

# Industry Credentials, Concentration Sequences, and Career Clusters

## Manufacturing Systems I (8425 / 8426)

### Industry Credentials:

*These apply only to 36-week courses.*

- Additive Manufacturing Fundamentals Examination
- Business Certificate for Manufacturing Examination
- Certified Production Technician (CPT) Program Examinations
- College and Work Readiness Assessment (CWRA+)
- Laboratory Technician (Lab Tech) Certification Assessment
- Manufacturing Specialist Certification Examination
- Manufacturing Technician Level I Certification Examination
- National Career Readiness Certificate Assessment
- Pre-Manufacturing Technician I (Pre-MT1) Examination
- Rapid Prototyping and 3D Design Beginner Certification Examination
- Stratasys Additive Manufacturing Certification
- 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.*

- Construction Technology (8431/36 weeks)
- Construction Technology (8432/18 weeks)
- Manufacturing Systems II, Advanced (8427/36 weeks)
- Materials and Processes Technology (8433/36 weeks)
- Materials and Processes Technology (8478/18 weeks)
- Production Systems (8446/18 weeks)
- Production Systems (8447/36 weeks)
- Sustainability and Renewable Technologies (8414/36 weeks)
- Technical Drawing and Design (8435/36 weeks)
- Technical Drawing and Design (8434/18 weeks)
- Technology Foundations (8403/36 weeks)
- Technology Foundations (8402/18 weeks)

- Technology of Robotic Design (8420/18 weeks)
- Technology of Robotic Design (8421/36 weeks)

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

- Manufacturing
  - Health, Safety, and Environmental Assurance
    - Occupational Health and Safety Specialist
    - Safety Engineer
  - Logistics and Inventory Control
    - Dispatcher
    - Logistician
    - Materials Handler
    - Shipping and Receiving Clerk
  - Manufacturing Production Process Development
    - Electro-Mechanical Technician
    - Industrial Engineer
    - Industrial Engineering Technician
    - Manufacturing Systems Engineer
    - Millwright
    - Precision Inspector, Tester, or Grader
    - Production Manager
    - SPC (Statistical Process Control) Coordinator
  - Production
    - Assembler
    - Automated Manufacturing Technician
    - Extruding and Drawing Machine Operator
    - Tool and Die Maker
  - 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 Programmer
    - Electrical Engineer
    - Electrical Engineering Technician
    - Electro-Mechanical Technician
    - Electronic Drafter
    - Electronics Engineering Technician
    - Human Factors Engineer
    - Industrial Engineer
    - Industrial Engineering Technician
    - Manufacturing Systems Engineer
    - Materials Engineer

- Mechanical Drafter
- Mechanical Engineer
- Mechanical Engineering Technician
- Power Systems Engineer
- Project Manager
- Quality Engineer
- Quality Technician