Montana University System

PROGRAM REVIEW

Institution: **MSU-Northern**

Program Years: **2020-2021**

List of the programs reviewed:

Education Programs

Undergraduate:

1. Elementary Education K-8 (B53)
2. Secondary Education:
    - Broadfield Social Science 5-12 (B77)
    - English 5-12 (B75)
    - General Science 5-12 (B68)
    - Health & Physical Education K-12 (B54)
    - Industrial Technology 5-12
3. Art Education K-12 Minor (M78)
4. Reading Specialist K-12 Minor (M56)
5. Traffic Education K-12 Minor (M57)

Graduate:

1. Counselor Education, M.Ed.
2. Instruction & Learning M.S.

Automotive Programs

1. Automotive Technology B.S.
2. Automotive Technology Minor
3. Automotive Technology A.A.S.
4. Automotive Technology A.A.S. Fast Track

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

MSU Northern recommends continuing all the programs under review without substantial alteration.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

See rationale in individual program review documents attached.

Montana University System

PROGRAM REVIEW

Institution: **Montana State University- Northern**

Program Years: **2020-2021**

List of the programs reviewed:

1. **Elementary Education K-8 (B53)**

2. **Secondary Education:**
   Broadfield Social Science 5-12 (B77)
   English 5-12 (B75)
   General Science 5-12 (B68)
   Health & Physical Education K-12 (B54)
   Industrial Technology 5-12 (B37)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The decision is to support and maintain both Elementary and Secondary Education Preparation Programs:

1. Elementary Education. Based upon the growing demand for elementary education teachers, especially in rural school districts and the high placement rates for completers, the future of the program indicates continued potential for growth.

2. Secondary Education. Based on growing demand for secondary education teachers, especially in rural school districts, 100 percent of the graduates are offered teaching positions, Due to the successful employment of graduates and continued demand for the program, the potential of increasing the numbers of majors is positive.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

1. **Elementary Education (B53)**

The Elementary Education K-8 (B53) enrollment has increased substantially since 2016-17 due, in part, to the partnerships with Fort Peck Community College and Aaniiih Nakoda College in support of their Indian Education Professional Development (IEPD) grants and the efforts to re-establish the Education program and collaboration with Great Falls College-MSU. Based upon the increases in enrollment and the partnerships with the school districts along the Hi-Line and in Great Falls, the program has rebounded.

The Elementary Education program had undergone an accreditation review with the Office of Public Instruction in 2017 and is fully accredited through 2024. The State Accreditation Team commended the Elementary Education program on its integration of Indian Education for All across the program. In addition, recognized the "support for the EPP overall was evident in the partners who came to offer expertise by making themselves available for interviews."

The pass rate for program completers on the Praxis II Elementary Education Content Knowledge (5018), at their first attempt, exceeds the 80 percent target set by the Montana State Board of Public Education for university recommendations for licensure.

Elementary Education	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Academic Year Enrollment	99	84	56	34	41	104	130	78
Graduates	31	15	18	14	8	9	32	18
Majors – Fall Admission to Level 1	51	43	32	19	23	55	67	41

The 2018-2028 Montana Labor Market Information (https://lmi.mt.gov/Home/DS-Results-PROJ) indicates that the demand for Elementary teachers is projected to be at 3.4 percent with total annual openings available to be 296 positions; middle school teachers have a projected growth rate of 3.5 percent with 127 annual positions open. The Northern program prepare teachers for elementary and middle school (K – 8). This current year, all 32 program completers were offered positions in our service region, north-central Montana. Based on growing enrollment numbers, employment of graduates and continued demand for the program, the potential of ongoing success is positive.

1. Secondary Education

In 2012, secondary programs were placed on moratorium. In 2014, Provost William Rugg and Chancellor Greg Kegel began a process to reinstate the secondary programs to active status. At the Board of Regents meeting at MSU-Billings on September 17 and 18, 2014, Dr. Rugg proposed the resumption of the secondary programs in the following sequence: 1) for the 2014-2015 academic year, both Health and Physical Education and General Science; 2) for the 2015-2016 academic year, returned both Broadfield Social Science and English; and, 3) in the 2016-2017 academic year, Industrial Technology was reinstated.

