Maintenance Technicians perform routine maintenance procedures and help troubleshoot and quickly repair mechanical or electrical problems.

Upon completion of this program, students will have an understanding of:

- OSHA regulations related to safety practices
- Algebra, geometry, and trigonometry calculations
- Basic units used to measure all common aspects of an electrical system
- Best practices for safety and injury prevention of all personnel while working with electrical systems.
- Calibration, use, and care of common inspection instruments and gages used in the shop.
- Common physical and mechanical properties and their components
- Preventive maintenance and continuous improvement practices
- How to properly use common handheld and power tools
- How hydraulic and pneumatic systems function and explain the variables that affect them
- Common mechanical system components and best practices for assembly and disassembly
- The design and function of a basic electrical motor and its components
- General principles for effective communication and troubleshooting

The average national salary range for maintenance technician is $37,000 - $45,000

Source: U.S. Bureau of Labor Statistics
These are the Units and Courses required to complete the Maintenance Technician program:

Unit 1: Introduction to Mechanical Systems
Introduction to Mechanical Systems 101
Safety for Mechanical Work 111
Forces of Machines 121

Unit 2: Introduction to Materials
Introduction to Physical Properties 101
Introduction to Metals 121
Introduction to Mechanical Properties 111
Ferrous Metals 231

Unit 3: Safety I
Intro to OSHA 101
Personal Protective Equipment 111
Noise Reduction and Hearing Conservation 121
Respiratory Safety 131
Lockout/Tagout Procedures 141

Unit 4: Applied Mathematics I
Math Fundamentals 101
Math: Fractions and Decimals 111
Units of Measurement 112
Basic Measurement 101

Unit 5: Safety II
SDS and Hazard Communication 151
Bloodborne Pathogens 161
Walking and Working Surfaces 171
Fire Safety and Prevention 181
Flammable/Combustible Liquids 191

Unit 6: Inspection
Calibration Fundamentals 111
Basics of Tolerance 121
Blueprint Reading 131
Hole Standards and Inspection 141
Thread Standards and Inspection 151

Unit 7: Safety III
Hand and Power Tool Safety 201
Safety for Lifting Devices 211
Powered Industrial Truck Safety 221
Confined Spaces 231
Safety for Electrical Work 111

Unit 8: Lean and Quality
Lean Manufacturing Overview 101
SS Overview 151
ISO 9001: 2015 Review 122
Approaches to Maintenance 131
Total Productive Maintenance 141

Unit 9: Electrical Systems
Electrical Units 101
Series Circuit Calculations 301
Parallel Circuit Calculations 311
Battery Selection 231

Unit 10: Mechanical Systems II
Mechanical Power Variables 202
Lubricant Fundamentals 211
Essentials of Heat Treatment of Steel 211
Bearing Applications 221
Spring Applications 231

Unit 11: Mechanical Systems III
Belt Drive Applications 241
Nonferrous Metals 241
Gear Applications 251
Clutch and Brake Applications 271

Unit 12: Fasteners
Overview of Threaded Fasteners 117
Tools for Threaded Fasteners 120
Overview of Non-Threaded Fasteners 125
Understanding Torque 210
Threaded Fastener Selection 215
Introduction to Fastener Threads 221

Unit 13: Applied Mathematics II
Algebra Fundamentals 141
Geometry: Lines and Angles 151
Geometry: Triangles 161
Geometry: Circles and Polygons 171
Trigonometry: The Pythagorean Theorem 201
Trigonometry: Sine, Cosine, Tangent 211

Unit 14: Fluid Systems I
The Forces of Fluid Power 201
Safety for Hydraulics and Pneumatics 211
Introduction to Hydraulic Components 221
Introduction to Pneumatic Components 231

Unit 15: Fluid Systems II
Introduction to Fluid Conductors 241
Fittings for Fluid Systems 251
Preventative Maintenance for Fluid Systems 261
Troubleshooting 181

Unit 16: Motor Controls I
Distribution Systems 221
Introduction to Electric Motors 301
Symbols and Diagrams for Motors 311
DC Motor Applications 321
AC Motor Applications 322

Unit 17: Motor Controls II
Logic and Line Diagrams 312
Specs for Servomotors 330
Solenoids 331
Reversing Motor Circuits 341
Reduced Voltage Starting 370

Unit 18: Rigging and Communication
Intro to Machine Rigging 110
Rigging Equipment 120
Rigging Inspection and Safety 210
Rigging Mechanics 220
Essentials of Communication 120
Essentials of Leadership 110

This online upskilling opportunity provides new skills to help you get ahead. Classes are accessible on desktops/laptops, tablets, and smartphones via the Tooling U-SME app. Each course takes approximately one hour to complete.