DIESEL & HEAVY EQUIPMENT TECHNICIAN ASSISTANT

Technical Diploma
Program Code: 31-412-2
Total Credits: 30

Mid-State's Diesel & Heavy Equipment Technician Assistant program provides students with the knowledge and technical skills needed to perform basic maintenance and light repairs in the following areas: brakes, hydraulics, suspension and steering, drive train, tire service, basic electricity, and preventive maintenance inspection. This one-year option is ideal for students looking to work in a fleet environment. Through hands-on classroom learning and training on state-of-the-art equipment, you will learn to perform preventive maintenance, inspection, and light repairs. You'll also participate in field trips, tours, and equipment demonstrations, and you'll get real-world experience by maintaining Mid-State's vehicle fleet and operating onsite equipment.

To learn more about this program, visit **mstc.edu/programs**.

ACADEMIC ADVISOR

To schedule an appointment with an academic advisor, call 715-422-5300. Academic advisors will travel to other campuses as necessary to accommodate student needs. For more information about advising, visit **mstc.edu/advising.**

NEW STUDENT CHECKLIST

Complete the following steps to prepare for your New Student Advising appointment with your academic advisor:

- Submit a Mid-State application at **mstc.edu/apply**.
- Send official transcripts to:
  Mid-State Technical College
  Student Services
  500 32nd Street North
  Wisconsin Rapids, WI 54494
- Complete the Free Application for Federal Student Aid (FAFSA) at **fafsa.gov**. Mid-State's Financial Aid team is available to assist with your FAFSA application and to answer your financial aid questions. Contact Financial Aid or schedule an appointment at **mstc.edu/financial-aid**.
- Set up student MyCampus account at **mstc.edu/mycampus-assistance**.
- Schedule a New Student Advising appointment at **mstc.edu/advising**.

Mid-State does not discriminate on the basis of race, color, national origin, sex, disability, or age in its program, activity, or employment. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Vice President – Human Resources; 500 32nd Street North, Wisconsin Rapids, WI 54494; 715-422-5325 • AAEO@mstc.edu. 3/2026-AC

CAREER PATHWAY

Career pathways help you build your education step by step. Each stage offers one or more credentials that are recognized by employers and lead to real jobs—and you can keep building toward your career goals as you go.

Begin at any point.

Prior Learning

Credit for Prior Learning

- Certifications and Licenses
- Military Experience
- National/Standardized Exams
- Transfer Credit
- Work and Life Experience

Learn about Credit for Prior Learning at **mstc.edu/cpl**.

High School Credit

- High School Dual Credit
- Mid-State Fast Track

Learn about High School Credit at **mstc.edu/dc**.

Technical Diploma

- Diesel & Heavy Equipment Technician Assistant (30 Credits)
  Start Your Career: Diesel Parts Sales/Service, Light Maintenance Technician, Parts Associate, Undercarriage Technician
- Diesel & Heavy Equipment Technician (59 Credits)
  Start Your Career: Agriculture Equipment Technician, Bus and Truck Technician, Fleet Maintenance Technician, Heavy Equipment Technician, Over the Road Truck Technician

Bachelor's Degree

For those interested in continuing their education, Mid-State offers transfer guides with various four-year colleges and universities. For more information, visit **mstc.edu/transfer**.

Other Options

Related Programs: Automotive Maintenance Technician, Automotive Technician

OUTCOMES

Employers will expect you, as a Diesel & Heavy Equipment Technician Assistant graduate, to be able to:

- Practice personal and professional work habits.
- Perform basic maintenance for the diesel and heavy equipment industry.
- Perform light repairs for the diesel and heavy equipment industry.

TECHNICAL SKILLS ATTAINMENT

The Wisconsin Technical College System (WTCS) has implemented a requirement that all technical colleges measure outcomes attained by students. This requirement is called Technical Skills Attainment (TSA). The main objective of TSA is to ensure graduates have the technical skills needed by employers. Faculty will let students know when and how the TSA is being assessed in the program.

PROTECTIVE CLOTHING

Students are required to wear school uniform shirts while working in the diesel shop. Uniform shirts can be purchased from the Wisconsin Rapids campus Bookstore. Students are also required to provide and wear leather work shoes with oil-resistant soles.