All secondary initial licensure programs were approved by the Montana State Board of Education at the last accreditation visit, spring 2017. The accreditation team called out the success of MSU Northern in rebounding from the moratorium of 2013 and remarked on the importance of maintaining the secondary education programs,

> (T)he team acknowledges the difficulty and successful journey that the initial (licensure) programs have undertaken in the recent past. We celebrate with you the return of the secondary majors, including Industrial Trades and Technology, the only such program in the State of Montana. The support for the EPP (Education Preparation Program) overall was evident in the partners who came

to offer expertise in making themselves available for the interviews. (Dr. Stevie Schmitz, Team Chair, State Exit Program Report, April 9-11, 2017)

Academic Year Enrollment								
Program/academic year	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Broadfield Social Science 5-12 (B77)	7	3	9	8	6	5	3	6
English 5-12 (B75)	6	2	0	0	2	3	6	3
General Science 5-12 (B68)	1	0	0	2	2	1	4	1.4
Health & Physical Education K-12 (B54)	15	9	4	3	2	3	8	6
Industrial Technology 5-12 (B37	12	2	0	0	0	2	0	2
Graduates								
Program/academic year	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Broadfield Social Science 5-12 (B77)	2	2	1	0	1	1	6	1.9
English 5-12 (B75)	4	0	0	0	0	0	0	< 1
General Science 5-12 (B68)	1	0	0	0	1	0	0	< 1
Health & Physical Education K-12 (B54)	4	4	1	2	1	0	0	1.7
Industrial Technology 5-12 (B37	1	0	0	0	0	0	0	< 1

Majors – Fall Admission to Level 1								
Program/academic year	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Broadfield Social Science 5-12 (B77)	4	2	4	4	3	3	2	3
English 5-12 (B75)	5	1	0	0	1	2	3	2
General Science 5-12 (B68)	1	0	0	1	1	1	2	< 1

Health & Physical Education K-12 (B54)	9	5	2	1	2	2	3	3.4
Industrial Technology 5-12 (B37	2	0	0	0	1	1	0	< 1

It is important to note that all secondary education programs, except Health & Physical Education K-12, are taught by faculty in the college who are responsible for General Education. Professional secondary education methods' courses, requiring 5-12 teaching experiences, are taught by adjunct faculty who are actively teaching for our public and private school partners.

The 2018-2028 Montana Labor Market Information (https://lmi.mt.gov/Home/DS-Results-PROJ) indicates that the demand for secondary teachers (all content) is projected to be at 3.5 percent with 247 positions available annually. For Career and Technical Education (CTE) programs, the growth rate is 2.6 percent with 11 openings annually each year. The Industrial Technology Education program (CTE) is the only Montana State Board of Public Education approved program in the state. The Northern education programs prepare teachers for secondary school teachers, including middle school, for grades 5 through 12.

Based on growing demand for secondary education teachers, especially in rural school districts, 100 percent of the graduates are offered teaching positions. Due to the successful employment of graduates and continued demand for secondary education teachers across the state, the potential for increasing the number of majors and completers is positive.

Montana University System

PROGRAM REVIEW

Institution: **Montana State University - Northern**

Program Years: **2020-2021**

List of the programs reviewed:

1. Art Education K-12 Minor (M78)
2. Reading Specialist K-12 Minor (M56)
3. Traffic Education K-12 Minor (M57)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The decision is to support and maintain the three K-12 minors in the Education Preparation Program:

Art Education (M78), Reading Specialists (M56) and Traffic Education (M57)

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

1. **Art Education K-12 Minor (M78)**

The Art Education K-12 minor enrollment has increased substantially in 2020-21 with the partnerships with Fort Peck Community College and Aaniiih Nakoda College in support of their Indian Education Professional Development (IEPD) grants. In addition, a curriculum articulation agreement with Great Falls College-MSU for Education K-8 now includes the Art Education K-12 Minor. Based on growing enrollment numbers, attractiveness of adding a K-12 teaching endorsement to the Elementary K-8 teaching license increases the continued success of this minor.

