Career Clusters & Pathways

Focusing Education on the Future!
Preparing for Success in Manufacturing
Prepares learners for careers in planning, managing, and performing the processing of materials into intermediate or final products.

Careers include related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Employment is expected to increase slightly as strong demand continues for high-tech electrical goods and pharmaceuticals.
Necessary Skills and Traits

- Solid background in math, science and technical skills
- Knowledgeable in their subject
- Industry also plays a major role in training/career development by supporting apprenticeships, training, joint industry/school programs and industry training leading to certification and college credit.
Preparing for Success in Manufacturing

Production
Manufacturing Production Process Development
Maintenance, Installation & Repair
Preparing for Success in Manufacturing

Production
To complete a pathway, one must take THREE Pathway Required Concentration Courses and ONE additional Pathway Elective Course.

Pathway Concentration Courses (3)
- Arc Welding I
- Electrical Systems I*
- Introduction to Manufacturing/Engineering Sciences
- Introduction to Precision Machining

Pathway Elective Courses (1)
- Apprenticeship/Internship
- Electrical I*
- Foundations of Engineering and Technology
- Introduction to Construction*
- Occupational Safety & Fundamentals
- Other Pathway Concentration Course
Other Recommended Electives

Production

- Algebra I
- Informal Geometry
- Modern Language
- Physical Science
- Pre-Algebra
Post-Secondary Degrees, Diplomas & Certificates
Production

Technical Colleges
- Electrical Control Systems
- Industrial Mechanical Technology
- Industrial Motor Control
- Machine Tool Technology
- Welding & Joining Technology

Colleges/Universities
- Applied Science in Technology
- Design Engineering
- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering
Employment Outlook

Production

- Individuals with a broad range of skills or a specific skill that cannot be automated will experience job growth and find their services in demand.
- Welders, tool and die makers, and multiple machine operators are examples of these growth occupations.
Preparing for Success in Manufacturing

Manufacturing Production Process Development
To complete a pathway, one must take THREE Pathway Required Concentration Courses and ONE additional Pathway Elective Course.

### Pathway Concentration Courses (3)
- Integrating Systems
- Intro to Manufacturing/Engineering Science
- Mechanical/Electrical Systems I

### Pathway Elective Courses (1)
- Apprenticeship/Internship
- Drafting Technology: Introduction
- Foundations of Engineering and Technology
Other Recommended Electives

Manufacturing Production Process Development

- Algebra I
- Informal Geometry
- Introduction to Engineering Drawing
- Peer Leadership
- Pre Algebra
- Pre-Engineering Technology
Post-Secondary Degrees, Diplomas & Certificates

Manufacturing Production Process Development

Technical Colleges
- Electrical Control Systems
- Industrial Mechanical Tech
- Industrial Motor Control

Colleges/Universities
- Electrical Engineering
- Industrial Engineering
Careers in Manufacturing Production Process Development

- Design Engineer
- Electronics Engineer
- Manufacturing Engineer
- Production Manager
- Supervisor
- Labor Relations Manager
- Engineering Technician
- Manufacturing Technician
- Purchasing Agent
- Electrical Technician
- Power Generating and Reactor Plant Operator
- Industrial Engineer
- Precision Inspector, Tester and Grader
- Process Improvement Technician
- Electronic Technician and Technologist
Employment in some of the occupations in this pathway are predicted to grow more slowly than the average because of increasing automation in the manufacturing sector.

Electrical engineering positions will grow about as fast as the average.
Preparing for Success in Manufacturing

Maintenance, Installation & Repair
To complete a pathway, one must take THREE Pathway Required Concentration Courses and ONE additional Pathway Elective Course.

**Pathway Concentration Courses (3)**
- Arc Welding I
- Electrical Systems I
- Intro to Manufacturing/Engineering Sciences
- Introduction to Precision Machining

**Pathway Elective Courses (1)**
- Apprenticeship/Internship
- Drafting Technology: Introduction
- Engineering Concepts
- Other Pathway Concentration Course
Other Recommended Electives
Maintenance, Installation & Repair

- Algebra I
- Informal Geometry
- Integrating Systems
- Physical Science
- Pre-Algebra
Post-Secondary Degrees, Diplomas & Certificates

Maintenance, Installation & Repair

**Technical Colleges**
- Electrical Control Systems
- Industrial Mechanical Technician
- Industrial Motor Control
- Machine Tool Tech
- Welding & Joining Tech

**Colleges/Universities**
- Applied Science in Technology
- Design Engineering
- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering
Careers in Maintenance, Installation & Repair

- Computer Installer/Repairer
- Facility Electrician
- Instrument Control Technician
- Job/Fixture Designer
- Laser Systems Technician
- Maintenance Repairer
- CNC Programmer
- Computer Maintenance Technician
- Industrial Facilities Manager
- Industrial Maintenance Electrician
- Industrial Maintenance Mechanic
- Instrument Calibration and Repairer
- Security System Installer/Repairer
- CNC Specialist/CNC Operator
- Electrical Equipment Installer/Repairer
- Industrial Machinery Mechanic
- Industrial Electronic Installer/Repairer
- Industrial Maintenance Technician
- Plumber, Pipe Fitter and Steam Fitter
- Biomedical Equipment Technician
- Machinist/Welder
Employment Outlook

Maintenance, Installation & Repair

- In this pathway, Maintenance Technicians and Repair positions will experience average growth for jobs across all sectors.
- In addition, job opportunities will be plentiful because of a shortage of qualified applicants. This will, in part, be due to the increasing complexity of equipment.
- The best job prospects will be for those with broad skill sets.
Preparing for Success in Manufacturing

Production
Manufacturing Production Process Development
Maintenance, Installation & Repair
Preparing for Success in Manufacturing
Hall County Career Clusters

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