

# Industry Credentials, Concentration Sequences, and Career Clusters

## Technology of Robotic Design (8421)

### Industry Credentials:

*These apply only to 36-week courses*

- College and Work Readiness Assessment (CWRA+)
- National Career Readiness Certificate Assessment
- Robotics Certification Examination
- Smart Automation Associate Certifications
- Smart Automation Associate Examinations: Certified Industry 4.0 Associate–Advanced Operations
- Smart Automation Associate Examinations: Certified Industry 4.0 Associate–Basic Operations
- Smart Automation Associate Examinations: Certified Industry 4.0 Associate–Robot System Operations
- Smart Manufacturing and Advanced Robotics Training (SMART) Certification Examination
- Workplace Readiness Skills for the Commonwealth Examination

### Concentration Sequences:

*A combination of this course and those below, equivalent to two 36-week courses, is a **concentration sequence**. A **program completer** is a student who has met the requirements for a CTE concentration sequence and all other requirements for high school graduation or an approved alternative education program. Students wishing to complete a specialization may take additional courses based on their career pathways.*

- Electronics Systems I (18 Weeks)
- Electronics Systems I (36 Weeks)
- Electronics Systems II
- Manufacturing Systems I (18 Weeks)
- Manufacturing Systems I (36 Weeks)
- Technical Drawing and Design (18 Weeks)
- Technical Drawing and Design (36 Weeks)
- Technology Foundations (18 Weeks)
- Technology Foundations (36 Weeks)

### Career Clusters, Career Pathways, and Occupations:

- Information Technology
  - Information Support and Services
    - Applications Integrator
    - Computer Numerical Control Programmer (CNC Programmer)
    - Systems Analyst
- Manufacturing
  - Health, Safety, and Environmental Assurance
    - Occupational Health and Safety Specialist
    - Safety Engineer
  - Logistics and Inventory Control
    - Logistician
    - Materials Handler
  - Manufacturing Production Process Development
    - Electro-Mechanical Technician
    - Industrial Engineer
    - Industrial Engineering Technician
    - Manufacturing Systems Engineer
    - Precision Inspector, Tester, or Grader
    - Production Manager
    - Programmer
    - SPC (Statistical Process Control) Coordinator
  - Production
    - Automated Manufacturing Technician
  - Quality Assurance
    - Calibration Technician
    - Precision Inspector, Tester, or Grader
    - Quality Control Technician
    - SPC (Statistical Process Control) Coordinator
- Science, Technology, Engineering and Mathematics
  - Engineering and Technology
    - Computer Hardware Engineer
    - Electro-Mechanical Technician
    - Human Factors Engineer
    - Industrial Engineer
    - Industrial Engineering Technician
    - Manufacturing Systems Engineer
    - Mechanical Engineer
    - Mechanical Engineering Technician

- Systems Analyst
- Science and Mathematics
  - Secondary School Teacher
  - Technical Writer