

















Career Clusters and Pathways

Career Cluster	Career Pathway	Career Cluster	Career Pathway	Career Cluster	Career Pathway
 Agriculture, Food & Natural Resources	<ul style="list-style-type: none"> • Agribusiness Systems • Animal Systems • Environmental Service Systems • Food Products & Processing Systems • Natural Resources Systems • Plant Systems • Power, Structural & Technical Systems 	 Government & Public Administration	<ul style="list-style-type: none"> • Foreign Service • Governance • National Security • Planning • Public Management & Administration • Regulation • Revenue & Taxation 	 Law, Public Safety, Corrections & Security	<ul style="list-style-type: none"> • Correction Services • Emergency & Fire Management Services • Law Enforcement Services • Legal Services • Security & Protective Services
 Architecture & Construction	<ul style="list-style-type: none"> • Construction • Design/Pre-Construction • Maintenance/Operations 	 Health Science	<ul style="list-style-type: none"> • Biotechnology Research & Development • Diagnostic Services • Health Informatics • Support Services • Therapeutic Services 	 Manufacturing	<ul style="list-style-type: none"> • Health, Safety & Environmental Assurance • Logistics & Inventory Control • Maintenance, Installation & Repair • Manufacturing Production Process Development • Production • Quality Assurance
 Arts, A/V Technology & Communications	<ul style="list-style-type: none"> • A/V Technology & Film • Journalism & Broadcasting • Performing Arts • Printing Technology • Telecommunications • Visual Arts 	 Hospitality & Tourism	<ul style="list-style-type: none"> • Lodging • Recreation, Amusements & Attractions • Restaurants & Food/Beverage Services • Travel & Tourism 	 Marketing	<ul style="list-style-type: none"> • Marketing Communications • Marketing Management • Marketing Research • Merchandising • Professional Sales
 Business, Management & Administration	<ul style="list-style-type: none"> • Administrative Support • Business Information Management • General Management • Human Resources Management • Operations Management 	 Human Services	<ul style="list-style-type: none"> • Consumer Services • Counseling & Mental Health Services • Early Childhood Development & Services • Family & Community Services • Personal Care Services 	 Science, Technology, Engineering & Mathematics	<ul style="list-style-type: none"> • Engineering & Technology • Science & Mathematics
 Education & Training	<ul style="list-style-type: none"> • Administration & Administrative Support • Professional Support Services • Teaching/Training 	 Information Technology	<ul style="list-style-type: none"> • Information Support & Services • Network Systems • Programming & Software Development • Web & Digital Communications 	 Transportation, Distribution & Logistics	<ul style="list-style-type: none"> • Facility & Mobile Equipment Maintenance • Health, Safety & Environmental Management • Logistics Planning & Management Services • Sales & Service • Transportation Operations • Transportation Systems/Infrastructure Planning, Management & Regulation • Warehousing & Distribution Center Operations
 Finance	<ul style="list-style-type: none"> • Accounting • Banking Services • Business Finance • Insurance • Securities & Investments 				



Manufacturing

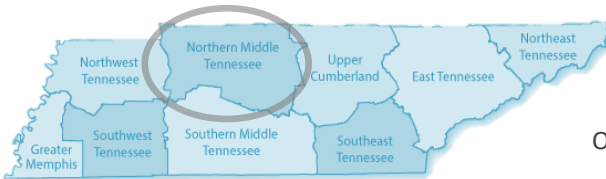


National Career Clusters Pathways ♦ *Manufacturing Production Process Development* ♦ *Production Maintenance, Installation & Repair* ♦ *Quality Assurance*

