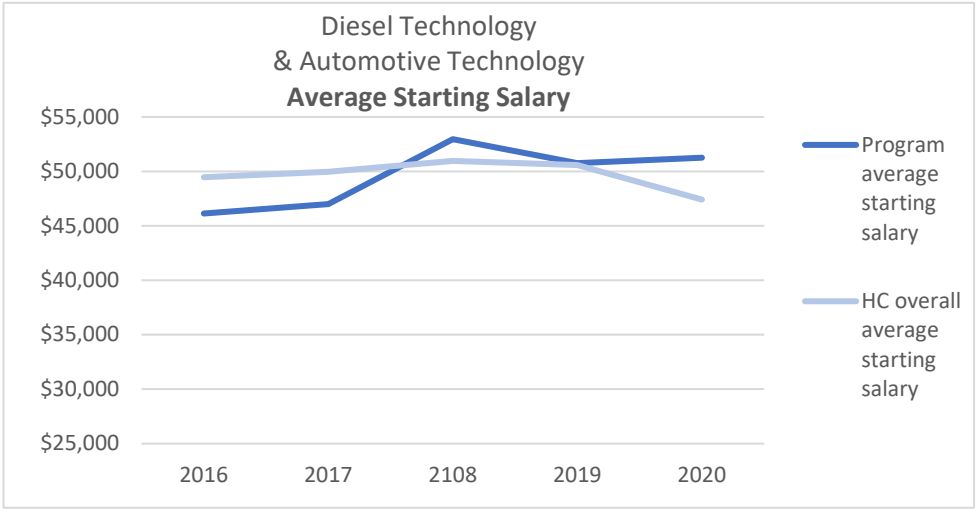
Metric	2016	2017	2108	2019	2020	5-Year Avg	% Change 5 Years	Program Notes	Source
Program job placement rate	74%	75%	74%	72%	75%	74%	1%	Students employed in Montana 1 year after graduation; Includes both auto and diesel*	MUS Student Success Dashboard (Student Success in Workforce tab)
HC overall job placement rate	79%	86%	79%	79%	82%	81%	2%	Students employed in Montana 1 year after graduation	MUS Student Success Dashboard (Student Success in Workforce tab)
Program average starting salary	$46,134	$46,990	$52,961	$50,761	$51,247	$49,619	11%	Average for all program graduates 1 year after graduation; includes both auto and diesel*	MUS Student Success Dashboard (Student Success in Workforce tab)
HC overall average starting salary	$49,454	$49,977	$50,965	$50,580	$47,414	$49,678	-4%	Average for all graduates 1 year after graduation	MUS Student Success Dashboard (Student Success in Workforce tab)

Completed 11/28/2023

*Discipline: Mechanic and repair technologies/technicians (CIP 47)

*Major area: Vehicle Maintenance and Repair Technologies/technicians (CIP 47.06)


Diesel Technology
& Automotive Technology
Job Placement Rate
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2016
2017
2108
2019
2020
Program 5-year average: 74%
Program job placement rate
HC overall job placement rate


Diesel Technology
& Automotive Technology
Average Starting Salary
$55,000
$50,000
$45,000
$40,000
$35,000
$30,000
$25,000
2016
2017
2108
2019
2020
Program average starting salary
HC overall average starting salary

Program Review Data Summary - Diesel Technology AY 2018-19 to AY 2022-23

Enrollment

Program Capacity	AY 1819	AY 1920	AY 2021	AY 2122	AY 2223	5-Yr Avg	5-Yr Trd	Notes	Source
Diesel Technology AAS	30	30	30	30	30	30	0%		Institutional Research
Diesel Technology CAS	15	15	15	15	15	15	0%		Institutional Research
Diesel Technology Overall	30	30	30	30	30	30	0%		Institutional Research
Helena College									Institutional Research