The minor had undergone an accreditation review with the Office of Public Instruction in 2017 and, along with initial programs, is fully accredited through 2024. The Art and Education faculty during spring semester 2021 completed an audit of the art minor's content to the Praxis II Art Content Knowledge (5134). Based upon findings, programmatic changes to the preparation of candidates across the content requirements will be submitted to the college fall semester 2021.

Art Education K-12 Minor	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Academic Year Enrollment	17	13	12	9	12	11	21	14
Graduates	2	3	5	2	1	4	5	3

Based on growing enrollment numbers and continued demand for this endorsable K-12 minor, the potential of ongoing success is positive.

2. Reading Specialist K-12 Minor (M56)

Within the Elementary Education program, the Reading Specialist K12 Minor is the most sought-after endorsable minor for teacher education candidates.

The Reading minor had undergone an accreditation review with the Office of Public Instruction in 2017 and, along with initial programs, is fully accredited through 2024. The Montana State Board of Education cited a commendation for the integration of Indian Education for All into the reading minor's course of study as "exemplary in application" in the 2017 state accreditation visit.

Reading Specialist K-12 Minor	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Academic Year Enrollment	73	60	47	28	32	62	78	54
Graduates	29	12	14	12	5	5	24	14

Based on increasing enrollment numbers and graduates, the demand from K-12 schools for Reading Specialists, and continued popularity by candidates, the stability of the minor and its potential of ongoing success are positive.

3. Traffic Education K-12 Minor (M57)

The minor had undergone an accreditation review with the Office of Public Instruction (OPI) in 2016-17; the minor (leading to a teaching endorsement) is fully accredited through 2024. In practice, this minor is predominantly subscribed by post-bachelor level educators who are seeking this endorsement added to their educator's license. There are no undergraduate Education candidates seeking this minor. MSU-Northern is the only institution in the state of Montana accredited by the Office of Public Instruction to provide the instruction leading to licensure for Traffic Education.

The Traffic Education K-12 minor's core courses are offered during the summer semesters, delivered face-to-face, hybrid and online. Those candidates completing the first 8 semester credit hours over one summer receive their first approval (provisional) from the OPI to teach driver's education courses at their respective high schools/school districts. They are required to complete 4 credits of the TED coursework within each renewal cycle for their educator's license in order to remain provisionally approved as instructors; they have 15 years to complete the minor and receive the university recommendation for the endorsement. After the first 8 initial credits (hybrid with face to face during the summer), a minimum of 12 additional credits are offered online to complete the 20 semester-credit endorsement. The table below illustrates the summer enrollment only and the number of majors currently seeking this endorsement.

Traffic Education K-12 Minor	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Enrollment	41	82	66	114	113	91	63	80.5
Majors	30	51	45	36	42	36	40	40

The Office of Continuing Education provides the administrative support for the delivery of the Traffic Education minor/endorsement. The EPP contracts with certified, master educators in traffic education to teach the summer hybrid/face-to-face courses. Other adjunct faculty with appropriate credentials teach the 12 credits of additional coursework required online. Since the face-to-face portion requires practicum in partnership with the Havre Public School District, the candidates are on campus for two consecutive weeks of intensive class and field experiences.

Based on stability of major counts, the demand from K-12 schools districts for traffic education instructors, and continued popularity by candidates, the stability of the minor and its potential of ongoing success are positive.

Montana University System

PROGRAM REVIEW

Institution: **Montana State University - Northern**

Program Years: **2020-2021**

List of the programs reviewed:

1. Counselor Education, M.Ed. (G50)
2. Instruction & Learning. M.S. (G56)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The decision is to support and maintain both graduate programs:

1. **Counselor Education**. Based upon the growing demand for counselors (mental health and school counselors) especially in rural school districts, and the high placement rates for Northern's completers, the future of the program indicates continued potential for growth.

