Standards Correlations

Cybersecurity in Manufacturing (8499)

Task	SOL Correlations
Demonstrating Personal Qualities and Abilities	
Demonstrate creativity and innovation.	English: 6.1, 6.3, 6.4, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 8.2, 8.4, 8.6, 8.7, 8.11, 8.12, 8.17, 8.18, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, AII.9, COM.1, COM.3, COM.4, COM.5, COM.8, DM.7, DM.1*, DM.10, DM.2*, DM.3*, PS.3*, PS.4*, PS.7*, PS.9*, PS.10* Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1
Demonstrate critical thinking and problem solving.	English: 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.5, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.5, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.10, 6.11, 7.2, 7.3, 7.8, 7.12, 7.13, 8.2, 8.4, 8.8, 8.9, 8.10, 8.11, A.8, A.9, G.1, G.13, G.14, AFDA.3, AFDA.5, AFDA.8, AII.9, AII.10, AII.11, COM.1, COM.3, COM.4, COM.5, COM.8, DM.4, DM.7, DM.1*, DM.2*, DM.3*, DM.9*, PS.9*, PS.10* Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1
Demonstrate initiative and self-direction.	English: 6.1, 6.4, 6.6, 6.7, 6.9, 7.1, 7.4, 7.6, 7.7, 7.9, 8.1, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1,

Task	SOL Correlations
	WG.1, WHI.1, WHII.1
Demonstrate integrity.	English: 6.1, 7.1, 8.1, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate work ethic.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1
Demonstrating Interpersonal Skills	
Demonstrate conflict-resolution skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.4, 8.6, 8.7, 8.9, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, VUS.1
Demonstrate listening and speaking skills.	English: 6.1, 6.2, 6.4, 6.6, 7.1, 7.2, 7.4, 7.6, 8.1, 8.2, 8.4, 8.6, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate respect for diversity.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, USII.9, VUS.1, VUS.13, WG.1, WHI.1, WHII.1
Demonstrate customer service skills.	English: 6.1, 6.4, 6.7, 7.1, 7.4, 7.7, 8.1, 8.4, 8.7, 9.1, 9.5, 9.6, 10.1, 10.5, 10.6, 11.1, 11.5, 11.6, 12.1, 12.5, 12.6 History and Social Science: CE.1, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Collaborate with team members	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrating Professional Competencies	
Demonstrate big-picture thinking.	English: 6.1, 6.4, 7.1, 7.4, 8.1, 8.4, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: CE.1, CE.4, CE.12, GOVT.1, GOVT.15, USI.1,

Task	SOL Correlations
	USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate career- and life-management skills.	English: 6.1, 6.7, 7.1, 7.7, 8.1, 8.7, 9.1, 9.6, 10.1, 10.6, 11.1, 11.6, 12.1, 12.6 History and Social Science: CE.1, CE.4, CE.12, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 8.4
Demonstrate continuous learning and adaptability.	English: 6.1, 6.4, 6.7, 6.9, 7.1, 7.4, 7.7, 7.9, 8.1, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.3, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: BIO.1, CH.1, LS.1, PH.1, PH.4, PS.1
Manage time and resources.	English: 6.1, 6.2, 6.4, 6.7, 6.9, 7.1, 7.2, 7.4, 7.7, 7.9, 8.1, 8.2, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 8.4, 8.11, 8.12, 8.13, 8.14, 8.17, 8.18, A.4, A.5, A.8, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, COM.1, COM.3, COM.5, COM.8
Demonstrate information-literacy skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.9, 9.2, 9.5, 9.6, 9.8, 10.2, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.8, 7.9, 8.11, 8.12, A.8, A.9, AFDA.3, AFDA.4, AFDA.6, AFDA.7, AFDA.8, DM.8, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*, PS.8*, PS.9*, PS.10* Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1
Demonstrate an understanding of information security.	English: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.8, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.8, 8.9, 9.1, 9.2, 9.5, 9.6, 9.8, 10.1, 10.2, 10.5, 10.6, 10.8, 11.1, 11.2, 11.5, 11.6, 11.8, 12.1, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1,