Unduplicated Annual Enrollment	AY 1819	AY 1920	AY 2021	AY 2122	AY 2223	5-Yr Avg	5-Yr Trd	Notes	Source
Diesel Technology AAS	38	33	27	20	12	26	-68%	Headcount	Institutional Research
Diesel Technology CAS	0	1	0	3	3	1		Headcount	Institutional Research
Diesel Technology Overall	38	34	27	23	15	27	-61%	Headcount	Institutional Research
Helena College	1,906	1,797	1,730	1,845	1,815	1819	-5%	Headcount	Institutional Research

Percent Program Capacity	AY 1819	AY 1920	AY 2021	AY 2122	AY 2223	5-Yr Avg	5-Yr Trd	Notes	Source
Diesel Technology AAS	127%	110%	90%	67%	40%	87%	-87%		Institutional Research
Diesel Technology CAS	0%	7%	0%	20%	20%	9%	20%		Institutional Research
Diesel Technology Overall	127%	113%	90%	77%	50%	91%	-77%		Institutional Research
Helena College Average									Institutional Research

Average Annual FTE	AY 1819	AY 1920	AY 2021	AY 2122	AY 2223	5-Yr Avg	5-Yr Trd	Notes	Source
Diesel Technology AAS	43	36	27	20	11	27	-74%	(summer FTE + fall FTE + Spring FTE) /2	Institutional Research
Diesel Technology CAS	0	0	0	2	2	1		FTE is credits/15	Institutional Research
Diesel Technology Overall	43	36	27	22	13	28	-70%		Institutional Research
Helena College	805	747	658	659	674	709	-16%		Institutional Research

Retention									
Entering cohort	**Fall 18**	**Fall 19**	**Fall 20**	**Fall 21**	**Fall 22**	**5-Yr Avg**	**5-Yr Trd**	**Notes**	**Source**
Diesel Technology AAS	16	15	10	8	4	11	-75%	New, readmit, transfer	Institutional Research
Diesel Technology CAS	0	0	0	3	1	1		New, readmit, transfer	Institutional Research
Diesel Technology Overall	16	15	10	11	5	11	-69%	New, readmit, transfer	Institutional Research
Helena College	342	365	229	315	295	309	-14%	New, readmit, transfer	Institutional Research

Retention Rate	**Fall 18**	**Fall 19**	**Fall 20**	**Fall 21**	**Fall 22**	**5-Yr Avg**	**5-Yr Trd**	**Notes**	**Source**
Diesel Technology AAS	94%	87%	90%	38%	100%	82%	6%	Fall to fall, retained in credential	Institutional Research
Diesel Technology CAS				33%	100%	67%		Fall to spring, retained in credential	Institutional Research
Diesel Technology Overall	94%	87%	90%	36%	100%	81%	6%	Fall to fall, retained in program or completed	Institutional Research
Helena College	56%	55%	54%	51%	58%	55%	2%	Fall to fall, retained at HC	Institutional Research

