

INDUSTRIAL MECHANICAL TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-462-1

Total Credits: 61

Mid-State's Industrial Mechanical Technician program will give you the hands-on foundation necessary to confidently maintain, repair, and operate mechanical and electrical machinery and equipment in an industrial environment. You will learn to align, maintain, repair, and replace machine components as well as gain understanding of predictive and preventive maintenance, reliability-centered maintenance, automation, and many other topics. The program emphasizes safety in the workplace and includes many hands-on and interactive classroom experiences and lab/shop activities.

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.

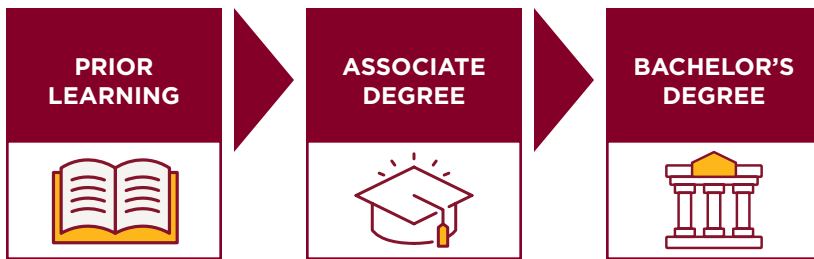
mstc.edu • 888-575-6782 • TTY: 711



Adams Campus • Marshfield Campus • Stevens Point Downtown Campus • Wisconsin Rapids Campus • Virtual Campus • AMETA® Center

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.

Associate Degree

- Industrial Mechanical Technician (61 Credits)
Start Your Career: Industrial Machinery Mechanic, Industrial Maintenance Technician, Maintenance Technician, Predictive Maintenance (PM) 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: Advanced Manufacturing Technology, Manufacturing Operations Management, Metal Fabrication, Precision Machining Technician, Stainless Steel Welding, Welding

Apprenticeship Opportunities: Maintenance Technician, Millwright/Maintenance Mechanic

OUTCOMES

Employers will expect you, as an Industrial Mechanical Technician graduate, to be able to:

- Demonstrate safe work procedures.
- Install industrial equipment and systems.
- Maintain industrial equipment and systems.
- Troubleshoot industrial equipment and systems.
- Repair industrial equipment and systems.
- Communicate technical information.

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 safety glasses at all times in the lab. Acquiring safety glasses is the responsibility of the student. Proper clothing is discussed in safety lectures.

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

Industrial Mechanical Technician • 61 Total Credits

Term	Course Number	Course Name	CPL	Credits
17 Credits	10462102	Bearings and Lubrication	No	2
	10462110	Material Handling	No	2
	10462132	Machine Shop Fundamentals	No	3
	10605105	Electrical Circuits I	Yes	3
	10801195 or 10801136	Written Communication or English Composition 1	Yes	3
	10804107	College Mathematics	Yes	3
	10890102	GPS for Student Success	Yes	1
Term	Course Number	Course Name	CPL	Credits
15 Credits	10462107	Industrial Safety	Yes	2
	10462122	Preventive, Predictive, and RCM	Yes	2
	10462133	Electric Controls for Industrial Automation	No	3
	10623106	Introduction to AutoCAD	Yes	1
	10623114	Intro to Inventor	Yes	1
	10801198 or 10801196	Speech or Oral/Interpersonal Communication	Yes	3
	10809103	Think Critically and Creatively	Yes	3
Term	Course Number	Course Name	CPL	Credits
14 Credits	10462104	Fluid Process Systems	No	3
	10462106	Mechanical Power Transmission	No	3
	10605117	Automation 1 - Beginning PLC	Yes	3
	10809198 or 10809188	Introduction to Psychology or Developmental Psychology	Yes	3
	31442320	Welding Foundations 1	Yes	1
	31442321	Welding Foundations 2	No	1
Term	Course Number	Course Name	CPL	Credits
15 Credits	10457119	Fabrication Fundamentals 1	No	1
	10457120	Fabrication Fundamentals 2	No	1
	10462120	Industrial Hydraulics & Pneumatics	No	3
	10462134	Industrial Mechanical Capstone	No	2
	10605119	Automation 2 - Advanced PLC	No	3
	10462131	Industrial Electric Power Applications	No	2
	10809166	Introduction to Ethics: Theory & Application	Yes	3

