

















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 				



Information Technology

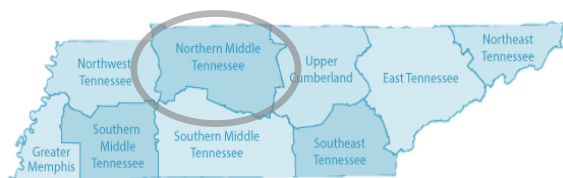
- Information Support & Services
- Web & Digital Communications
- Programming & Software Development
- Network Systems



Regional Career Opportunities – Listed by Highest Projected Demand



Few regional occupations in these pathways require education at this degree level.	Few regional occupations in these pathways require education at this degree level.	Computer User Support Specialists Annual Openings = 342 Median Wage = \$48,489 ★	Software Developers, Applications Annual Openings = 304 Median Wage = \$92,750 ★	Few regional occupations in these pathways require education at this degree level.
		Web Developers Annual Openings = 98 Median Wage = \$63,240	Computer Systems Analysts Annual Openings = 291 Median Wage = \$73,635 ★	
		Few regional occupations in these pathways require education at this degree level.	Software Developers, Systems Software Annual Openings = 184 Median Wage = \$86,368 ★	
			Network & Computer Systems Administrators Annual Openings = 149 Median Wage = \$82,310 ★	
			Computer Network Support Specialists Annual Openings = 144 Median Wage = \$57,381	



★ 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.





Information Technology

- Information Support & Services
- Web & Digital Communications
- Programming & Software Development
- Network Systems



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"/> Coding <input type="checkbox"/> Networking Systems	<input type="checkbox"/> Career Exploration <input type="checkbox"/> Computer Science Foundations <input type="checkbox"/> Coding I & II <input type="checkbox"/> Mobile App Development <input type="checkbox"/> Computer Systems <input type="checkbox"/> Networking <input type="checkbox"/> Cabling & Internetworking <input type="checkbox"/> Introduction to GIS <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"/> _____ Other <input type="checkbox"/> _____ <input type="checkbox"/> _____	Certificates and Associate's Degrees	Bachelor's and Advanced Degrees
			Community Colleges <ul style="list-style-type: none"> • Motlow State Community College • Tennessee College of Applied Technology • Nashville State Community College 	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 this Pathway

Certificate or AA	Computer Support Specialist	Computer Science	***	***	***
Bachelor's Degree	Computer Science	Computer Systems Analysis	Computer Programming	Computer and Information Sciences	Computer Systems Networking
Advanced Degree	***	***	***	***	***



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 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
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 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
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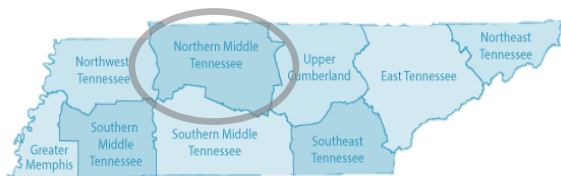
Manufacturing ▪ Production



Regional Career Opportunities – Listed by Highest Projected Demand



Sewing Machine Operators Annual Openings = 91 Median Wage = \$28,196	Helpers - Production Workers Annual Openings = 999 Median Wage = \$23,536	Welders, Cutters, Solderers & Brazers Annual Openings = 239 Median Wage = \$37,965 ★	<i>Few regional occupations in this pathway require education at this degree level.</i>	<i>Few regional occupations in this pathway 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 ★	Machinists Annual Openings = 179 Median Wage = \$39,562 ★		
<i>Few regional occupations in this pathway require education at this degree level.</i>	Packaging & Filling Machine Operators & Tenders Annual Openings = 375 Median Wage = \$31,512	Tool & Die Makers Annual Openings = 78 Median Wage = \$49,635 ★		
	Food Batchmakers Annual Openings = 343 Median Wage = \$34,350	Computer-Controlled Machine Tool Operators Annual Openings = 48 Median Wage = \$44,416		
	Mixing & Blending Machine Setters, Operators & Tenders Annual Openings = 77 Median Wage = \$42,407 ★	<i>Few regional occupations in this pathway require education at this degree level.</i>		



★ Top five high-value occupations in this pathway for the
Northern Middle Tennessee Region

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Manufacturing ▪ Production



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 <i>See other Manufacturing pathways for additional career programs and opportunities.</i>	<input type="checkbox"/> Career Exploration <input type="checkbox"/> Principles of Manufacturing <input type="checkbox"/> Principles of Machining 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"/> _____ Other <input type="checkbox"/> _____ <input type="checkbox"/> _____	Certificates and Associate's Degrees	Bachelor's and Advanced Degrees
			Community Colleges <ul style="list-style-type: none"> Motlow State Community College Tennessee College of Applied Technology Nashville State Community College 	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 this Pathway

