

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