Texas CTE

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

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

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

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

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

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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