



Manufacturing Technologies Career Pathway

Certificate

Associate Degree,
Manufacturing
Technology Operations

Bachelor's Degree,
Materials Engineering

Start Pre-Manufacturing

As early as grade 7
(based on readiness)

Welder 👍

Median Salary: \$44,190
Job Growth (10 yr): 2%
Annual Openings: 2,200
Average Tuition (1 yr): \$0 – \$3,900/yr

Tool & Die Maker 👍

Median Salary: \$54,760
Job Growth (10 yr): -6%
Annual Openings: 650
Average Tuition (2 yrs): \$3,900/yr

Materials Engineer 👍

Median Salary: \$95,640
Job Growth (10 yr): 1%
Annual Openings: 130
Average Tuition (4 yrs): \$10,900/yr



Workplace Visits
Job Shadow
Internship
Work

Supervised Experience

Work

Supervised Experience
Internship

Work

Internship

Work

Provided by middle schools, high schools, employers, Ohio Tech Centers, and colleges.

Preparing students for multiple options after high school:

gainful employment and/or postsecondary study.

 Ohio In-demand Occupations

Data reflects 2020 Occupational Employment and wages and Onet. For specific tuition costs, visit ohiohighered.org.



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Secondary Pathway: **Manufacturing Operations**

Postsecondary Program: **Manufacturing Technology Operations Management**

An Example of Courses with Secondary and Postsecondary Credits

Secondary	7 8	English I	Algebra I	Physical Science	Social Studies	Fine Arts	Pre-Engineering Technologies		
	9 10	English II	Geometry	Biology	World History	Health (.5) PE (.5)	Manufacturing Operations	Welding Technologies	World Languages
	11	English III	Algebra II	Chemistry	U.S. History	Gas Metal Arc Welding	Shielded Cored Arc Welding	World Languages	
	12	English IV	Trigonometry/ Calculus	Physics	U.S. Government	Flux Cored Arc Welding	Gas Tungsten Arc Welding		
Postsecondary	Year 1 1st Semester	English Composition	College Algebra	Engineering Design	Manufacturing Operations	Welding	Engineering Technologies		
	Year 1 2nd Semester	Economics	Financial Accounting	Jig & Fixture Design	Advanced Manufacturing	Computer Aided Manufacturing I			
	Year 2 1st Semester	Business Entrepreneurship	Physics	Quality	Logistics	Engineering Materials			
	Year 2 2nd Semester	Technical Writing	Business Management	Hydraulics & Pneumatics	Stamping Operations & Die Design				

High School Career-Technical Education Program Courses

High School Courses for Postsecondary Credit (Including Apprenticeship Hours) and the Corresponding Postsecondary Courses

Required Courses

Recommended Electives

Visit education.ohio.gov/CareerConnections for reference information.

Course titles and sequences will vary between schools.

6/2015