Teacher Resources

Cybersecurity in Manufacturing (8499)

AFA CyberPatriot is the National Youth Cyber Education Program created by the Air Force Association to inspire K-12 students toward careers in cybersecurity or other science, technology, engineering, and mathematics (STEM) disciplines critical to our nation's future. At the core of the program is the National Youth Cyber Defense Competition, the nation's largest cyber defense competition that puts high school and middle school students in charge of securing virtual networks.

This provides quick access to the links provided in the body of the curriculum framework.

Differences Between Manufacturing Systems

Food Manufacturing: NAICS 311
Beverage and Tobacco Product Manufacturing: NAICS 312
Textile Mills: NAICS 313
Textile Product Mills: NAICS 314
Apparel Manufacturing: NAICS 315
Leather and Allied Product Manufacturing: NAICS 316
Wood Product Manufacturing: NAICS 321
Paper Manufacturing: NAICS 322
Printing and Related Support Activities: NAICS 323
Petroleum and Coal Products Manufacturing: NAICS 324
Chemical Manufacturing: NAICS 325
Plastics and Rubber Products Manufacturing: NAICS 326
Nonmetallic Mineral Product Manufacturing: NAICS 327
Primary Metal Manufacturing: NAICS 331
Fabricated Metal Product Manufacturing: NAICS 332
Machinery Manufacturing: NAICS 333
Computer and Electronic Product Manufacturing: NAICS 334
Electrical Equipment, Appliance, and Component Manufacturing: NAICS 335
Transportation Equipment Manufacturing: NAICS 336
Furniture and Related Product Manufacturing: NAICS 337
Miscellaneous Manufacturing: NAICS 339
https://www.bls.gov/home.htm

Automation Article

What is a Programmable Logic Controller?
What is a Microprocessor?
What is a Microcontroller?

Carnegie Mellon Robotics Academy
Breaking the Code on a Career in Cybersecurity (YouTube playlist)
European Union [EU] directive on security of network and information systems [NIS Directive]
North American Electric Reliability Corporation Critical Infrastructure Protection [NERC CIP]).
Chemical Facility Anti-Terrorism Standards [CFAT])
https://www.threatanalysis.com/2010/05/03/threat-vulnerability-risk-commonly-mixed-up-terms/
http://cyberphysicalsystems.org/ https://www.nist.gov/el/cyber-physical-systems

Presidential Policy Directive (PPD)-21 Critical Infrastructure Security and Resilience (2013)
Executive Order (EO) 13636 Improving Critical Infrastructure Cybersecurity (Issued Dec 2016).
Open Web Application Security Project
https://virginiacyberrange.org/