

TAKE OFF WITH ADVANCED MANUFACTURING VIRTUAL LEARNING

Virtual Skills Academy from Sandhills Community College offers a quick-start road map that allows individuals to build knowledge in preparation for a career in manufacturing. This online academy is intended to provide basic understanding of quality in manufacturing and bring awareness to opportunities for positions in this area. Courses are stacked to follow a job progression plan. Unlike many other training programs, the Virtual Skills Academy requires minimal preparation. It is efficient, effective training that has been developed with input from manufacturing experts.

FLEXIBLE AND CONVENIENT

Online classes are self-paced, and easy to access through smart phones, tablets, and computers. Each course provides pre- and post- assessments and the ability to review and learn through a variety of engaging activities.

QUALITY TECHNICIAN

Advanced Hole Inspection
Basic Measurement
Basics of Tolerance
Blueprint Reading
Calibration and Documentation
Calibration Fundamentals
Hole Standards and Inspection
In-Line Inspection Applications
Inspecting a Cylindrical Part
Inspecting a Prismatic Part
Inspecting with CMMs
Inspecting with Optical Comparators
Introduction to GD&T
Major Rules of GD&T
Surface Texture and Inspection
Thread Standards and Inspection
5S Overview
Lean Manufacturing Overview
SPC Overview

Essentials of Heat Treatment of Steel
Ferrous Metals
Hardness Testing
Introduction to Mechanical Properties
Band Saw Operation
Basic Cutting Theory
Cutting Processes
Introduction to Metal Cutting Fluids
Metal Cutting Fluid Safety
Overview of Machine Tools
ISO 9001 Review
Bloodborne Pathogens
Fire Safety and Prevention
Hand and Power Tool Safety
Intro to OSHA
Lockout/Tagout Procedures
Noise Reduction and Hearing Conservation

Personal Protective Equipment
Powered Industrial Truck Safety
Safety for Lifting Devices
SDS and Hazard Communication
Walking and Working Surfaces
Geometry:
Circles and Polygons
Geometry: Lines and Angles
Geometry: Triangles
Math Fundamentals
Math: Fractions and Decimals
Trigonometry: Sine, Cosine, Tangent
Units of Measurement



Virtual Skills Academy Provides:

- Preset curriculum
- Engaging online classes
- Supplemental videos
- Pre- and post-training knowledge assessments
- Guidance from Sandhills Community College Staff
- Readiness for On-the-Job Training
- Preparation for entry-level jobs in manufacturing
- Demonstrated proof of aptitude
- Opportunity to showcase personal initiative

GEER Scholarships Funding Available
Contact us for more information

www.sandhills.edu/continuing-education | 910-695-3980

Get ready for your career to TAKE OFF

MAINTENANCE FUNDAMENTALS

Math Fundamentals
Math: Fractions and Decimals
Units of Measurement
Basics of Tolerance
Blueprint Reading
Basic Measurement
Calibration Fundamentals
Hole Standards and Inspection
Thread Standards and Inspection
Intro to OSHA
Personal Protective Equipment
Noise Reduction and Hearing Conservation
Respiratory Safety
Lockout/Tagout Procedures
SDS and Hazard Communication
Bloodborne Pathogens
Walking and Working Surfaces
Fire Safety and Prevention
Flammable/Combustible Liquids
Hand and Power Tool Safety
Safety for Lifting Devices
Powered Industrial Truck Safety
Confined Spaces
Introduction to Physical Properties
Introduction to Mechanical Properties
Introduction to Metals
Ferrous Metals
Lean Manufacturing Overview
ISO 9001:2015 Review
Approaches to Maintenance
Total Productive Maintenance
5S Overview
Electrical Units
Safety for Electrical Work
Introduction to Mechanical Systems
Safety for Mechanical Work
Forces of Machines

MAINTENANCE TECHNICIAN

Algebra Fundamentals
Geometry: Lines and Angles
Geometry: Triangles
Geometry: Circles and Polygons
Trigonometry: The Pythagorean Theorem
Trigonometry: Sine, Cosine, Tangent
Essentials of Heat Treatment of Steel
Nonferrous Metals
Troubleshooting
Series Circuit Calculations
Parallel Circuit Calculations
Battery Selection
Bearing Applications
Spring Applications
Belt Drive Applications
Gear Applications
Reversing Motor Circuits
Specs for Servomotors
Reduced Voltage Starting
The Forces of Fluid Power
Safety for Hydraulics and Pneumatics
Introduction to Hydraulic Components
Introduction to Pneumatic Components
Introduction to Fluid Conductors
Fittings for Fluid Systems
Preventative Maintenance for Fluid Systems
Lubricant Fundamentals
Mechanical Power Variables
Clutch and Brake Applications
Intro to Machine Rigging
Rigging Equipment
Rigging Inspection and Safety
Rigging Mechanics
Intro to Fastener Threads
Overview of Threaded Fasteners
Tools for Threaded Fasteners
Overview of Non-Threaded Fasteners
Understanding Torque
Threaded Fastener Selection Distribution Systems
Introduction to Electric Motors
Symbols and Diagrams for Motors
Logic and Line Diagrams
DC Motor Applications
Solenoids
AC Motor Applications
Essentials of Leadership
Essentials of Communication

FLUID SYSTEMS TECHNICIAN

Benchwork and Layout Operations
Introduction to CNC Machines
Control Panel Functions for the CNC Lathe
Control Panel Functions for the CNC Mill
Introduction to Circuits
Introduction to Magnetism
DC Circuit Components
NEC Overview
AC Fundamentals
Electrical Instruments
Electrical Print Reading
DC Power Sources
AC Power Sources
Conductor Selection
Limit Switches and Proximity Sensors
Hydraulic Power Variables
Hydraulic Power Sources
Pneumatic Power Variables
Pneumatic Power Sources
Hydraulic Control Valves
Hydraulic Schematics and Design
Basic Circuit Design
Pneumatic Control Valves
Pneumatic Schematics and Circuit Design
Actuator Applications
Hydraulic Fluid Selection
Contamination and Filter Selection
Hydraulic Principles and System Design
Welding Safety Essentials
PPE for Welding
Welding Fumes and Gases Safety
Electrical Safety for Welding
Introduction to Welding
Introduction to Welding Processes
Overview of Soldering
Plasma Cutting
SMAW Applications
GMAW Applications
What Is Oxyfuel Welding?
Oxyfuel Welding Applications
Relays, Contactors, and Motor Starters
Control Devices
Distribution Systems

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