

MAINTENANCE TECHNICIAN

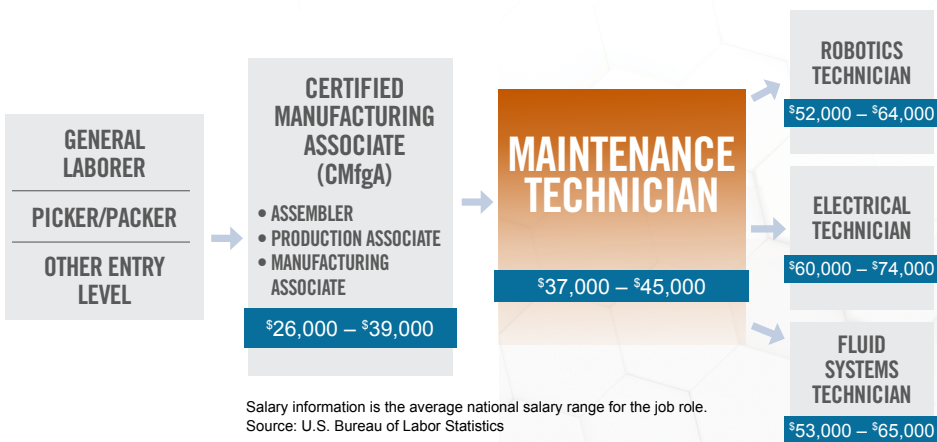


PREPARE FOR A CAREER AS A MAINTENANCE TECHNICIAN

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



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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
5S 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 321

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

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