

# Principles of Industry 4.0 - Smart Manufacturing (2025)

## Industry 4.0

- 1 Identify the components of the Industrial Internet of Things (IIoT). 7220.D1.1
- 2 Recognize that IIoT is the building block for Smart Manufacturing and Digital Integration. 7220.D1.2
- 3 Recognize how equipment monitoring plays a major role in predictive maintenance, lean manufacturing, and quality. 7220.D1.3
- 4 Demonstrate how Industry 4.0 concepts are changing the manufacturing world. 7220.D1.4
- 5 Execute basic setup, adjustment & operation of automated machines that may include CNC, robotics, 3D Printers, laser engraving, etc. 7220.D1.5
- 6 Discuss multiple aspects of industrial prints/drawings that are used in manufacturing. 7220.D1.6
- 7 Demonstrate an understanding of technical math, US customary, metric system, and metrology. 7220.D1.7
- 8 Recall content pertaining to General Industrial Safety to successfully obtain the OSHA 10 Hour General Industry Certification. 7220.D1.8
- 9 Recall fundamental content to meet/exceed the cut-score for the SACA (Smart Automation Certification Alliance) C-101 Certified Industry 4.0 Associate - Basic Operations - Silver Certification. 7220.D1.9
- 10 Demonstrate skills to obtain the SACA C-101 Certified Industry 4.0 Associate - Basic Operations - Gold Certification at 100% of skill standard. 7220.D1.10

## Career Navigation

- 1 Explore career opportunities related to the program of study and understand how they relate to the global economy and marketplace. 7220.D2.1
- 2 Understand the specialized skills needed for different career opportunities related to the program of study. 7220.D2.2
- 3 Examine licensing, certification, and credentialing requirements for different career opportunities related to the program of study. 7220.D2.3

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- 4 Identify a career goal and develop an action plan, including opportunities available while in high school, for obtaining the specialized skills and credentials needed for a career related to the program of study.** 7220.D2.4
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**Leadership and  
Employability Skills**

- 1 Demonstrate professionalism by meeting expectations of promptness, attendance, being prepared, completing tasks, and following safety procedures.** 7220.D3.1
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- 2 Demonstrate the skills needed to successfully collaborate within teams, departments, and organizations.** 7220.D3.2
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- 3 Demonstrate an awareness and understanding of responsible, ethical, and professional networking.** 7220.D3.3
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- 4 Examine personal, wellness, and stress management strategies.** 7220.D3.4
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**College and Career  
Readiness Skills**

- 1 Demonstrate computer literacy skills and basic computer functions.** 7220.D4.1
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- 2 Communicate clearly, effectively, and with reason through speaking, writing, using visuals, and active listening in formal and informal settings.** 7220.D4.2
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- 3 Demonstrate decision-making and problem-solving skills using critical thinking and relevant math and data knowledge.** 7220.D4.3
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- 4 Demonstrate research, study skills, and self-learning strategies needed to be successful in a career pathway.** 7220.D4.4
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