

# Unit: 9 Technology and Careers in Manufacturing

Content Area: **Industrial Technology**  
Course(s): **Manufacturing Tech III/ IV**  
Time Period: **year**  
Length: **All Year**  
Status: **Published**

## Unit Overview

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Technology has done more to shape the world we live in than any other single force. Technological advances continue to take place at an ever-increasing rate. Because of the continuing number of advances in technology, careers in industry are constantly growing. Like most industries, the Manufacturing field has expanded and seen the development of additional careers. The students will be introduced to the different careers available in Manufacturing and details the common strategies used to enter the field and get a job.

## Transfer

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Students will be able to independently use their learning to...

Create a resume of the skills they have obtained in the Manufacturing field. Research the various types of jobs and organizations that employ people in the Manufacturing Field. This includes business and Unions related to Manufacturing and Metalworking.

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For more information, read the following article by Grant Wiggins.

[http://www.authenticeducation.org/ae\\_bigideas/article.lasso?artid=60](http://www.authenticeducation.org/ae_bigideas/article.lasso?artid=60)

## Meaning

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Students that are not furthering their education can look for employment and be introduced to life skills they will need to survive in the real world. Technical schools will also inform the students about what is needed to economically survive on their own.

## **Understandings**

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Students will understand that...

Skilled workers are in more demand and receive a higher pay than unskilled workers.

Students should recognize that the skills they are currently learning will increase their chances for obtaining a career or furthering their education.

Students will be able to identify the careers that are available in the Manufacturing Field.

## **Essential Questions**

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Students will keep considering...

What is technology?

Explain what are the negative effects of technology?

What type of technology deals with the design, research, development and production techniques that convert raw materials into finished products?

For a company to remain in business what has to be made?

What are apprentice programs?

What are the different types of engineering programs that are available?

What are the men and women who plan, direct, and supervise the operation of an industrial organization called?

What are four qualities good leaders have in common?

Why is it important for employees in the metalworking industry to update their skills through education or by other means?

What information should be included in a resume?

## **Application of Knowledge and Skill**

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Students will be able to research careers in Manufacturing they may be interested in and write a resume.

### **Students will know...**

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Students will know...

The term technology

Explain how various types of technology contribute to advances in industry.

List the types of careers available in the metalworking industry.

Describe the importance of leadership skills and how they can be developed.

Explain how to enter the workforce and get a job in the metalworking industry.

Identify what industry expects of an employee.

Recognize what an employee should expect from industry.

How to write a resume.

### **Students will be skilled at...**

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Students will be skilled at...

What skills are needed to obtain a job.

How to obtain additional training or education after High School to be employed.

How to research job availability.

How to write a resume.

### **Academic Vocabulary**

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Apprentice programs

Flexible manufacturing system

Industrial Revolution

Industrial Technology

Metalworking Technology

Profit

Semiskilled workers

Skilled Workers

Technicians

Technology

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### **Learning Goal 1**

Students will gain an understanding of the evolution of technology from Industrial Revolution to Today.

12.9.3.MN.1	Evaluate the nature and scope of the Manufacturing Career Cluster and the role of manufacturing in society and in the economy.
12.9.3.MN.4	Describe career opportunities and means to achieve those opportunities in each of the Manufacturing Career Pathways.
12.9.3.MN.6	Demonstrate workplace knowledge and skills common to manufacturing.
12.9.3.MN-HSE.6	Conduct job safety and health analysis for manufacturing jobs, equipment and processes.
12.9.3.MN-PPD.2	Research, design and implement alternative manufacturing processes to manage production of new and/or improved products.

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### **Target 1**

SWBAT research the early way products were made at the beginning of cottage industries to the Industrial Revolution.

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### **Target 2**

SWBAT research how products are made today with a Flexible Manufacturing System.

## **Learning Goal 2**

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Career research and skills needed to be employed. Job resume writing.

12.9.3.MN.1	Evaluate the nature and scope of the Manufacturing Career Cluster and the role of manufacturing in society and in the economy.
12.9.3.MN.2	Analyze and summarize how manufacturing businesses improve performance.
12.9.3.MN.4	Describe career opportunities and means to achieve those opportunities in each of the Manufacturing Career Pathways.
12.9.3.MN.6	Demonstrate workplace knowledge and skills common to manufacturing.
12.9.3.MN-LOG.3	Develop a safety inspection process to assure a healthy and safe manufacturing facility.
12.9.3.MN-LOG.4	Manage inventory using logistics and control processes and procedures.
12.9.3.MN-MIR.1	Demonstrate maintenance skills and proficient operation of equipment to maximize manufacturing performance.
12.9.3.MN-MIR.2	Demonstrate the safe use of manufacturing equipment to ensure a safe and healthy environment.
12.9.3.MN-MIR.3	Diagnose equipment problems and effectively repair manufacturing equipment.
AAAA.K-12.2	All students will use information, technology, and other tools.
AAAA.K-12.3	All students will use critical thinking, decision making, and problem-solving skills.
AAAA.K-12.4	All students will demonstrate self-management skills.
	Students will demonstrate skills essential to the world of work. These skills will support successful post school employment and career development. This includes exploration of preferences and development of abilities relative to the individual.

### **Target 1**

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Students will be able to research career they may be interested in the Manufacturing field by filling their own interest survey.

### **Target 2**

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Students will identify job skills and education they will need to obtain the position they have selected.

### **Target 3**

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Students will write an individual resume with the skills they have acquired to this point.

## **Summative Assessment**

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Students will be tested on information presented.

## **21st Century Life and Careers**

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CAEP.9.2.12.C	Career Preparation
CAEP.9.2.12.C.1	Review career goals and determine steps necessary for attainment.
CAEP.9.2.12.C.2	Modify Personalized Student Learning Plans to support declared career goals.
CAEP.9.2.12.C.3	Identify transferable career skills and design alternate career plans.
CAEP.9.2.12.C.4	Analyze how economic conditions and societal changes influence employment trends and future education.
CAEP.9.2.12.C.5	Research career opportunities in the United States and abroad that require knowledge of world languages and diverse cultures.
CAEP.9.2.12.C.6	Investigate entrepreneurship opportunities as options for career planning and identify the knowledge, skills, abilities, and resources required for owning and managing a business.
CAEP.9.2.12.C.7	Examine the professional, legal, and ethical responsibilities for both employers and employees in the global workplace.
CAEP.9.2.12.C.8	Assess the impact of litigation and court decisions on employment laws and practices.
CAEP.9.2.12.C.9	Analyze the correlation between personal and financial behavior and employability.

## **Formative Assessment and Performance Opportunities**

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Students will be required to write their own resume which will be graded.

## **Accommodations/Modifications**

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Students will be able to fill out job applications, and apprenticeship applications.

## **Unit Resources**

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Modern Metalworking Instructor's Manual by John R. Walker

Modern Metalworking Textbook by John R. Walker

Modern Metalworking Workbook by John R. Walker

Videos on Industrial Revolution and Flexible Manufacturing System in You Tube

Videos and Websites on Resume Writing and Job Applications.