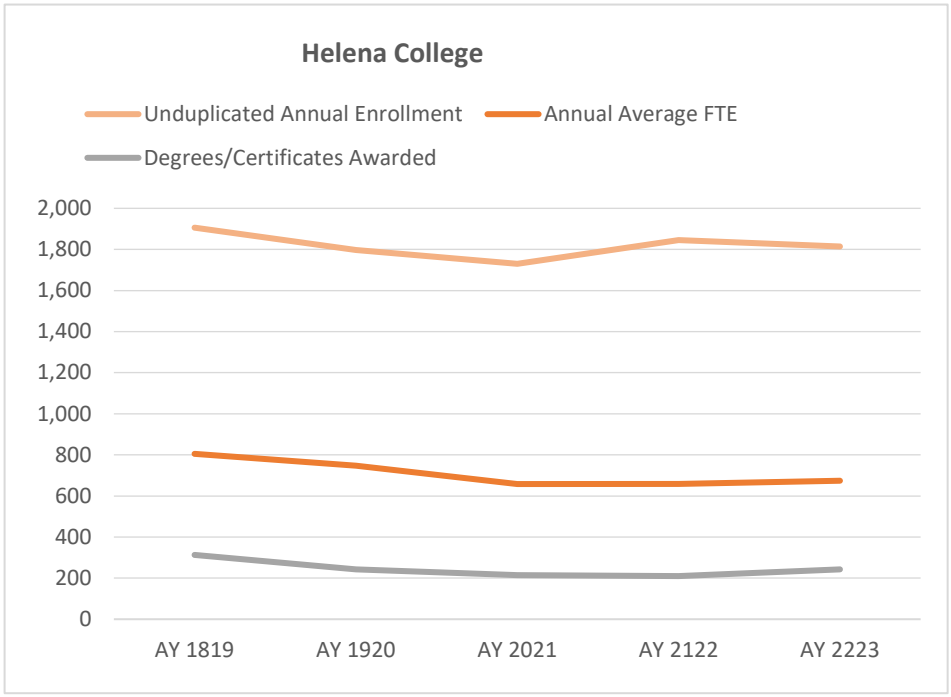
Course Completion Rate									
	AY 1819	**AY 1920**	**AY 2021**	**AY 2122**	**AY 2223**	**5-Yr Avg**	**5-Yr Trd**	**Notes**	**Source**
Diesel Technology 1st Year	95%	87%	97%	90%	100%	94%	5%	All courses required for first year credential (All DST), excluding gen eds	Institutional Research
Diesel Technology 2nd Year	94%	93%	87%	100%	100%	95%	6%	All courses required for credential, excluding gen eds	Institutional Research
Diesel Technology Overall	95%	90%	92%	96%	100%	95%	5%	All coures requied for either credential, excluding gen eds	Institutional Research
Diesel Technology Required Gen Eds	73%	60%	67%	63%	49%	62%	-24%	All gen ed courses required for either credential	Institutional Research
Helena College	85%	87%	86%	81%	86%	85%	1%		Institutional Research

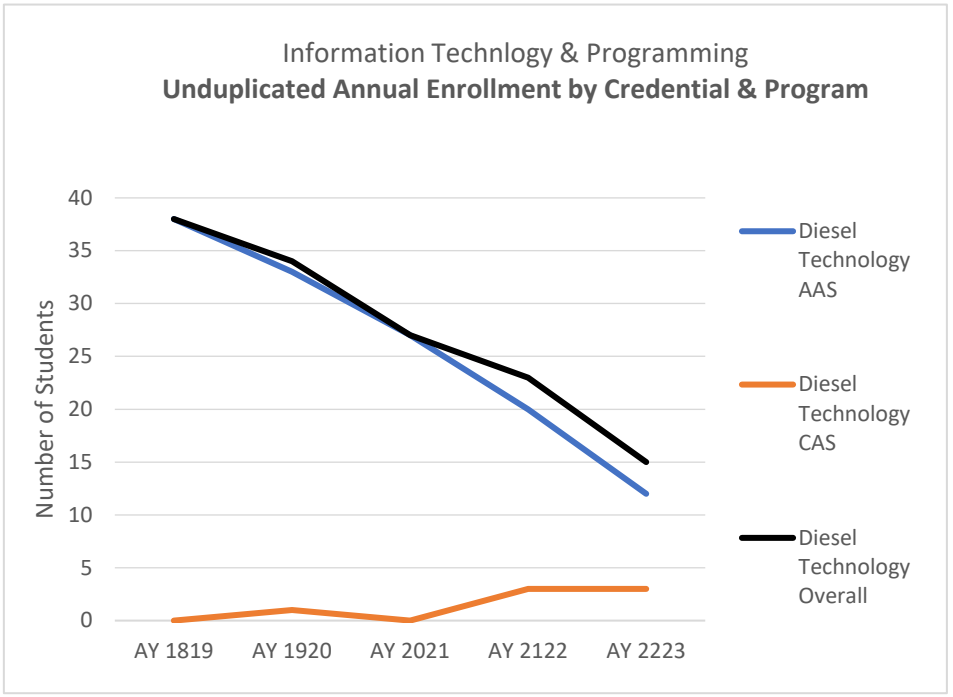
Completions									
Degrees/Certificates Awarded	**AY 1819**	**AY 1920**	**AY 2021**	**AY 2122**	**AY 2223**	**5-Yr Avg**	**5-Yr Trd**	**Notes**	**Source**
Diesel Technology AAS	11	13	7	10	7	10	-36%		Institutional Research
Diesel Technology CAS	3	0	0	4	1	2	-67%		Institutional Research
Diesel Technology Overall	14	13	7	14	8	11	-43%		Institutional Research
Helena College	313	243	215	210	242	245	-23%		Institutional Research