Certificate or AA	Welding Technology	Machine Tool Technology	Tool and Die Technology	Computer Numerically Controlled Machinist (CNC) Technology	***
Bachelor's Degree	***	***	***	***	***
Advanced Degree	***	***	***	***	***





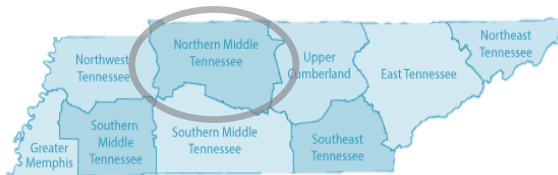
Manufacturing ▪ Maintenance, Installation & Repair



Regional Career Opportunities – Listed by Highest Projected Demand



<i>Few regional occupations in this pathway require education at this degree level.</i>	Outdoor Power Equipment & Other Small Engine Mechanics Annual Openings = 32 Median Wage = \$35,186	Maintenance and Repair Workers Annual Openings = 1095 Median Wage = \$37,244 ★	<i>Few regional occupations in this pathway require education at this degree level.</i>	<i>Few regional occupations in this pathway require education at this degree level.</i>
	Coin, Vending & Amusement Machine Servicers & Repairers Annual Openings = 19 Median Wage = \$35,768	First-Line Supervisors of Mechanics, Installers & Repairers Annual Openings = 322 Median Wage = \$62,902 ★		
	Home Appliance Repairers Annual Openings = 19 Median Wage = \$37,103	Industrial Machinery Mechanics Annual Openings = 243 Median Wage = \$46,020 ★		
	<i>Few regional occupations in this pathway require education at this degree level.</i>	Maintenance Workers, Machinery Annual Openings = 171 Median Wage = \$57,725 ★		
		Security & Fire Alarm Systems Installers Annual Openings = 84 Median Wage = \$51,577 ★		



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Manufacturing ▪ Maintenance, Installation & Repair



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 <i>See other Manufacturing pathways for additional career programs and opportunities.</i>	<input type="checkbox"/> Career Exploration <input type="checkbox"/> Principles of Manufacturing <input type="checkbox"/> Principles of Machining 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"/> _____ Other <input type="checkbox"/> _____ <input type="checkbox"/> _____	Certificates and Associate's Degrees	Bachelor's and Advanced Degrees
			Community Colleges <ul style="list-style-type: none"> Motlow State Community College Tennessee College of Applied Technology Nashville State Community College 	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 this Pathway

Certificate or AA	Building / Property Maintenance	Operations Management and Supervision	Industrial Mechanics and Maintenance Technology	Security System Installation, Repair, and Inspection Technology	Business Machine Repair
Bachelor's Degree	***	***	***	***	***
Advanced Degree	***	***	***	***	***





Manufacturing

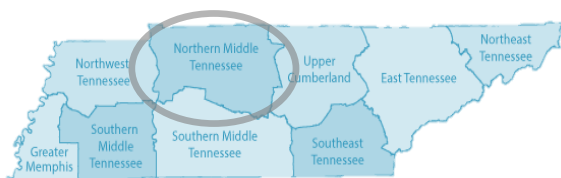
- Manufacturing Production Process Development
- Quality Assurance



Regional Career Opportunities – Listed by Highest Projected Demand



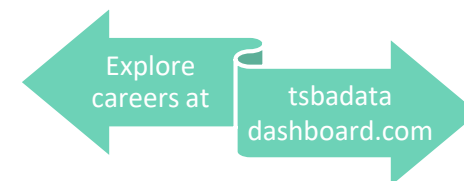
Few regional occupations in these pathways require education at this degree level.	Inspectors, Testers, Sorters & Weighers Annual Openings = 466 Median Wage = \$35,134 ★	Production, Planning & Expediting Clerks Annual Openings = 354 Median Wage = \$45,491 ★	Few regional occupations in these pathways require education at this degree level.	Few regional occupations in these pathways require education at this degree level.
	Weighers, Measurers, Checkers, & Samplers, Recordkeeping Annual Openings = 67 Median Wage = \$34,641	Electrical & Electronic Engineering Technicians Annual Openings = 59 Median Wage = \$59,004 ★		
	Few regional occupations in these pathways require education at this degree level.	Industrial Engineering Technicians Annual Openings = 46 Median Wage = \$49,577 ★		
		Mechanical Drafters Annual Openings = 45 Median Wage = \$58,967 ★		
		Chemical Technicians Annual Openings = 18 Median Wage = \$42,034		



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Manufacturing

- *Manufacturing Production Process Development*
- *Quality Assurance*



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

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English IV	Upper Level Math	-----	Personal Finance (.5)	-----	-----	-----	

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Postsecondary Programs/Majors for Occupations in this Pathway

Certificate or AA	Parts, Warehousing, and Inventory Management	Electrical and Electronic Engineering Technologies	Industrial Technology	Drafting and Design Technology	Chemical Technology
Bachelor's Degree	***	***	***	***	***
Advanced Degree	***	***	***	***	***