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**Industrial Mechanical Technician • 61 Total Credits**

Term 9 Credits	Course Number	Course Name	CPL	Credits
	10462110	Material Handling	No	2
	10462132	Machine Shop Fundamentals	No	3
	10804107	College Mathematics	Yes	3
	10890102	GPS for Student Success	Yes	1
Term 6 Credits	Course Number	Course Name	CPL	Credits
	10462107	Industrial Safety	Yes	2
	10462122	Preventive, Predictive, and RCM	Yes	2
	10623106	Introduction to AutoCAD	Yes	1
	10623114	Intro to Inventor	Yes	1
Term 8 Credits	Course Number	Course Name	CPL	Credits
	10462102	Bearings and Lubrication	No	2
	10605105	Electrical Circuits I	Yes	3
	10801195 or 10801136	Written Communication or English Composition 1	Yes	3
Term 6 Credits	Course Number	Course Name	CPL	Credits
	10462133	Electric Controls for Industrial Automation	No	3
	10809103	Think Critically and Creatively	Yes	3
Term 10 Credits	Course Number	Course Name	CPL	Credits
	10462106	Mechanical Power Transmission	No	3
	10462131	Industrial Electric Power Applications	No	2
	10605117	Automation 1 - Beginning PLC	Yes	3
	31442320	Welding Foundations 1	Yes	1
	31442321	Welding Foundations 2	No	1
Term 8 Credits	Course Number	Course Name	CPL	Credits
	10457119	Fabrication Fundamentals 1	No	1
	10457120	Fabrication Fundamentals 2	No	1
	10809166	Introduction to Ethics: Theory & Application	Yes	3
	10801198 or 10801196	Speech or Oral/Interpersonal Communication	Yes	3
Term 6 Credits	Course Number	Course Name	CPL	Credits
	10462104	Fluid Process Systems	No	3
	10809198 or 10809188	Introduction to Psychology or Developmental Psychology	Yes	3
Term 8 Credits	Course Number	Course Name	CPL	Credits
	10462120	Industrial Hydraulics & Pneumatics	No	3
	10462134	Industrial Mechanical Capstone	No	2
	10605119	Automation 2 - Advanced PLC	No	3

Automation 1 - Beginning PLC

10605117

3 credits

An overview of programmable logic controllers (PLCs) that provides a foundation of knowledge of the programming techniques, operation, and maintenance of PLCs used in typical industrial automation.

Automation 2 - Advanced PLC

10605118

3 credits

A lab intensive course covering advanced PLC topics and programming techniques, analog I/O, VFDs, basic HMI interfaces, industrial robotics and troubleshooting.

Prerequisite: Automation 1 - Beginning PLC 10605117 or consent of instructor

Bearings and Lubrication

10462102

2 credits

Students are presented with information pertaining to the basic functions of bearing surfaces, bearing inspections, analysis of bearing failures and the importance of preventative maintenance.

College Mathematics

10804107

3 credits

This course is designed to review and develop fundamental concepts of mathematics in the areas of algebra, geometry, trigonometry, measurement and data. Algebra topics emphasize simplifying algebraic expressions, solving linear equations and inequalities with one variable, solving proportions and percent applications. Geometry and trigonometry topics include; finding areas and volumes of geometric figures, applying similar and congruent triangles, applying Pythagorean Theorem, and solving right triangles using trigonometric ratios. Measurement topics emphasize the application of measurement concepts and conversion techniques within and between U.S. customary and metric system to solve problems. Data topics emphasize data organization and summarization skills, including: frequency distributions, central tendency, relative position and measures of dispersion. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators.