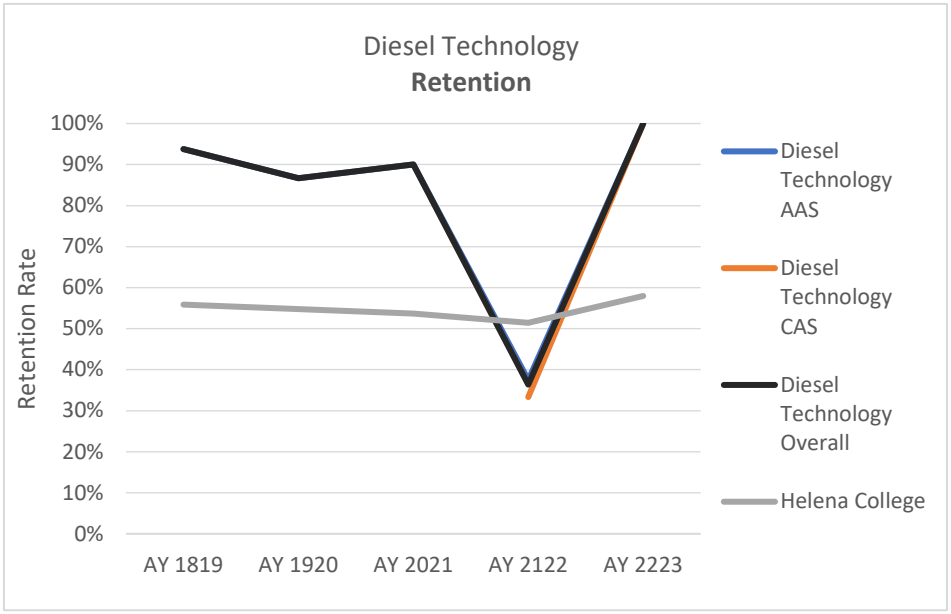
Degree Production Rate	**AY 1819**	**AY 1920**	**AY 2021**	**AY 2122**	**AY 2223**	**5-Yr Avg**	**5-Yr Trd**	**Notes**	**Source**
Diesel Technology AAS	25.6	36.1	25.9	50.0	63.6	40.3	149%		Institutional Research
Diesel Technology CAS				266.7	50.0	158.3			Institutional Research
Diesel Technology Overall	32.6	36.1	25.5	63.6	61.5	43.9	89%		Institutional Research
Helena College	38.9	32.5	32.7	31.9	35.9	34.4	-8%	Number of degrees awarded (duplicated) for 100 AAFTE	Institutional Research