2. **Instruction & Learning.** Based on growing enrollment numbers, graduates' advancements in employment, and continued demand for the program, the potential for ongoing success and stability of this graduate program is positive.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

1. **Counselor Education, M.Ed. (G50)**

The Montana Office of Public Instruction fully accredited the Counselor Education program in Spring 2017. Commendations within the exit report included, "School Counseling—Current students and program completers shared accolades about the program and the faculty and expressed confidence in feeling well-prepared to serve as school counselors in Montana accredited P-12 schools."

Program Growth Opportunities: The current market demand for the mental health counselors statewide shows a growth rate of 17.6 percent for counselors (annual projections are 90 positions) and with 7.3 percent specifically for school counselors (annual projections are 90 positions) for 2019-2029 according to the Research Analysis Bureau of the Montana Department of Labor and Industry report (https://lmi.mt.gov/Home/DS-Results-PROJ). Career projections for the counseling field have trended upwards each year for the past decade.

The following table presents Enrollment and Graduation data, Summer 2014 through Spring 2021, for Counselor Education. The Counselor Education admits cohorts in the fall; the program delivers the program over summer, fall and spring semesters. Enrollment data include summers in the table below.

Counselor Education	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Enrollment	146	101	77	105	100	108	96	104.7
Graduates	14	19	10	12	7	9	5	10.9
Majors	38	26	20	22	23	31	20	25.7

2. Masters of Science in Education, Instruction, and Learning (G56)

The MS in Education has been able to grow and maintain steady enrollment since the last review in 2013 14. The Instruction, and Learning program is one of two graduate programs at MSU-Northern. It remains a viable and robust program for professionals (e.g., K-16 educators, governmental/non-governmental personnel, business and industry) interested in improving their instructional skills and application of research based effective practices in learning in their various professional environments. The program of study emphasizes instructional improvement as a learning outcome and as a priority within the program. The program uses a cohort model; six consecutive semesters (fall, spring, summer) with six graduate credits delivered in a hybrid model each semester. The program is aligned with the MSU-N mission to provide quality graduate programs that meet rural underserved and culturally diverse populations.

The Spring 2017 Montana Office of Public Instruction reviewed the program and included the following commendation in the exit report: "Instruction and Learning—Although this online graduate program does not lead to licensure or endorsement, the site visiting team acknowledges the work and preparation of the graduate program for its relevance to various careers. Current members of the program acknowledged that the structure of the course and the career diversity of the students helped extend perspectives to learn from each other. We enjoyed learning more about the good work that is being done through the Instruction and Learning graduate program."

The Instruction and Learning master's degree benefits teachers financially. Educators who earn a master's degree are able to advance within the school district advancement in lanes for the placement schedule for salaries; at some school districts, this advancement is thousands of dollars. For example, a licensed teacher with 2 years of experience and a master's degree has a beginning salary of $44,795—without the master's, the salary is $39,425 (Browning Public Schools, Master Contract, Certified Salary Schedule 2018-2019).

The data below includes summer, fall, spring enrollments for each year.

MS in Education	14-15	15-16	16-17	17-18	18-19	19-20	20-21	AVG
Enrollment	19	64	53	46	58	72	63	56.2
Graduates	12	11	7	16	7	9	--	10.3
Majors	3	23	19	15	21	27	16	19.9

Montana University System

PROGRAM REVIEW

Institution: **Montana State University - Northern**

Program Years: **2020-2021**

List of the programs reviewed:

Bachelor of Science - Automotive Technology; Minor, Automotive Technology; Associate of Applied Science - Automotive Technology; Associate of Applied Science - Automotive Technology Fast Track

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Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The MSUN administration Automotive Technology faculty at MSU-Northern believes the program will continue to be vital to the College of Technical Sciences and MSU-Northern. It offers student's placement in lifelong careers that positively impact graduates. The program supplies specialized technicians (employees) with a formal education, excellent work ethic, life-long learning skills, and the ability to adapt to change to an industry where these technicians are in short supply.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