Task	SOL Correlations
	WG.1, WHI.1, WHII.1 Mathematics: COM.10
Maintain working knowledge of current information-technology (IT) systems.	English: 6.1, 6.3, 6.4, 6.6, 6.9, 7.1, 7.3, 7.4, 7.6, 7.9, 8.1, 8.3, 8.4, 8.6, 8.9 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 7.8, COM.1, COM.2, COM.7, COM.9, COM.10, COM.11, COM.16, COM.18, PS.17 Science: BIO.1, CH.1, ES.1, PH.1
Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.	History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.9, 8.4, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AII.4, AII.7, AII.9, COM.1, COM.7, COM.10, COM.11, COM.12, COM.16 Science: CH.1, ES.1, LS.1, PH.1, PS.1
Apply mathematical skills to job-specific tasks.	English: 6.4, 6.6, 6.7, 7.4, 7.6, 7.7, 8.4, 8.6, 8.7, 9.5, 9.6, 10.5, 10.6, 11.5, 11.6, 12.5, 12.6 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.5, 6.6, 6.12, 6.13, 6.14, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.8, 7.9, 7.11, 7.12, 7.13, 8.4, 8.5, 8.6, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16, 8.17, 8.18, A.1, A.3, A.4, A.5, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AFDA.8, AII.3, AII.7, AII.9, AII.10, COM.1, COM.7 Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1
Demonstrate professionalism.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate reading and writing skills.	English: 6.1, 6.6, 6.7, 7.1, 7.6, 7.7, 8.1, 8.6, 8.7, 9.1, 9.5, 9.6, 9.7, 10.1, 10.5, 10.6, 10.7, 11.1, 11.5, 11.6, 11.7, 12.1, 12.5, 12.6, 12.7 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: 6.1, PH.1, PS.1

Task	SOL Correlations
Demonstrate workplace safety.	English: 6.4, 7.4, 8.4, 9.5, 10.5, 11.5, 12.5 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1
Examining All Aspects of an Industry	
Examine aspects of planning within an industry/organization.	History and Social Science: GOVT.16
Examine aspects of management within an industry/organization.	
Examine aspects of financial responsibility within an industry/organization.	
Examine technical and production skills required of workers within an industry/organization.	
Examine principles of technology that underlie an industry/organization.	
Examine labor issues related to an industry/organization.	History and Social Science: GOVT.16
Examine community issues related to an industry/organization.	History and Social Science: GOVT.16
Examine health, safety, and environmental issues related to an industry/organization.	History and Social Science: GOVT.16
Addressing Elements of Student Life	
Identify the purposes and goals of the student organization.	
Explain the benefits and responsibilities of membership in the student organization as	

Task	SOL Correlations
a student and in professional/civic organizations as an adult.	
Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.	
Identify Internet safety issues and procedures for complying with acceptable use standards.	
Exploring Work-Based Learning	
Identify the types of work-based learning (WBL) opportunities.	
Reflect on lessons learned during the WBL experience.	
Explore career opportunities related to the WBL experience.	
Participate in a WBL experience, when appropriate.	
Understanding Manufacturing	
Define *manufacturing*.	English: 10.3, 10.5, 10.8, 11.3, 11.5, 11.8, 12.3, 12.5, 12.8 History and Social Science: VUS.6, VUS.8, VUS.10, WHII.8 ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Describe secondary manufacturing processes.	English: 10.5, 11.5, 12.5

Task	SOL Correlations
	ITEEA National Standards: 19. Manufacturing Technologies
Identify the subsectors within manufacturing.	History and Social Science: VUS.6, VUS.8, VUS.10, WHII.10 ITEEA National Standards: 19. Manufacturing Technologies
Compare various types of manufacturing business ownership and organization.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.9, GOVT.15, VUS.8, VUS.10, WHII.14 ITEEA National Standards: 19. Manufacturing Technologies 4. The Cultural, Social, Economic, and Political Effects of Technology
Explain the universal systems model (i.e., input, process, and output).	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.1, GOVT.12, GOVT.13, GOVT.14, GOVT.15, VUS.1, VUS.8, VUS.11, WHII.1, WHII.4, WHII.6, WHII.8, WHII.13, WHII.14 Mathematics: A.7 ITEEA National Standards: 1. The Characteristics and Scope of Technology 2. The Core Concepts of Technology
Understanding Production Processes	
Explain the product-development process.	English: 10.5, 11.5, 12.5 ITEEA National Standards: 19. Manufacturing Technologies 9. Engineering Design

Task	SOL Correlations
	TSA Competitive Events: Computer Integrated Manufacturing (CIM) Computer-Aided Design (CAD), Engineering
Distinguish among materials used in the manufacturing process.	TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Describe the engineering design process.	English: 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: GOVT.1, GOVT.6, VUS.13, VUS.14 Mathematics: A.4, A.5, A.7, A.8, A.9, PS.5, PS.1*, PS.2*, PS.4*, PS.8* TSA Competitive Events: Computer Integrated Manufacturing (CIM) Engineering Design
Explain the effect of automation on the manufacturing processes.	English: 10.5, 11.5, 12.5 Mathematics: A.4, A.5 ITEEA National Standards: 19. Manufacturing Technologies 6. The Role of Society in the Development and Use of Technology 7. The Influence of Technology on History TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Use the engineering design process to plan production.	ITEEA National Standards: 19. Manufacturing Technologies 9. Engineering Design