Prerequisite: High School GPA of 2.6 and MMM_1 or Accuplacer Arithmetic of 250 and QAS 234 or ACT Math score of 17 or Pre-Algebra 10834109 with a "C" or better

Developmental Psychology

10809188

3 credits

Studies human development throughout the lifespan and explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others.

Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English

Electric Controls for Industrial Automation

10462133

3 credits

Introduces the fundamentals of industrial motor controls, relay logic, ladder diagrams, industrial automation, and integrated manufacturing systems. The purpose of the course is to familiarize students with the terminology, capabilities, applications, and limitations of automated industrial controls through classroom and lab activities.

Prerequisite: Electrical Circuits 1 10605105

Electrical Circuits I

10605105

3 credits

The study of Ohm's Law and its application to D.C. circuits. Major topics include: Ohm's Law, series circuits, parallel circuits, combination circuits, Kirchhoff's Laws, and power relationships.

Corequisite: Intermediate Algebra with Applications 10804118 or College Mathematics 10804107

English Composition 1

10801136

3 credits

Learners develop and apply skills in all aspects of the writing process. Through a variety of learning activities and written documents, learners employ rhetorical strategies, plan, organize and revise content, apply critical reading strategies, locate and evaluate information, integrate and document sources, and apply standardized English language conventions.

Prerequisite: High School GPA of 2.6 and MMW or Accuplacer Writing of 262 or Accuplacer Reading 253 or ACT English score of 20 or ACT Reading 21 or completion of College Reading and Writing 1 10831104 with a "C" or better

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.

Fabrication Fundamentals 2

10457120

1 credit

An introduction to plate steel and heavy fabrication. Presents fabrication techniques using heavy fabrication equipment. CNC Cutting, Plate and Tube bending, Sawing and Shearing equipment will be presented and followed up with lab activities to provide a hands-on experience. Emphasizes developing an understanding of the equipment, techniques, safe work habits, and application of heavy metal fabrication skills.

Fluid Process Systems

10462104

3 credits

Provides a “hands-on” approach to the study of fluid handling systems. A wide variety of system components, including pumps, piping, seals and packing, flow control devices, flow measuring devices, and pressure vessels, are studied. System design considerations for fluid media temperature, pressure, specific gravity, viscosity, solids concentrations, and volume requirements are analyzed. An introduction to refrigeration and air conditioning provides the student with a basic understanding of these systems.

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.

Industrial Electric Power Applications

10462131

2 credits

Introduces concepts and applications of typical 3-phase power systems used in industry with focus on selection of overload devices, fuse sizing, wire selection, electrical motor theory and applications, and introduction to variable frequency drives through lecture and lab activities.

Prerequisite: Electric Controls for Industrial Automation 10462133

Industrial Hydraulics & Pneumatics

10462120

3 credits

Studies basic principles of hydraulics and pneumatics. Covers the advantages, disadvantages, and inherent problems with these systems. Includes the principles of operation and the constructional features of pumps, motors, valves, seals, packing, and conductors as well as the physical properties of liquids. Students learn to identify various parts of a circuit and analyze them for their use.

Corequisite: Intermediate Algebra with Applications 10804118

Industrial Mechanical Capstone

10462134

2 credits

This course is designed for students near the end of their program to practice using industry-standard processes, documentation practices, and structures through approved projects.

Industrial Safety

10462107

2 credits

Provides an overview of safety, health, and environmental issues as they relate to industry. Various types of hazards and the controls and equipment used to reduce risks from hazards are discussed. Focuses on understanding the Occupational Safety and Health Administration (OSHA) and its function as well as other regulatory and enforcement agencies associated with industrial safety, health, and the environment.

Intermediate Algebra with Applications

10804118

4 credits

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions; operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

Prerequisite: High School GPA of 2.6 and MMM_1 or Accuplacer Arithmetic of 263 and QAS 234 or ACT Math score of 19 or QAS of 245 or Pre-Algebra 10834109 with a “C” or better.

