

# Introduction Manufacturing

Are you interested in how products and machines come together? Do you care about the quality of materials and of workmanship? The Manufacturing cluster covers how industry and technology work together to make or package the things that we use or consume every day like cars, computers and food. Students are expected to be able to problem solve, make decisions and work in teams.

Careers in advanced manufacturing offer exciting opportunities in designing and improving products, operating high-tech tools and machinery, analyzing problems and coming up with creative solutions, and working with both your hands and your mind.

# Career Opportunities Manufacturing

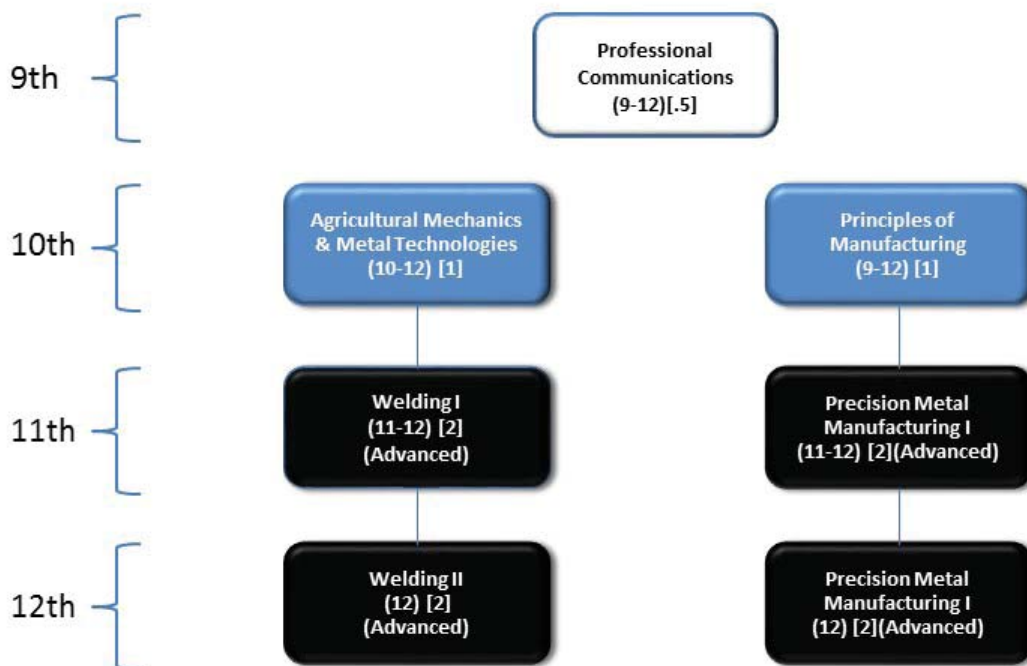
Aircraft Assembler  
Technologist  
Automated Manufacturing Tech  
Computer Engineering Technician  
Instrumentation Technician  
Calibration Technician

CNC Machinist  
Industrial Engineer  
Electromechanical Equip. Assemblers  
Diesel Engine Machinist  
Extruding & Drawing Mach. Operators  
Machine Technician

Tool & Die Maker  
Machine Operators  
Manufacturing Engineers  
Welder  
Precision Metal Workers  
Avionics Maintenance Tech

# Sequences Manufacturing

## Manufacturing



Business and Industry

**T1515**

## Principles of Manufacturing

- ▶ **Grade Placement** ..... 9-12
- ▶ **Credits** ..... 1
- ▶ **Prerequisite**..... None

Do you ever wonder how things are made? Have you ever wondered what it would take to make something yourself? In Principles of Manufacturing, students learn skills in the design, production, and testing of products that can be made from raw materials. Students will also gain an understanding of career opportunities available in manufacturing and what employers require in order to gain and maintain jobs in these careers. Students learn basic safety standards and proper use of power and hand tools.

**T6510**

## Precision Metal Manufacturing I

- ▶ **Grade Placement** ..... 11-12
- ▶ **Credits** ..... 2
- ▶ **Prerequisite**..... None
- ▶ **Location**..... *Advanced Technology Complex*
- ▶ **Partnerships** ..... *MAYDAY Manufacturing Company, Flowers Bakery and Bell Helicopter*

Ever wondered how precision metal products are manufactured for the aerospace, automotive, medical, and many other industries? Then this is the class for you! This course requires precision manufacturing tolerances within ten thousandths of an inch. In this course you will learn to work with the leading CAD/CAM (Computer Aided Design/ Computer Aided Machining) software utilized by industry. Students will also learn about material machineability and how to select and use the precision instruments necessary to ensure machined parts meet specifications and are within tolerance.

**T6515**

## Advanced Precision Metal Manufacturing II

- ▶ **Grade Placement**..... 12
- ▶ **Credits** ..... 2
- ▶ **Prerequisite**..... *Precision Metal Manufacturing I*
- ▶ **Location** ..... *Advanced Technology Complex*
- ▶ **Partnerships** ..... *MAYDAY Manufacturing Company, Flowers Bakery and Bell Helicopter*

Advanced Precision Metal Manufacturing builds on first year knowledge and skills. It will include exposure to a 4th axis in design and part production. Students will complete a job shadow rotation at local manufacturing company.

**T6520**

## **Welding I**

- ▶ **Grade Placement ..... 11-12**
- ▶ **Credits ..... 2**
- ▶ **Prerequisite..... None**
- ▶ **Location..... Advanced Technology Complex**
- ▶ **Partnerships ..... North Central Texas College**

This course is an entry level technical welding course. It is designed for the beginner with little or no welding experience who is interested in pursuing a course of study that can lead to an American Welding Society (AWS) entry level certification. Course curriculum follows American Welding Society "SENSE" guidelines to prepare the serious student for entry level certification testing after completing Advanced Welding. Students may take the course for high school credit only which would require no tuition payment. This course may be offered in partnership with North Texas Central College. NCTC registration must be completed and tuition requirements met in order to earn the NCTC dual credit.

**T6525**

## **Welding II**

- ▶ **Grade Placement ..... 12**
- ▶ **Credits ..... 2**
- ▶ **Prerequisite..... Welding I**
- ▶ **Location..... Advanced Technology Complex**
- ▶ **Partnerships ..... North Central Texas College**

This advanced welding program will follow American Welding Society "SENSE" guidelines to prepare the serious student for entry level certification testing after completing Advanced Welding. Students will complete individual projects to demonstrate industry competencies.