Automotive Technology

Degrees

- Bachelor of Science, Automotive Technology
- Associate of Applied Science, Automotive Technology
- Associate of Applied Science, Automotive Technology Fast Track
- Minor, Automotive Technology

Faculty

- Wane Boysun, Professor, Automotive, and Ag-Mechanics Technology
- Joshua Meyer, Associate Professor, Automotive and Diesel Technology
- Kevin Holzworth, Assistant Professor, Automotive and Diesel Technology
- Andy Bradshaw, Assistant Professor, Automotive and Diesel Technology

OVERVIEW

Montana State University – Northern' s automotive program offers a two year Associate of Applied Science degree, and four year Bachelor of Science degree. The Associate of Science degree is ASE (Automotive Service Excellence) Education Foundation MAST (Master Automobile Service Technology) accredited. This is a nationally recognized accreditation for technical programs that aligns coursework with industry based outcomes. The MAST level is the highest standard that a program can attain. In addition, the automotive program is partnered with the Ford MLR (Maintenance and Light Repair) and Subaru-U (University) industry sponsored programs to allow enrolled students to achieve factory training certifications from Ford Motor Company as well as Subaru. Our program has an active industry advisory board that meets twice a year and suggests improvements as they relate to the industry and our students. The curriculum incorporates the ASE (Automotive Service Excellence) Certification areas as the basis of course content. Tasks and proficiency requirements are those recommended by ASE Education Foundation. The department prepares students to enter the workplace and perform their assignments to the expectation of the employer. Students have access to a campus Career Center to help students find job placement within the industry, and currently enjoy 100% placement. Students learn practical skills through lectures, group learning activities, individual projects, and hands-on experience working on manufacturer donated vehicles and customer vehicles. Graduates can enter the automotive workforce as technicians, managers, supervisors, and management trainees in independent shops, dealerships, and at the corporate level.

The automotive program has four faculty members teaching automotive curriculum as well as courses shared by automotive and diesel students. The faculty stay current in their respective areas through individual study, membership in professional associations, attending seminars and by maintaining ASE (Automotive Service Excellence) certifications. The automotive department utilizes four industrial labs with space for 20 vehicles, one storage facility, lecture/lab facilities containing modern trainers and equipment such as four above ground hoists, two hunter 4-wheel alignment racks, one transmission dynamometers and one chassis dynamometer. The main automotive building has dedicated storage space for specialized tools and equipment. We have access to several lecture classrooms contained modernized audio/visual equipment. In addition, the Applied Technology Center has a dedicated lecture/lab classroom equipped with modernized audio/visual equipment and component storage. Students have access to one resource area that is equipped with computers containing online technical training and electronic diagnostic manuals.

QUALITY

Professional or association standards, or other external measures of quality.

The automotive program at MSU-Northern is accredited by ASE Education Foundation which was formally known as NATEF (National Association of Technical Education Facilities). NATEF was originally founded in 1983 as an independent, non-profit organization. The mission of NATEF was to improve the quality of automotive technician training programs nationwide at secondary and post-secondary, public and proprietary schools. To accomplish this mission NATEF examines the structure, resources and quality of training programs and evaluates them against standards established by the industry. These standards reflect the skills that students must master to be successful in the industry. The accreditation process is reviewed every five years, with a mid-point review every 2 ½ years, to insure programs are adhering to quality standards as derived by NATEF's industry and educational partners. NATEF restructured into a nonprofit on January 1, 2018 and renamed the organization to ASE Education Foundation. MSUN's automotive program just finished the five year review during Fall semester 2019, and has been

recommended to continue ASE Education Foundation accreditation status. Depending on the rigor of the curriculum, there are three tiers of accreditation that can be attained. Northern' s automotive program qualified for the top tier and is MAST (Master Automobile Service Technology) accredited.

In addition, MSUN's automotive program is partnered with Ford Motor Company to deliver Ford Maintenance and Light Repair (MLR) certification to students enrolled in the program. Institutions delivering MLR training must meet a variety of standards including instructor training certifications from Ford Motor Company to insure students are being adequately trained. In 2017 MSUN's automotive program also partnered with Subaru to offer Subaru-U (University). This program allows students to enroll with Subaru while concurrently taking automotive courses at Northern. Students have the opportunity to earn Subaru certifications which makes them more employable and valuable to industry partners. Both Ford and Subaru have quality standards infused throughout their programs.