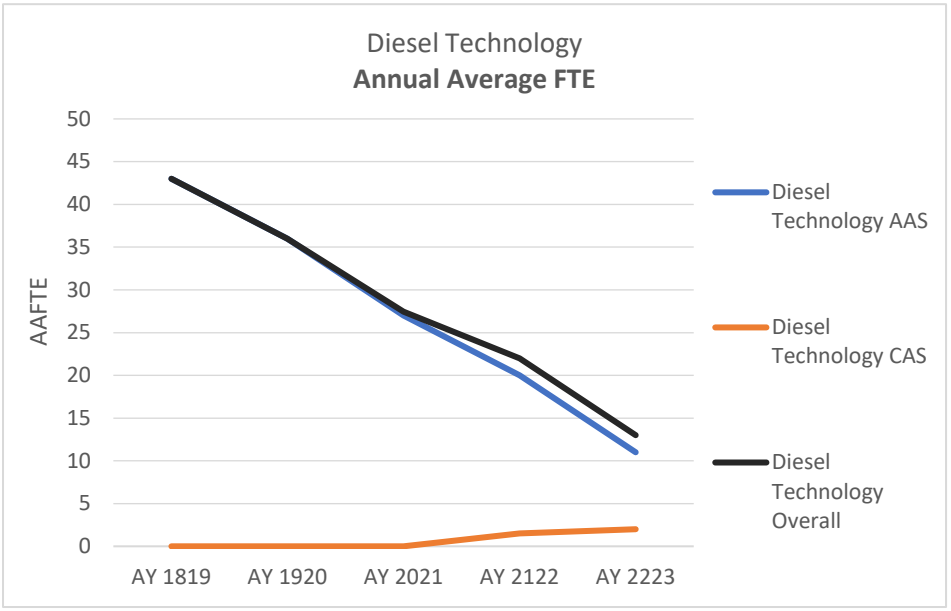
150% Graduation Rate	**Fall 2016**	**Fall 2017**	**Fall 2018**	**Fall 2019**	**Fall 2020**	**5-Yr Avg**	**5-Yr Trd**	**Notes**	**Source**
Diesel Technology Overall	64%	58%	63%	33%	90%	62%	26%	Entering students in program graduating within 3 years	Institutional Research
Helena College Overall	28%	32%	35%	33%	32%	32%	4%		Institutional Research

