ENGINEERING

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 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.

ENGINEERING FUNDAMENTALS → **ENGINEERING TECHNICIAN**

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

Sandhills COMMUNITY COLLEGE
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ENGINEERING

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 GD&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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