Quality of the faculty (e.g., publications, professional conferences or presentations, certifications, awards, service to professional associations, etc.). This measure will vary from program to program because of the broad range of programs offered at MSU-Northern.

Three of the faculty members currently have Master degrees and one faculty member is currently pursuing a Master degree. All faculty members have industry experience related to their teaching fields, as well as undergraduate degrees in automotive technology. All the faculty members are certified in areas they teach by ASE (Automotive Service Excellence). All faculty members have numerous hours of industry-related training in accordance with academic rank.

Employer and Advisory Committee Satisfaction using survey information

The MSU-Northern Automotive program has an active advisory board that meets on a regular basis during the school year (one fall and one spring meeting). The board consists of dealer principles, independent repair business owners, service managers, technicians, and corporate personal. The board has made numerous suggestions and initiatives that have benefited the automotive program. The board helps with issues regarding curriculum, student recruiting, and student placement and as well as other initiatives.

MSU Northern utilizes the Career Center to maintain a positive connection between employers and students for both Cooperative Education opportunities and full time placement upon graduation. This system is a vital link to allow communication between the students and employers and guarantees a central point that all interested parties can contact. The Career Center provides an essential link to maintain employer satisfaction.

Student satisfaction using survey information and other appropriate measures

The automotive program uses feedback from course evaluations to measure student satisfaction. We also enjoy 100% placement with graduates within the industry. We do not currently employ a student satisfaction survey upon graduation.

INNOVATION AND UNIQUENESS

Our automotive program offers several unique facets compared to surrounding institutions of the state and nation. First, we are one of a handful of universities in the nation that offer a four year, Bachelor of Science degree. Most automotive degrees terminate with either a one year certificate of two year associate degree. By incorporating two more years of education, our students enjoy enhanced training on the complex technical systems of today's automobiles along with additional general education skills. This allows our graduates upward mobility within the industry by allowing advancement into managerial, training, field engineering and other advanced positions. There are no other institutions in our state offering Bachelor of Science degrees, and the closest competing universities reside in Utah, Kansas, Illinois and Michigan. Another key item making our B.S. unique is the fact that our third and fourth year curriculum contains enhanced technical courses whereas other institutions utilize a 2+2 concept. Essentially their four year degree consists of a two year technical degree coupled with a two year business degree. Further, MSUN students can merge their B.S. degree with a minor further enhancing their overall skill sets.

Another item that makes our program unique to surrounding areas is we offer Ford MLR (Maintenance and Light Repair) certification and Subaru-U (University) certification. This offers our students a substantial benefit of acquiring Ford Certified Training and Subaru Certified Training as they attend our normal automotive courses. This allows our students to enhance their resumes and gives them real world credentials that are very meaningful to Ford and Subaru dealerships.

MSUN also incorporates a "Fast Track" Associate degree. This is tailored to students who want to complete an associate degree in a shorter period of time compared to the regular Associate degree. Essentially, the program is designed to utilize embedded general education curriculum, slightly larger semester loads and summer cooperative education to complete the degree in a fall/spring/fall sequence as opposed to a traditional fall/spring/fall/spring time frame. This allows students to save money by reducing their time on campus by one full semester and enter into the workforce sooner.

What is innovative about the degree program in the way it delivers its coursework, serves its students, creates career opportunities for students, or develops its curriculum?

MSUN's automotive curriculum is largely guided by ASE Education Foundation accreditation standards to make sure we teach up-dated, pertinent technical information. The standards evolve and require our curriculum to evolve as technology within the industry changes. We also include web based training courses designed by industry partners to enhance the lecture/laboratory delivery. Web based courses are utilized by industry as a method to satisfy pre-requisite training needs prior to attending specialized service training. All courses utilize support as offered through the online Brightspace system. One faculty member is also currently delivering lectures via PolyCom interactive teleconferencing.