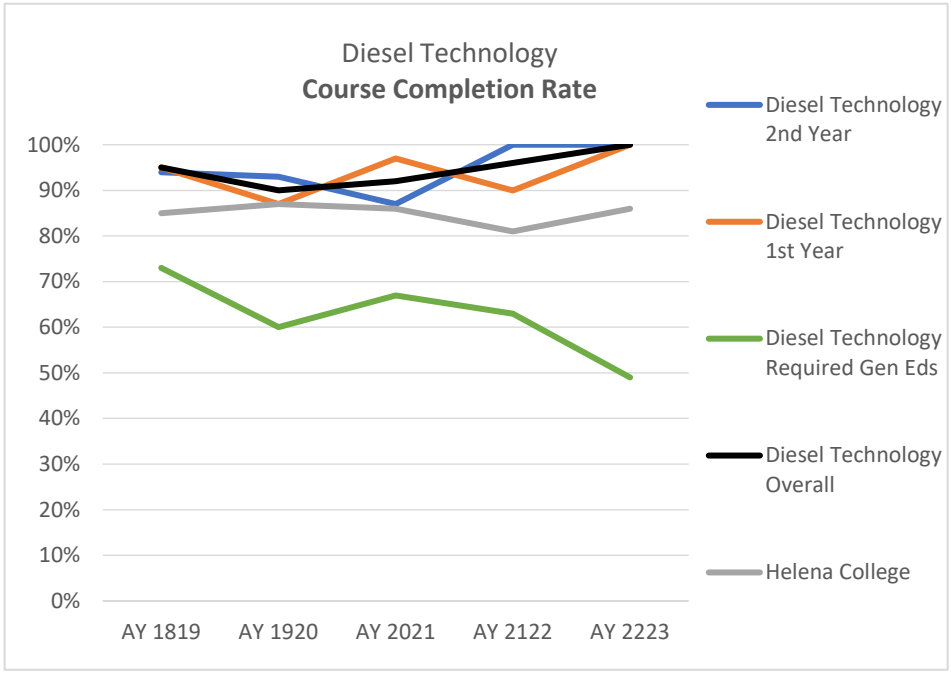
Completed 11/29/2023

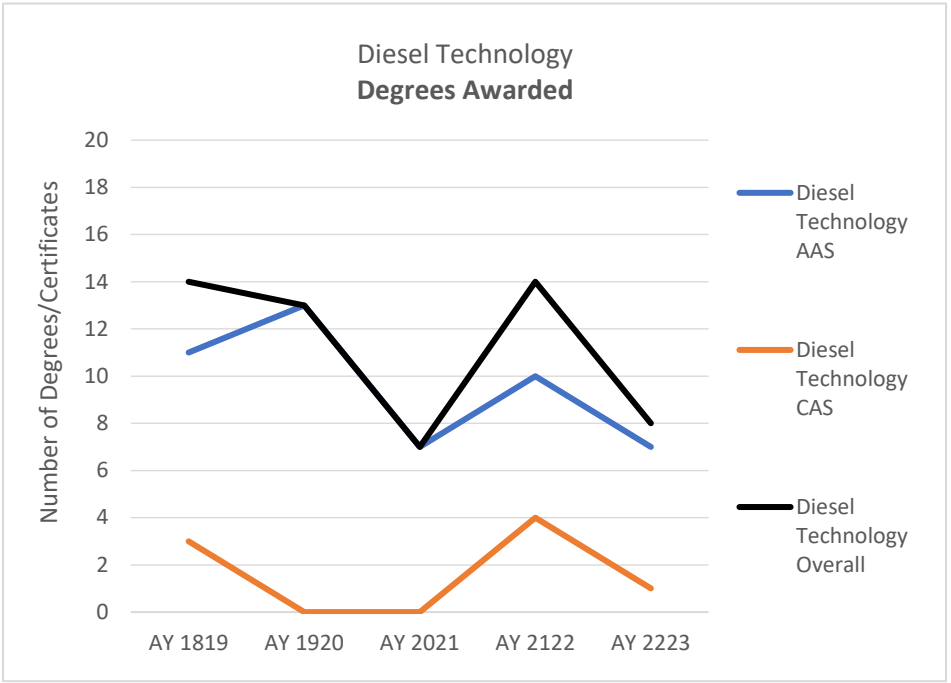

Helena College
Unduplicated Annual Enrollment
Annual Average FTE
Degrees/Certificates Awarded
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
AY 1819
AY 1920
AY 2021
AY 2122
AY 2223