Task	SOL Correlations
	TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Differentiate between primary and secondary manufacturing processes.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1, WHII.8, WHII.9, WHII.10, WHII.14 ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Technology Bowl
Evaluate the production process.	English: 10.5, 11.5, 12.5 ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Exploring Automated Tools Related to Manufacturing	
Describe the use of computer-aided design (CAD) in manufacturing.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.14 Mathematics: COM.1 ITEEA National Standards: 19. Manufacturing Technologies 4. The Cultural, Social, Economic, and Political Effects of Technology TSA Competitive Events:

Task	SOL Correlations
	Computer-Aided Design (CAD), Engineering
Produce a design for three-dimensional (3D) printing.	Mathematics: COM.1 ITEEA National Standards: 19. Manufacturing Technologies 8. The Attributes of Design TSA Competitive Events: Computer Integrated Manufacturing (CIM) Computer-Aided Design (CAD), Engineering
Explain CAM.	English: 10.5, 11.5, 12.5 Mathematics: COM.1 ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Explain a programmable logic controller (PLC).	English: 10.5, 11.5, 12.5 Mathematics: COM.1 ITEEA National Standards: 19. Manufacturing Technologies
Explain a microcontroller.	English: 10.3, 10.5, 10.6, 10.7, 11.3, 11.5, 11.6, 11.7, 12.3, 12.5, 12.6, 12.7 Mathematics: COM.1, COM.10, COM.11 ITEEA National Standards:

Task	SOL Correlations
	17. Information and Communication Technologies 19. Manufacturing Technologies TSA Competitive Events: Coding
Differentiate between open and closed loops in control systems.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 ITEEA National Standards: 19. Manufacturing Technologies 2. The Core Concepts of Technology TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Develop a control system, based on given needs and constraints.	English: 10.6, 10.7, 11.6, 11.7, 12.6, 12.7 History and Social Science: VUS.1, VUS.3, VUS.6, VUS.8, VUS.11 ITEEA National Standards: 17. Information and Communication Technologies 2. The Core Concepts of Technology 9. Engineering Design TSA Competitive Events: Coding Computer Integrated Manufacturing (CIM)
Exploring the Evolution of Manufacturing	
Outline the history of manufacturing, with an emphasis on the development of manufacturing in the United States.	ITEEA National Standards: 19. Manufacturing Technologies 7. The Influence of Technology on History

Task	SOL Correlations
	TSA Competitive Events: Technology Bowl
Describe current and emerging trends in manufacturing.	ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Exploring the Evolution of Manufacturing	
Describe cybersecurity.	English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8 History and Social Science: GOVT.1, VUS.13, VUS.14 Mathematics: COM.1 TSA Competitive Events: Coding
Describe the critical factors of information security.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: GOVT.1, GOVT.6, VUS.13 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies TSA Competitive Events: Coding
Explain cybersecurity services as they relate to cyber incident prevention.	English: 10.5, 11.5, 12.5

Task	SOL Correlations
	History and Social Science: GOVT.1, GOVT.6, VUS.13 Mathematics: COM.16, COM.17 ITEEA National Standards: 17. Information and Communication Technologies TSA Competitive Events: Coding
Distinguish among types of ethical concerns in cybersecurity.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.1, GOVT.16, VUS.13 ITEEA National Standards: 6. The Role of Society in the Development and Use of Technology TSA Competitive Events: Coding
Identify laws/regulations applicable to cybersecurity.	English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8 History and Social Science: GOVT.15, VUS.1 ITEEA National Standards: 4. The Cultural, Social, Economic, and Political Effects of Technology 6. The Role of Society in the Development and Use of Technology TSA Competitive Events: Coding
Differentiate between ethics and laws.	English: 10.5, 11.5, 12.5

Task	SOL Correlations
	History and Social Science: GOVT.15, GOVT.16, VUS.1 ITEEA National Standards: 4. The Cultural, Social, Economic, and Political Effects of Technology TSA Competitive Events: Technology Bowl
Identify concepts related to copyright, public domain, copy protection, intellectual property, and licensing agreements.	English: 10.5, 11.5, 12.5 ITEEA National Standards: 4. The Cultural, Social, Economic, and Political Effects of Technology TSA Competitive Events: Coding
Exploring Vulnerabilities, Risks, and Threats in Manufacturing Systems	
Define *risk*.	English: 10.3, 11.3, 12.3 ITEEA National Standards: 19. Manufacturing Technologies
Analyze risks affecting the 16 critical infrastructure sectors.	English: 10.3, 10.5, 10.8, 11.3, 11.5, 11.8, 12.3, 12.5, 12.8 History and Social Science: GOVT.1, GOVT.6, VUS.13, VUS.14, WHII.14 ITEEA National Standards: 19. Manufacturing Technologies
Describe the characteristics of vulnerabilities.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 History and Social Science: GOVT.1, GOVT.6, VUS.13