Regional Career Opportunities – Listed by Highest Projected Demand



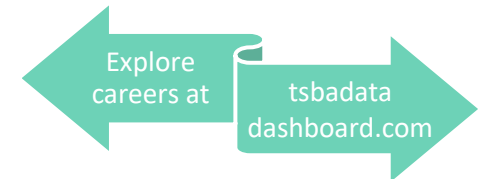
Job Zone 1 High School Diploma or Less	Job Zone 2 High School Diploma	Job Zone 3 Certificate or Associate's Degree	Job Zone 4 Bachelor's Degree	Job Zone 5 Master's or Doctorate Degree
Sewing Machine Operators Annual Openings = 91 Median Wage = \$28,196	Helpers - Production Workers Annual Openings = 999 Median Wage = \$23,536	Maintenance and Repair Workers Annual Openings = 1095 Median Wage = \$37,244 ★	Industrial Engineers <i>(also a STEM occupation)</i> Annual Openings = 132 Median Wage = \$80,871	<i>Few regional occupations in these pathways require education at this degree level.</i>
Meat, Poultry & Fish Cutters & Trimmers Annual Openings = 66 Median Wage = \$27,060	First-Line Supervisors of Production & Operating Workers Annual Openings = 553 Median Wage = \$56,543 ★	Production, Planning & Expediting Clerks Annual Openings = 354 Median Wage = \$45,491 ★	Mechanical Engineers <i>(also a STEM occupation)</i> Annual Openings = 84 Median Wage = \$76,494	
<i>Few regional occupations in these pathways require education at this degree level.</i>	Inspectors, Testers, Sorters & Weighers Annual Openings = 466 Median Wage = \$35,134 ★	First-Line Supervisors of Mechanics, Installers & Repairers Annual Openings = 322 Median Wage = \$62,902 ★	Engineers, All Other <i>(also a STEM occupation)</i> Annual Openings = 67 Median Wage = \$73,069	
	Packaging & Filling Machine Operators & Tenders Annual Openings = 375 Median Wage = \$31,512	Industrial Machinery Mechanics Annual Openings = 243 Median Wage = \$46,020	Electrical Engineers <i>(also a STEM occupation)</i> Annual Openings = 61 Median Wage = \$86,165	
	Food Batchmakers Annual Openings = 343 Median Wage = \$34,350	Welders, Cutters, Solderers & Brazers Annual Openings = 239 Median Wage = \$37,965	<i>Few regional occupations in these pathways require education at this degree level.</i>	Data Source TSBA District Data Dashboard



★ Top five high-value occupations in these pathways for the **Northern Middle Tennessee Region**

Occupations with the highest annual openings that are stable or growing with median wages above \$35,000 are considered high-value.

* = state level data was used due to limitations in regional data.





Manufacturing



National Career Clusters Pathways ♦ *Manufacturing Production Process Development* ♦ *Production Maintenance, Installation & Repair* ♦ *Quality Assurance*

Regional High School Requirements and Programs (Grades 9-12)

English Language Arts	Math	Science	Social Studies	Foreign Language	Physical Education	Fine Arts	Elective Focus
English I	Integrated I	Biology	World History and Geography	Foreign Language I	Lifetime Wellness	Fine Arts Selection	Minimum of Three Courses <i>See career programs and electives below.</i>
English II	Integrated II	Chemistry	U.S. History and Geography	Foreign Language II	Physical Education (.5)	-----	
English III	Integrated III	Physics	Economics / Government	-----	-----	-----	One Additional Elective is Required
English IV	Upper Level Math	-----	Personal Finance (.5)	-----	-----	-----	

Career Programs	Career Program Courses	Additional Electives	Regional Postsecondary Schools	
<input type="checkbox"/> Machining Technology <input type="checkbox"/> Mechatronics <input type="checkbox"/> Engineering <i>(also a STEM program)</i> <i>*Note: Programs and courses may vary by high school.</i>	<input type="checkbox"/> Career Exploration <input type="checkbox"/> Principles of Manufacturing <input type="checkbox"/> Principles of Machining I & II <input type="checkbox"/> Principles of Engineering Technology <input type="checkbox"/> Engineering Design I & II <input type="checkbox"/> Digital Electronics <input type="checkbox"/> Mechatronics I & II <input type="checkbox"/> Work-Based Learning / Practicum	English Language Arts <input type="checkbox"/> _____ <input type="checkbox"/> _____ Math <input type="checkbox"/> _____ <input type="checkbox"/> _____ Science <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ Other <input type="checkbox"/> _____ <input type="checkbox"/> _____	Certificates and Associate's Degrees Community Colleges <ul style="list-style-type: none"> Motlow State Community College Tennessee College of Applied Technology Nashville State Community College 	Bachelor's and Advanced Degrees Colleges and Universities <ul style="list-style-type: none"> Middle Tennessee State University Tennessee State University University of Tennessee Vanderbilt University

Postsecondary Programs/Majors for Occupations in these Pathways

	Building / Property Maintenance	Parts, Warehousing, & Inventory Management Operations	Machine Tool Technology	Industrial Mechanics & Maintenance Technology	Welding Technology
Certificate or AA					
Bachelor's Degree	Industrial Engineering	Mechanical Engineering	Electrical & Electronics Engineering	Engineering (All Other)	***
Advanced Degree	***	***	***	***	***

*** Few regional occupations in these pathways require education at this degree level.