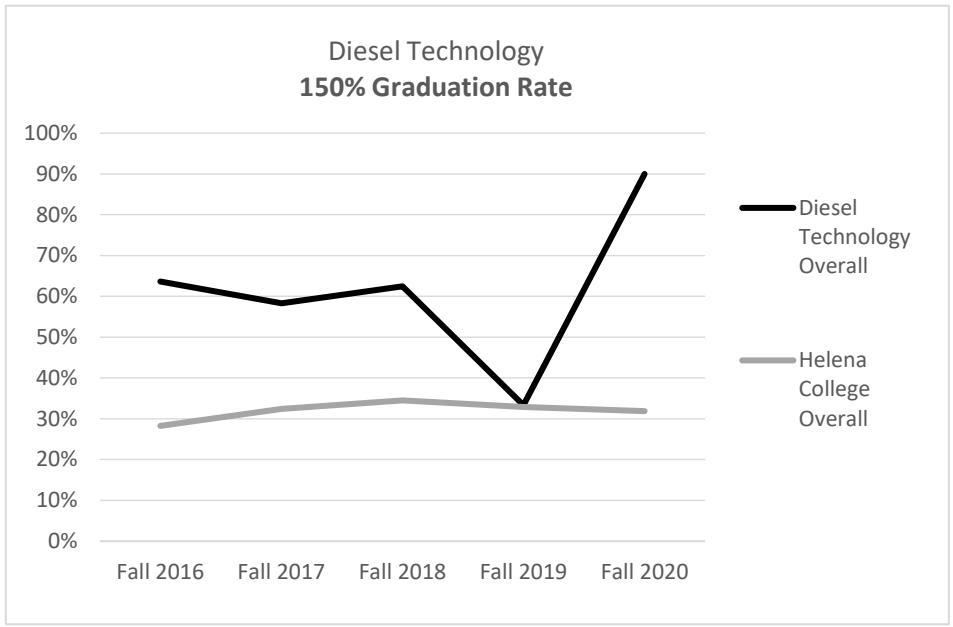

Information Technlogy & Programming
Unduplicated Annual Enrollment by Credential & Program
Number of Students
40
35
30
25
20
15
10
5
0
AY 1819
AY 1920
AY 2021
AY 2122
AY 2223
Diesel Technology AAS
Diesel Technology CAS
Diesel Technology Overall

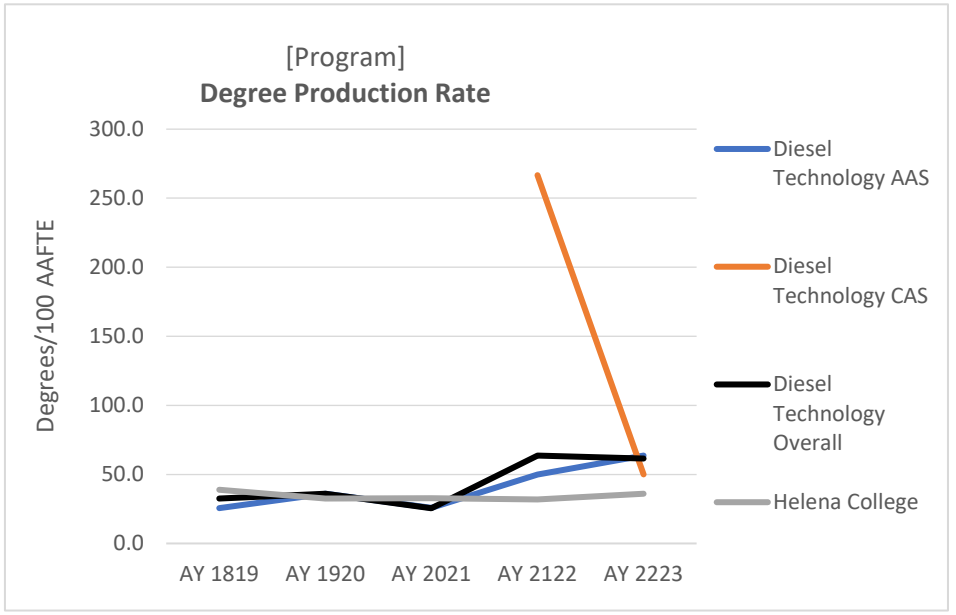

Diesel Technology
Retention
Retention Rate
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
AY 1819
AY 1920
AY 2021
AY 2122
AY 2223
Diesel Technology AAS
Diesel Technology CAS
Diesel Technology Overall
Helena College


Diesel Technology
Annual Average FTE
AAFTE
50
45
40
35
30
25
20
15
10
5
0
AY 1819
AY 1920
AY 2021
AY 2122
AY 2223
Diesel Technology AAS
Diesel Technology CAS
Diesel Technology Overall


Diesel Technology
Course Completion Rate
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
AY 1819
AY 1920
AY 2021
AY 2122
AY 2223
Diesel Technology 2nd Year
Diesel Technology 1st Year
Diesel Technology Required Gen Eds
Diesel Technology Overall
Helena College


Diesel Technology
Degrees Awarded
Number of Degrees/Certificates
20
18
16
14
12
10
8
6
4
2
0
AY 1819
AY 1920
AY 2021
AY 2122
AY 2223
Diesel Technology AAS
Diesel Technology CAS
Diesel Technology Overall


Diesel Technology
150% Graduation Rate
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Fall 2016
Fall 2017
Fall 2018
Fall 2019
Fall 2020
Diesel Technology Overall
Helena College Overall