Intro to Inventor

10623114

1 credit

Learners will create 3D models in Inventor using a variety of feature and modify tools, analyze the volume of the models, and apply a material to determine weight of the finished product. Learners will generate 2D representations of the 3D model in appropriate views, and add dimensions and annotations before formatting drawings to print out. Prior experience with computers is recommended.

Introduction to AutoCAD

10623106

1 credit

Learners will develop practical approaches to constructing basic 2D drawings in AutoCAD software by drawing, modifying, and assigning appropriate layer properties. Learners will also analyze length and area of shapes drawn in AutoCAD, summarize details through dimensions and annotations added to the drawings, and format the drawings for printing. Prior experience with computers is recommended.

Introduction to Ethics: Theory & Application

10809166

3 credits

Provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systemic decision-making process to these situations.

Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English

Introduction to Psychology

10809198

3 credits

This science of psychology course is a survey of multiple aspects of behavior and mental processes. It provides an overview of topics such as research methods, theoretical perspectives, learning, cognition, memory, motivation, emotions, personality, abnormal psychology, physiological factors, social influences, and development.

Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English

Machine Shop Fundamentals

10462132

3 credits

Students participating in this class will be introduced to common machine tools and their functions. Classroom activities and hands-on lab exercises will be used to introduce participants to some of the most common applications in machining. Lab activities will introduce students to shop safety and identification of machine tools. Students will also gain understanding of the basic processes performed with different machine tools and basic machine set up and operations.

Material Handling

10462110

2 credits

Introduces the concepts and equipment that transport solid materials in the industrial production process. Various types of equipment, including rigging, cranes, mechanical conveyors, pneumatic conveyors, elevators, and lift trucks, are discussed. Practical applications and use guidelines are presented to promote the safe and efficient use of this type of material handling equipment.

Prerequisite: Student must be 18 years old at start of course.

Mechanical Power Transmission

10462106

3 credits

A study of the systems and components that transmit power from the prime mover through the system. Gear trains, linkages, clutches, couplings, and flexible drives are evaluated mathematically in lab situations.

Oral/Interpersonal Communication

10801196

3 credits

Focuses on developing effective listening techniques and verbal and nonverbal communication skills through oral presentation, group activity, and other projects. The study of self, conflict, and cultural contexts will be explored, as well as their impact on communication.

Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English or College Reading and Writing with a C or better

Preventive, Predictive, and RCM

10462122

2 credits

Preventive, Predictive, and RCM (Reliability Centered Maintenance) is an exploration of the various maintenance systems and approaches used to maintain manufacturing and industrial facilities. Through various hands-on labs and class demonstrations, learners will explore Computerized Maintenance Management Systems (CMMS) as well as the techniques and tools associated with vibration analysis, thermography, precision alignment, and ultrasound.

Speech

10801198

3 credits

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. Includes informative, persuasive, and occasion speech presentations.

Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 253 and Writing of 262 or ACT of 21 Reading/19 English or completion of College Reading and Writing 1 10831104 with a "C" or better

Think Critically & Creatively

10809103

3 credits

Provides instruction about critical and creative thinking that is in high demand in all occupations. Models, theories, and processes provide the foundation for learning logical thinking strategies. Students will apply a systematic approach to problem solving by analyzing the problem, assessing possible solutions, and making effective decisions. In addition, students will generate ideas and analyze complex issues. This course assists students with developing a critical thinking mindset which is essential at every level of personal and professional life.

Prerequisite: High School GPA of 2.6 and MMR and MMW or Accuplacer Reading Skills of 236 and Writing of 237 or ACT of 15 Reading/16 English

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.

Written Communication

10801195

3 credits

Develops writing skills which include prewriting, drafting, revising, and editing. A variety of writing assignments are designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents.

Prerequisite: High School GPA of 2.6 and MMW or Accuplacer Writing of 262 or ACT English score of 20 or completion of College Reading and Writing 1 10831104 with a "C" or better