STUDENT HANDBOOK

Visit **mstc.edu/studenthandbook** to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

GRADUATION REQUIREMENT

The GPS for Student Success course is required for all Mid-State program students and is recommended to be completed before obtaining 12 credits. Some students are exempt from this requirement. Please see your academic advisor for more information.

ADDITIONAL COURSES AS NEEDED

The following courses may be recommended or required if the student does not achieve minimum placement scores.

College Reading and Writing 1
10831104
3 credits
Provides learners with opportunities to develop and expand reading and writing skills to prepare for college-level academic work. Students will employ critical reading strategies to improve comprehension, analysis, and retention of texts. Students will apply the writing process to produce well-developed, coherent, and unified written work.

Pre-Algebra
10834109
3 credits
Provides an introduction to algebra. Includes operations on real numbers, solving linear equations, percent and proportion, and an introduction to polynomials and statistics. Prepares students for elementary algebra and subsequent algebra-related courses.

MULTIPLE MEASURES

Students can place into courses using high school GPA and completed classes. Placement can be determined in the following ways:

- **Multiple Measures Writing (MMW)**
  High school GPA of 2.6 & successful completion of 2.0 credits of high school writing courses with a "C" or better
- **Multiple Measures Reading (MMR)**
  High school GPA of 2.6 & successful completion of 2.0 credits of high school literature courses with a "C" or better
- **Multiple Measures Math 1 (MMM_1)**
  High school GPA of 2.6 & successful completion of 1.0 credit of high school math (Algebra 1 or equivalent) with a "C" or better
- **Multiple Measures Math 2 (MMM_2)**
  High school GPA of 2.6 & successful completion of 2.0 credits of high school math including Algebra 1 and Algebra 2 with a "C" or better
- **Multiple Measures Science 1 (MMS_1)**
  High school GPA of 2.6 & successful completion of 1.0 credit of high school lab science course with a "C" or better
- **Multiple Measures Science 2 (MMS_2)**
  High school GPA of 2.6 & successful completion of 1.0 credit of high school chemistry with a "C" or better

Past high school and college transcripts are used in making course placement decisions.

SAMPLE FULL-TIME CURRICULUM OPTION

Diesel & Heavy Equipment Technician Assistant • 30 Total Credits

Term 16 Credits

Course Number	Course Name	CPL	Credits
10457119	Fabrication Fundamentals 1	No	1
31442320	Welding Foundations 1	Yes	1
31442321	Welding Foundations 2	No	1
32412308	Braking Systems-Diesel	No	5
32412309	Suspension & Steering Systems	No	5
32412340	Intro to Electricity for the Diesel Industry	Yes	1
32412375	Service Practices in Diesel Industry	Yes	1
10890102	GPS for Student Success	Yes	1

Term 14 Credits

Course Number	Course Name	CPL	Credits
31801368	Workplace Communication	Yes	1
32412305	Preventative Maintenance-Diesel	No	3
32412312	Drivetrains	No	4
32412313	Electrical Systems	No	4
32462302	Mobile Hydraulics	No	2

Please Note

- Credit for Prior Learning (CPL) options are available for some courses. You can visit **mstc.edu/cpl** or contact your academic advisor for details.
- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to **mstc.edu/schedule**.
- Get the latest updates online at **mstc.edu**.

SAMPLE PART-TIME CURRICULUM OPTION

Diesel & Heavy Equipment Technician Assistant • 30 Total Credits

Term 10 Credits

Course Number	Course Name	CPL	Credits
10457119	Fabrication Fundamentals 1	No	1
31442320	Welding Foundations 1	Yes	1
31442321	Welding Foundations 2	No	1
32412309	Suspension & Steering Systems	No	5
32412375	Service Practices in Diesel Industry	Yes	1
10890102	GPS for Student Success	Yes	1

Term 6 Credits

Course Number	Course Name	CPL	Credits
32412312	Drivetrains	No	4
32462302	Mobile Hydraulics	No	2

Term 7 Credits

Course Number	Course Name	CPL	Credits
31801368	Workplace Communication	Yes	1
32412308	Braking Systems-Diesel	No	5
32412340	Intro to Electricity for the Diesel Industry	Yes	1

Term 7 Credits

Course Number	Course Name	CPL	Credits
32412305	Preventative Maintenance-Diesel	No	3
32412313	Electrical Systems	No	4

Braking Systems-Diesel
32412308
5 credits
Learners employ fundamentals of vehicle braking systems, including drum, disc, hydraulic, and air systems to perform on vehicle diagnosis and repairs. Includes power and anti-skid systems, with emphasis on troubleshooting and component replacement.