Career opportunities are abundant within the automotive profession. We work closely with industry partners, MSUN's career center and the students to achieve 100% placement within the industry upon graduation. Another important piece is utilizing cooperative education, as a requirement of all automotive degrees, to allow the students to experience live industry work prior to graduation. Our students enjoy a variety of positions including technicians, service advisors, service managers, independent business owners, corporate management positions, parts and sales managers, technical advisors and field service engineers.

PLACEMENT AND INDUSTRY DEMAND

Students/graduates are in high demand for careers across the breadth of the automotive industry. Our industry partners tenaciously pursue our auto graduates, which encourages us and reinforces our belief that our programs are fundamentally sound.

The auto industry worldwide has and is currently experiencing unprecedented growth. Diversity within the industry ranges from small compact cars, hybrid gas/electric cars, electric cars, diesel powered cars & trucks, and others that all experience high levels of sophistication. Technological advances over the past 10 years are immense and spread throughout various engine, transmission, chassis, and body systems. All of these systems are comprised on numerous sub-systems that are electronically controlled and networked throughout the vehicle to multiple electronic modules. In addition, concerns with pollution and the need for alternate sources of energy are forcing the industry to utilize ever more exotic and expensive technology. The technical expertise needed to engage with this demand has been shrinking. Terms like "aging workforce" and the inability of industry to replace retirees with young trained technicians are real issues. The demand for skilled workers is unlike any other time in the history of the automotive industry as modern technicians need a wide ranging set of skills that incorporate a strong work ethic, mechanical aptitude, electronic operation principles coupled with critical thinking skills to allow for accurate troubleshooting and repair of today's modern vehicles. These skillsets cannot be acquired over a short period of time and are attained through progressive training and experience.

The expectation of the students that enter the MSU-N Automotive Program is to leave the program with the knowledge necessary to engage in employment in the automotive industry. The measure of success of our program is inextricably linked to the success of our students after they leave the University.

Relationships with industry (e.g., formal partnerships or initiatives with industry, student work experiences, donations, etc.).

The automotive program faculty have worked extensively with their advisory board members and utilized them in developing and enhancing the program. Industry also donates trainers and vehicles that are used during the school year for classes and labs, both in Automotive classes/labs and also ATDI classes/labs. In addition, our formal partnership with Ford Motor Company and the MLR (Maintenance and Light Repair) further demonstrates the linkage between MSUN and industry partners. Northern has received donated vehicles, trainers and components as a direct result of our partnership that has allowed for further enhancement of our technical program.

RESOURCES

As technology advances so does the need for additional resources in both the classroom and the labs. Over the past eight years, significant investment has been made toward updating facilities. The original automotive lab was torn down in 2016, and a new Diesel Technology Center (DTC) was built on its former footprint. From 2016-2018, the automotive program was relocated to a rented building along Highway 2 in Havre, MT as well as relocated to other lab space on Northern's campus. In the fall of 2019, the automotive program relocated into the former Farm Mechanics (FM) building on campus. The building was partially remodeled inside to include new vehicle hoists and a tool room. In addition, during the spring of 2021, the foyer area is being remodeled and the bathrooms are being updated. Although the completion of a clean

room for powertrains is still needed, much of the structure has been remodeled to accommodate a 12,000 sq. foot facility dedicated to the automotive technology program.

The automotive program also has a presence in the Applied Technology Center (ATC) on campus. This building was opened in 2005, and it has a computer resource room, a large industrial lab and a dedicated auto/diesel electronics classroom.

Over the past eight years, MSUN has been able to acquire one-time-only money through various grants and legislative allowances. The foundation has also been able to offer money for equipment purchases and student scholarships. Unfortunately, the program's general operating budget has slowly decreased over the past eight years, and the automotive faculty would like to see additional financial resources to maintain and expand tools & equipment in the program. The rate of technological advances are not expected to slow down anytime soon therefore we must continue to move our programs forward through instructor education and new equipment. One time donations are well appreciated but are not the complete solution for continuous and consistent growth. Long range planning and steady resources with thoughtful implementation will be a key factor.

