Snead State Community College
Workforce Development

Self-Paced Online Training
$100.00 per student, per course

Basic Mechanical Systems for Manufacturing Technicians

Basic Mechanical Systems introduces mechanism concepts and their importance in industrial, commercial, and residential applications. The course begins with an introduction to fasteners and tools used in the field. Learners also will be provided with an introduction to rigging systems and levers, which cover force measurement, first-class levers, and second- and third- class levers. Learners will go over linkages, cams, and turnbuckles including friction and inclined plane concepts. Learners will focus on pulley systems and gear drives including fixed pulleys, movable pulleys, laser shaft alignment, and combination pulleys. This course provides and overview of a broad range of basic concepts in mechanical systems.

- Threaded Fasteners
- Wrenches
- Screwdrivers
- Pliers and Locking Devices
- Torque Wrench
- Portable Power Tools
- Mallets and Non-Threaded Fasteners
- Introduction to Levers
- Linkages, Cams, and Turnbuckles
- Key Fasteners
- Pulley Systems and Gear Drives
- Introduction to Rigging
- Hoists
- Slings and Hitches
- Wire Rope
- Chain Slings
- Introduction to Mechanical Drive Systems
- Power Transmission Systems
- Centrifugal Pump Operation
- Centrifugal Pump Characteristics
- Centrifugal Pump Troubleshooting
- Centrifugal Pump Performance
- System Characteristics
- Introduction to V-Belt Drives
- Introduction to Chain Drives
- Spur Gear Drives
- Multiple Shaft Drives
- Gear Pumps
- Introduction to Laser Shaft Alignment
- Laser Shaft Alignment Operation
- Pneumatic System Fabrication

Register Here:
www.snead.edu/tbiregistration

Intermediate Mechanical Systems for Manufacturing Technicians

Prerequisite: Basic Mechanical Systems online course

Mechanical Systems II is a continuation of Basic Mechanical Systems for Manufacturing Technicians. This course covers the construction, operation, installation, and alignment of heavy-duty V-belt drives, synchronous belt drives, and heavy-duty chain drives. The course covers V-belt maintenance and troubleshooting, timing belt drives, lubricant management, flange couplings, grid and gear couplings, and chain selection.

- Gaskets and Seals
- Couplings
- Hoses
- Lubrication Concepts
- Linear Ball Bushings
- Ball Screw Drives
- Two-Way Valves
- Plain Bearings
- Ball Bearings
- Roller Bearings
- Antifriction Bearing Selection and Maintenance
- Gear Drive Selection and Maintenance
- Advanced Gear Drives
- Brakes And Clutches
- Brake/Clutch Selection And Maintenance
- Magnetic Pumps
- Check Valves And Sloan Valves
- Heavy Duty V-Belt Drives
- Synchronous Belt Drives
- V-Belt Selection and Maintenance
- Heavy-Duty Chain Drives
- Equipment Movement
- Industrial Cranes
- Synthetic Slings
- Precision Shaft Alignment
- Introduction To Vibration Analysis
- Vibration Analysis
- Vibration Condition Monitoring
- Metal Piping Systems
- Metal Piping Installation
- Plastic Piping Systems
- Metal Tubing Systems

For more information:
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