Drivetrains
32412312
4 credits
Learners practice on-vehicle diagnosis and repair of clutches, manual transmissions, drive shafts and universal joints, and drive axles. Provides general overview of the most common transmissions and drive train components used in industry. The diagnostic and service procedures studied apply to the truck, construction, and heavy equipment industries.
Prerequisites: Suspension & Steering Systems 32412309 and Braking Systems-Diesel 32412308

Electrical Systems
32412313
4 credits
Learners employ principles of construction, function, and operation of batteries, starting systems, charging systems, and controls. Incorporates basic electronics, including series and parallel circuits, magnetism and Ohm's Law, wiring schematics, soldering techniques, and use of diagnostic equipment.
Prerequisite: Intro to Electricity for the Diesel Industry 32412340

Fabrication Fundamentals 1
10457119
1 credit
An introduction to structural shapes and sheet metal fabrication. Presents fabrication techniques, metal selection, and layout, cutting, bending, drilling, threading, and joining using manual equipment and techniques. Information is presented to the student and followed up with lab activities to provide a hands-on experience. Emphasizes developing an understanding of the tools, techniques, safe work habits, and application of sheet metal fabrication skills.

GPS for Student Success
10890102
1 credit
Integrate necessary skills for student success by developing an academic plan, identifying interpersonal attributes for success, adopting efficient and effective learning strategies, and utilizing Mid-State resources, policies, and processes. This course is recommended to be completed prior to obtaining 12 credits and is a graduation requirement unless you receive an exemption from your program advisor.

Intro to Electricity for the Diesel Industry
32412340
1 credit
Introduces learners to electrical measurement tools and techniques. Includes both hands-on experience and theory on topics including multimeter operation, Ohm's Law, wiring diagram interpretation, and circuit testing. Content is focused on tools and procedures commonly used in automotive, and diesel/heavy equipment industries. Learners will have the opportunity to earn NC3 multimeter certification during this course.

Mobile Hydraulics
32462302
2 credits
Learners employ basic principles and application of pumps, compressors, motors, valves, actuators, and conductors to demonstrate the understanding of hydraulic systems as well as the physical properties of liquids. Learners will identify various parts of a circuit in order to perform light maintenance and troubleshooting in hydraulic systems used on heavy truck, earth-moving, or agricultural equipment.

Preventative Maintenance-Diesel
32412305
3 credits
Introduces learner to vehicle preventive maintenance and inspection. Focuses on maintaining and inspecting the engine system, cab, electrical and electronics, and frame and chassis components with an emphasis on DOT inspections. Learners practice proper service on vehicle systems and perform a visual inspection of all vehicle components. Learners also practice how to properly document all maintenance and inspection findings.
Prerequisites: Suspension & Steering Systems 32412309 and Braking Systems-Diesel 32412308

Service Practices in Diesel Industry
32412375
1 credit
Introduces the learner to common tools, terminology, and service practices in the transportation field. Covers safety, environmental concerns, and basic customer relations. Service shop management practices and the use of automated work order, parts ordering, and time management concepts are included.

Suspension & Steering Systems
32412309
5 credits
Analyze construction and working principles of chassis components. Includes frames, suspension systems, steering gears and linkages, wheels and tires, and wheel alignment. Learners practice on-vehicle diagnosis and repair of suspension and steering systems.

Welding Foundations 1
31442320
1 credit
An introduction to fundamental welding techniques with an emphasis on safe work habits that covers the processes of FCAW, GMAW, and OXY-Fuel cutting. Classroom instruction paired with lab activities are designed to provide fundamental skills in each of the welding processes covered in the class.

Welding Foundations 2
31442321
1 credit
An introduction to fundamental welding techniques with an emphasis on safe work habits that covers the processes of GTAW, SMAW and Plasma cutting. Classroom instruction paired with lab activities are designed to provide fundamental skills in each of the welding processes covered in the class.

Workplace Communication
31801368
1 credit
Analyze workplace communication situations to develop professional verbal and written communication skills. Learners apply verbal and written communication skills, as well as conflict resolution strategies, to improve workplace communication climates and promote personal and professional growth.