STUDENT ENROLLEMENT IN THE PROGRAM

Student enrollment in the program are shown in the tables below for the past seven years. Enrollment trends are steady and show consistent participation in the program.

Seven Year Non-Duplicate Fall and Spring Count

Term	Bachelors	Associates	Fast Track	TOTAL
201530	20	16	3	39
201570	24	9	5	38
201630	23	10	4	37
201670	22	17	2	41
201730	19	10	3	32
201770	21	6	4	31
201830	18	4	3	25
201870	15	10	5	30
201930	12	7	4	23
201970	18	10	3	31
202030	19	10	2	31
202070	17	8	6	31
202130	15	7	7	29
202170	20	9	6	35

Automotive Graduates

AY	Bachelors	Associates	Fast Track	TOTAL
2015	7	1	1	9
2016	3	2	1	6
2017	5	2	3	10
2018	3	1	2	6
2019	3	2	3	8
2020	6	3	1	10
2021	1	1	0	3

Retention Rate

Program	14-15	15-16	16-17	17-18	18-19	19-20	20-21
BS Auto Technology	83%	67%	77%	62%	73%	83%	82%
AAS Auto Technology	29%	78%	28%	50%	56%	75%	71%
Fast-Track Auto Tech	75%	60%	50%	100%	80%	33%	50%

RELATIONSHIP TO MISSION

MSU Northern provides higher education to students for professional and technical careers through an institution dedicated to teaching and the pursuit of knowledge.

Montana State University – Northern will be known for its supportive, student-centered environment in which a unique mix of academic programs are responsive to local, regional, and state workforce needs, offered in an atmosphere that promotes student success.

Montana State University – Northern's Automotive program has four purposes:

1. To prepare students for careers in the Automotive and Automotive-related industries.

2. Provide industry with highly qualified and skilled entry level technicians and to prepare the future leaders of the automotive industry such as business owners, corporate level managers and master technicians.
3. Strengthen the automotive workforce by providing employees who possess a strong work ethic, critical thinking skills and the ability to communicate effectively.
4. Expose students to a variety of employment opportunities through employer presentations and cooperative education/internship experiences that lead to excellent career opportunities.

The Automotive program's aim complements the university's mission statement by incorporating current and emerging technologies within the automotive curriculum.

How the program meets the core educational values of MSU-Northern

It is very evident as demonstrated in this program review document that the Automotive technology program plays a key role in what defines MSU-Northern.

1. Provide liberal arts, professional and technical programs that serve a diverse student population.
2. Promote student centered and culturally enriched environment which fosters student success.
3. Partner with external entities to enhance and expand learning experiences.

The Automotive technology program meets each of the objectives of these core values.

Core value 1 is evidenced by our successful technical programs endorsed and supported by industry partners as well as industry approved accreditation through the ASE Education Foundation.

Core value 2 is met with the requirements that our students will study history, social sciences and the humanities, and is also met by the fact that the automotive industry is constantly changing, thus our graduates become life-long learners by virtue of participating in this industry.

Core value 3 is demonstrated through our connections with our advisory board, career center, industry partners.

RECOMMENDATIONS

The Automotive program has identified targeted marketing/recruiting as an ongoing challenge. Automotive enrollment has been relatively stable, with slight increases and decreases. However, the demand for the graduates has increased significantly from industry, and the faculty believes there has to be a strategic development plan implemented for the program to grow much more significantly and still maintain a quality education for our students. This plan would include a consistent and stable budget, faculty development, continued facility development, and investment in equipment and training aids for labs.

CONCLUSIONS

The Automotive Technology faculty at MSU-Northern believes the program will continue to be vital to the College of Technical Sciences and MSU-Northern. It offers student's placement in lifelong careers that positively impact graduates. The program supplies specialized technicians (employees) with a formal education, excellent work ethic, life-long learning skills, and the ability to adapt to change to an industry where these technicians are in short supply.