Task	SOL Correlations
	Mathematics: COM.2, COM.3 ITEEA National Standards 17. Information and Communication Technologies
Describe the cybersecurity threats to a manufacturing system.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.1, GOVT.6, VUS.13 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies TSA Competitive Events: Coding Computer Integrated Manufacturing (CIM)
Describe the cyberattack surface of the standard equipment that connects the manufacturing system and the enterprise's integrated IT system.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.1, GOVT.6, VUS.13, VUS.14 ITEEA National Standards: 17. Information and Communication Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Describe the cyberattack surface of manufacturing systems.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.1, GOVT.6, VUS.13 ITEEA National Standards: 17. Information and Communication Technologies

Task	SOL Correlations
	19. Manufacturing Technologies TSA Competitive Events: Coding Computer Integrated Manufacturing (CIM)
Describe the cyberattack surface of the manufacturing supply chain.	English: 10.5, 11.5, 12.5 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies
Managing Risks in Manufacturing	
Explain why the manufacturing sector needs to manage cyber risk.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.1, GOVT.6, VUS.13 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies 4. The Cultural, Social, Economic, and Political Effects of Technology TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Explain the importance of creating and enforcing plans, policies, and procedures to manage risk.	English: 10.5, 11.5, 12.5 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)

Task	SOL Correlations
Identify the concepts of cybersecurity risk management.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 Mathematics: COM.1 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies
Identify prevention of and protection systems against cyber threats in manufacturing.	History and Social Science: GOVT.1, GOVT.6, VUS.13 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies 4. The Cultural, Social, Economic, and Political Effects of Technology
Identify prevention of and protections against threats throughout each stage of the manufacturing process.	History and Social Science: GOVT.1, GOVT.6, VUS.13 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Explain the importance of physical security controls.	English: 10.5, 11.5, 12.5 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies
Describe appropriate incident response procedures.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.16

Task	SOL Correlations
	ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies
Practicing Safety in Manufacturing	
Use required personal protective equipment (PPE).	English: 10.5, 11.5, 12.5 Science: CH.1 ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM) Engineering Design
Implement a safety plan.	English: 10.5, 11.5, 12.5 Science: CH.1 ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Maintain safe working practices around production equipment.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.14 Science: CH.1 ITEEA National Standards:

Task	SOL Correlations
	19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Operate lab equipment according to instructor guidelines.	English: 10.5, 11.5, 12.5 Science: CH.1 ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Establishing a Manufacturing Enterprise	
Identify current laws and regulations affecting the establishment and operation of manufacturing businesses.	English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8 History and Social Science: GOVT.14 ITEEA National Standards: 19. Manufacturing Technologies 4. The Cultural, Social, Economic, and Political Effects of Technology TSA Competitive Events: Computer Integrated Manufacturing (CIM) Technology Bowl
Plan a product.	English: 10.1, 10.5, 10.6, 11.1, 11.5, 11.6, 12.1, 12.5, 12.6 Mathematics: A.4, A.5, PS.8* ITEEA National Standards:

Task	SOL Correlations
	19. Manufacturing Technologies 8. The Attributes of Design 9. Engineering Design TSA Competitive Events Computer Integrated Manufacturing (CIM) Technology Bowl
Identify a business team for product development.	English: 10.1, 11.1, 12.1 Mathematics: A.3, A.4, A.5 ITEEA National Standards: 19. Manufacturing Technologies 4. The Cultural, Social, Economic, and Political Effects of Technology 6. The Role of Society in the Development and Use of Technology TSA Competitive Events Computer Integrated Manufacturing (CIM)
Design a product using CAD.	History and Social Science: WHII.14 ITEEA National Standards: 11. Apply the Design Processes 12. Use and Maintain Technological Products and Systems 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM) Computer-Aided Design (CAD), Engineering
Design the process for product creation using automation.	English: 10.6, 11.6, 12.6

Task	SOL Correlations
	History and Social Science: GOVT.16 ITEEA National Standards: 19. Manufacturing Technologies 8. The Attributes of Design 9. Engineering Design TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Identify trade secrets and proprietary information of a manufacturing enterprise.	ITEEA National Standards: 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM) Technology Bowl
Identify the prevention of and protections against cyber threats for a manufacturing enterprise.	History and Social Science: GOVT.1, GOVT.6, VUS.13 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM)
Secure the product using cybersecurity best practices.	History and Social Science: GOVT.1, GOVT.6, VUS.13 ITEEA National Standards: 17. Information and Communication Technologies 19. Manufacturing Technologies TSA Competitive Events:

Task	SOL Correlations
	Computer Integrated Manufacturing (CIM)
Create product.	History and Social Science: VUS.6, VUS.8, VUS.10, WHII.8 ITEEA National Standards: 12. Use and Maintain Technological Products and Systems 19. Manufacturing Technologies TSA Competitive Events: Computer Integrated Manufacturing (CIM) Engineering Design