[Program]
Degree Production Rate
Degrees/100 AAFTE
300.0
250.0
200.0
150.0
100.0
50.0
0.0
AY 1819
AY 1920
AY 2021
AY 2122
AY 2223
Diesel Technology AAS
Diesel Technology CAS
Diesel Technology Overall
Helena College

Program Review Data Summary - Diesel Technology					AY 2018-19 to AY 2022-23	
Definitions						
Term	**Abbreviation**	**Use**	**Defintion**	**Source**	**Date added/ updated**	**Program Data Summary**
150% graduation rate		Standard	Percentage of students graduating within 150% of normal time to completion for the degree.		10/19/2022	x
Academic Year	**AY**	Standard	Summer, fall, and spring terms (e.g. AY 2020-21 includes summer 2020, fall 2020, and spring 2021)	MUS Enrollment Reporting Procedures		x
Annual average full-time equivalent	**AAFFTE**	Standard	Calculated in the following way: (Fall Official FTE + Summer Official FTE + Spring Official FTE)/2. See also **Full-time equivalent.**	MUS Enrollment Reporting Procedures	3/17/2022	x
Calendar Year	**CY**	Standard	One year from January to December		10/19/2022	x
Cohort		Standard/IPEDS	A specific group of students established for tracking purposes.	IPEDS Glossary	3/17/2022	x
Course completion rate		Standard	Percent of students earning a passing grade in a course. May also be counted as credit hours. Does not include incompletes, audits, or missing grades. See also **Pass**.		3/17/2022	x
Credential course completion rate		Standard	Percent of students earning a passing grade in a course required for a credential. Incompletes, audits, and missing grades are not included.		10/19/2022	x
Degree production per 100 AAFTE		Standard	Number of degrees awarded in an academic year divided by the AAFTE for the same year, multiplied by 100. Allows for longitudunial comparison of degrees awarded while taking into account changes in enrollment. Also called "degree production rate"		3/17/2022	x
Degree production rate		Standard	Number of degrees awarded in an academic year divided by the AAFTE for the same year, multiplied by 100. Allows for longitudunial comparison of degrees awarded while taking into account changes in enrollment. Also called "degree production per 100 AAFTE."		10/19/2022	x

Entering cohort		HC	All new first-time, transfer in, and readmit/returning students, usually in a fall semester.		12/8/2023	x
Expenditure/Completion		HC	Program expenses (personnel, operating, and adjunct salaries) divided by number of degrees awarded for the academic year		10/19/2022	x
Expenditure/FTE		HC	Program expenses (personnel, operating, and adjunct salaries) divided by FTE for the academic year		10/19/2022	x
Fiscal Year	**FY**	Standard	One year as defined for financial reporting, from July 1 to June 3		10/19/2022	x
Full-time equivalent	**FTE**	Standard	Calculated for a term by dividing total credit hours earned at the end of term (**EOT**) by 15.	MUS Enrollment Reporting Procedures	3/17/2022	x
Headcount		Standard	Count of students. See also **Unduplicated or duplicated.**		12/8/2023	x
Job placement rate		MUS, HC	Percent of graduates employed in Montana in the first year after graduation	Montana University System Student Success Dashboard	12/8/2023	x
Pass		Standard	Grade of Pass or minimum letter grade of C-		3/17/2022	x
Percent program capacity		Standard	Calculation = (Unduplicated Annual Enrollment) / (**Program Capacity**)		10/19/2022	x
Program capacity		Standard	Maximum number of students a program can accommodate in one academic year (first year maximum + second year maximum)	Program records	10/19/2022	x
Retention		Standard	Precentage of fall entering cohort returning for either the subsequent spring or subsequent fall semseter. May also be percentage of spring entering cohort returning for subsequent fall or spring semesters (less common)		12/8/2023	x
Unduplicated		Standard	Each student is counted only once (count of unique students)		3/17/2022	x