

Principles of Manufacturing

Knowledge and skills. [PRINMAN](#)

1 The student applies manufacturing concepts to specific problems. The student is expected to: [PRINMAN.1](#)

- A** distinguish between disciplines such as engineering, science, manufacturing, and technology; [PRINMAN.1A](#)
 - B** use tools such as calculators and computers to solve problems; and [PRINMAN.1B](#)
 - C** use a variety of measuring instruments. [PRINMAN.1C](#)
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2 The student applies communication, mathematics, and science knowledge and skills to manufacturing activities. The student is expected to: [PRINMAN.2](#)

- A** demonstrate communication techniques consistent with industry standards; [PRINMAN.2A](#)
 - B** locate relevant information needed to solve problems; [PRINMAN.2B](#)
 - C** apply mathematics concepts to solve manufacturing problems; [PRINMAN.2C](#)
 - D** analyze science principles used to solve problems; and [PRINMAN.2D](#)
 - E** use the appropriate units of measure. [PRINMAN.2E](#)
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3 The student manufactures products using the appropriate tools, equipment, machines, materials, and technical processes. The student is expected to: [PRINMAN.3](#)

- A** analyze the processes needed to complete a project such as initiate, plan, execute, monitor and control, and close; and [PRINMAN.3A](#)
 - B** use a variety of tools and equipment to produce an item. [PRINMAN.3B](#)
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4 The student practices safe work habits. The student is expected to: [PRINMAN.4](#)

- A** master relevant safety tests based on OSHA guidelines and principles; and [PRINMAN.4A](#)
 - B** use Material Safety Data Sheets (MSDS) to analyze, store, and safely dispose of hazardous materials. [PRINMAN.4B](#)
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5 The student describes the importance of maintenance. The student is expected to: [PRINMAN.5](#)

- A** perform maintenance on selected equipment; and [PRINMAN.5A](#)
- B** analyze the results of improper maintenance. [PRINMAN.5B](#)

6 The student describes the factors that affect the evolution of technology. The student is expected to: PRINMAN.6

- A analyze how changes in technology affect manufacturing practices; PRINMAN.6A
- B evaluate how the development of technology in manufacturing is influenced by past events; PRINMAN.6B
- C analyze the international effects of technology; PRINMAN.6C
- D demonstrate how advancements in technology have affected the field of engineering; and PRINMAN.6D
- E evaluate the factors that affect the implementation of new ideas. PRINMAN.6E

7 The student selects and reports on career opportunities, requirements, and expectations in manufacturing and technology. The student is expected to: PRINMAN.7

- A investigate an area of interest in manufacturing; PRINMAN.7A
- B analyze the various specializations in manufacturing; and PRINMAN.7B
- C describe the functions of engineers, technologists, and technicians. PRINMAN.7C