Manufacturing Career Cluster

The Manufacturing career cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.

Regional Program of Study: Electronics Technology

Approved in ESC Regions 6, 10, 11, 12, and 13

**The list of approved ESC regions is updated every school year. Be sure to check the CTE regional program of study website for updates.*

The Electronics Technology program of study focuses on occupational and education opportunities associated with the development of engineered products, voltage installation and testing, electrical schematics, semiconductors, millwrights, avionics, and electrical repairers. It includes exploration of a variety of electrical uses throughout residential and commercial applications such as chip making troubleshooting electrical lines from audio video production to commercial buildings. This program of study addresses how to troubleshoot, create, repair, and read electrical blueprints, technical drafting, and the applied mathematics of electricity throughout industry.

Secondary Courses for High School Credit

Level 1	Principles of Manufacturing Principles of Applied Engineering Blueprint Reading for Manufacturing Applications
Level 2	AC/DC Electronics
Level 3	Digital Electronics Solid State Electronics
Level 4	Applied Mathematics for Technical Professionals Practicum in Manufacturing Practicum in Manufacturing + Extended Practicum in Manufacturing Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation

Aligned Advanced Academic Courses

Dual Credit	Dual credit offerings will vary by local education agency.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	Intern at a chip manufacturing company Intern at a millwright company Job shadow an electrician
Expanded Learning Opportunities	Tour a chip manufacturer Tour a local electrical company Participate in SkillsUSA

Aligned Industry-Based Certifications

C-101 Certified Industry 4.0 Associate: Basic Operations
C-200 Certified Industry 4.0 Automation Systems Specialist I: 201 Electrical Systems I
C-200 Certified Industry 4.0 Automation Systems Specialist I - 202 Electric Motor Control Systems 1
Certified Manufacturing Associate
Autodesk Associate (Certified User) AutoCAD
FESTO Certified Industry 4.0 Associate Fundamentals
Electrical Apprenticeship Certificate Level 1
HBI Pre-Apprenticeship Certificate Training (PACT), Basic Electrical
NCCER Industrial Millwright
NCCER Commercial Electrician
TRIO Electrical Pre-Apprenticeship (EPP) Certification
NCCER Core
NCCER Millwright Level I
NCCER Millwright Level II

Example Postsecondary Opportunities

Associate Degrees
- Electromechanical Technology
- Electronic Controls Technology
- Electronics Technician Specialization

Bachelor's Degrees
- Electrical Engineering
- Engineering Technology

Master's, Doctoral, and Professional Degrees
- Electrical Engineering
- Master of Science in Engineering with a major in semiconductor science and engineering

Additional Stackable IBCs/Licenses
- Semiconductor Technician Advanced Rapid Start
- Semiconductor Manufacturing Operator

Example Aligned Occupations

Electrical and Electronics Repairers
Median Wage: $61,099
Annual Openings: 624
10-Year Growth: 18%

Electrical and Electronic Engineering Technologists and Technicians
Median Wage: $62,968
Annual Openings: 1,156
10-Year Growth: 14%

Semiconductor Processing Technicians
Median Wage: $36,902
Annual Openings: 662
10-Year Growth: 10%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.

https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources

Texas Education Agency

Electronics Technology

Manufacturing Career Cluster

Regional Program of Study: Electronics Technology

Course Information

Level 1

Course	Prerequisites | Corequisites	Career Clusters
Principles of Manufacturing* 13032200 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Principles of Applied Engineering* 13036200 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Blueprint Reading for		

Course Information

Level 4

Course	Prerequisites | Corequisites	Career Clusters
Applied Mathematics for Technical Professionals 12701410 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I and Geometry Recommended Corequisites: NoneProlaecaaPca	