

# APR 100M : MANUFACTURING TRADES FUNDAMENTALS

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## Transcript title

MFG Trades Fundamentals

## Credits

4

## Grading mode

Standard letter grades

## Total contact hours

80

## Other hours

80

## Recommended preparation

APR 105M and APR 107M.

## Course Description

Introduces students to the foundational concepts, tools, and techniques used across the manufacturing industry. Students will build essential skills in basic mechanics, measurement, material handling, and the safe use of hand and power tools while gaining familiarity with fasteners and adhesives used in modern production. Students will also explore the fundamentals of welding, including primary welding types, welding applications, blueprint reading, and cutting processes using plasma and oxygen fuel equipment. In addition, students will learn about industrial maintenance, including machinery care, hydraulics and pneumatics, basic wiring, and battery technologies. By the end of the course, students will understand how core manufacturing, welding, and maintenance skills intersect to support efficient, high-quality production and prepare for future training or employment in the manufacturing trades.

## Course learning outcomes

1. Demonstrate proper use of basic hand and power tools, measurement instruments, and materials common to manufacturing environments.
2. Identify and describe key processes and applications related to primary welding types, blueprint reading, and cutting techniques.
3. Explain fundamental concepts of industrial maintenance, including machinery care, hydraulics, pneumatics, basic wiring, and battery technologies.
4. Recognize how foundational skills in manufacturing, welding, and maintenance contribute to safety, quality, and efficiency in production settings.

## Content outline

1. Manufacturing Fundamentals
2. Welding Fundamentals
3. Industrial Maintenance Fundamentals

## Required materials

No materials required.