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 engineering concepts and practices 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.

**CAREER PATHWAYS FOR ENGINEERING JOB ROLES**

Combine job roles for learning pathways, or offer single job roles for targeted learning. Large comprehensive programs also available.

**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
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www.sandhills.edu/continuing-education | 910-695-3980
Get ready for your career to TAKE OFF

ENGINEERING FUNDAMENTALS

Additive Manufacturing Methods and Materials
Additive Manufacturing Safety
Introduction to Additive Manufacturing
Introduction to CAD and CAM for Machining
AC Fundamentals
DC Circuit Components
Electrical Units
Introduction to Circuits
Introduction to Assembly
Basics of Tolerance
Blueprint Reading
Lean Manufacturing Overview
Essentials of Heat Treatment of Steel
Introduction to Ceramics
Introduction to Composites
Introduction to Mechanical Properties
Introduction to Metals
Introduction to Physical Properties
Introduction to Plastics
Cutting Processes
Algebra Fundamentals
Geometry: Circles and Polygons
Geometry: Lines and Angles
Geometry: Triangles
Statistics
Trigonometry: Sine, Cosine, Tangent
Trigonometry: The Pythagorean Theorem
Units of Measurement

ENGINEERING TECHNICIAN

Basics of G Code Programming
Parallel Circuit Calculations
Series Circuit Calculations
Introduction to Hydraulic Components
Introduction to Pneumatic Components
The Forces of Fluid Power
Introduction to G&T
SPC Overview
Troubleshooting
Classification of Steel
Ferrous Metals
Hardness Testing
Nonferrous Metals
Thermoplastics
Thermosets
Forces of Machines
Power Transmission Components
Drill Tool Geometry
Lathe Tool Geometry
Mill Tool Geometry
Basics of Ladder Logic
Introduction to PLCs
PLC Timers and Counters
Basic Ladder Diagram Programming for Siemens PLCs
Basics of Siemens PLCs
Siemens PLC Communication
Equipment/Tool Design and Development
ISO 9001 Review
Process Design and Development
Product Design and Development
Production System Design and Development
Quality and Customer Service
Automated Systems and Control
Hand and Power Tool Safety
Applied and Engineering Sciences
Manufacturing Process Applications: Part I
Manufacturing Process Applications: Part II
Punch and Die Operations
Manufacturing Management
Personal Effectiveness
Introduction to Welding Processes
Fixture Design Basics
Supporting and Locating Principles

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