
990-ACDC1
AC/DC ELECTRICAL SYSTEMS
CESA 3
ADVANCED MANUFACTURING ACADEMY

Creating your future workforce

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Today's Goal

- We want you to understand the Advanced Manufacturing Youth Apprenticeship (AMYA) Academy.
- We want to build a strong case for being selected as a finalist for the Career Z Challenged so that we are eligible for additional funding.
- We want to engage you in this project!

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What is the AMYA Academy?

- A work-based learning opportunity for students to receive hands-on instruction and training on state-of-the-art advanced manufacturing equipment
- An opportunity to address the regional job shortage in the manufacturing industry and contribute to the economic growth of our region
- This initiative aligns perfectly with CESA 3's goal through the Workforce Innovation Grant (WIG) to increase youth apprentice students in Manufacturing.

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Why was the AMYA Academy created?

- We know work-based learning works.
- We know youth apprenticeship provides an opportunity for students to explore career paths.
- We know there's a shortage in the manufacturing industry – a national forecast predicts a shortage of 2.1 million jobs in the manufacturing sector by 2030 (Deloitte Insights, 2023)

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Current funding for the AMYA Academy

- 2023 Wisconsin Economic Development Corporation Fab Lab Grant Recipient- $50,000
- 2024 Wisconsin Economic Development Corporation Fab Lab Grant Recipient - $50,000
- Workforce Innovation Grant (WIG) to focus on advanced manufacturing
- National Semi-Finalist for the U.S. Department of Education's Career Z Challenge, though we have not yet received funding

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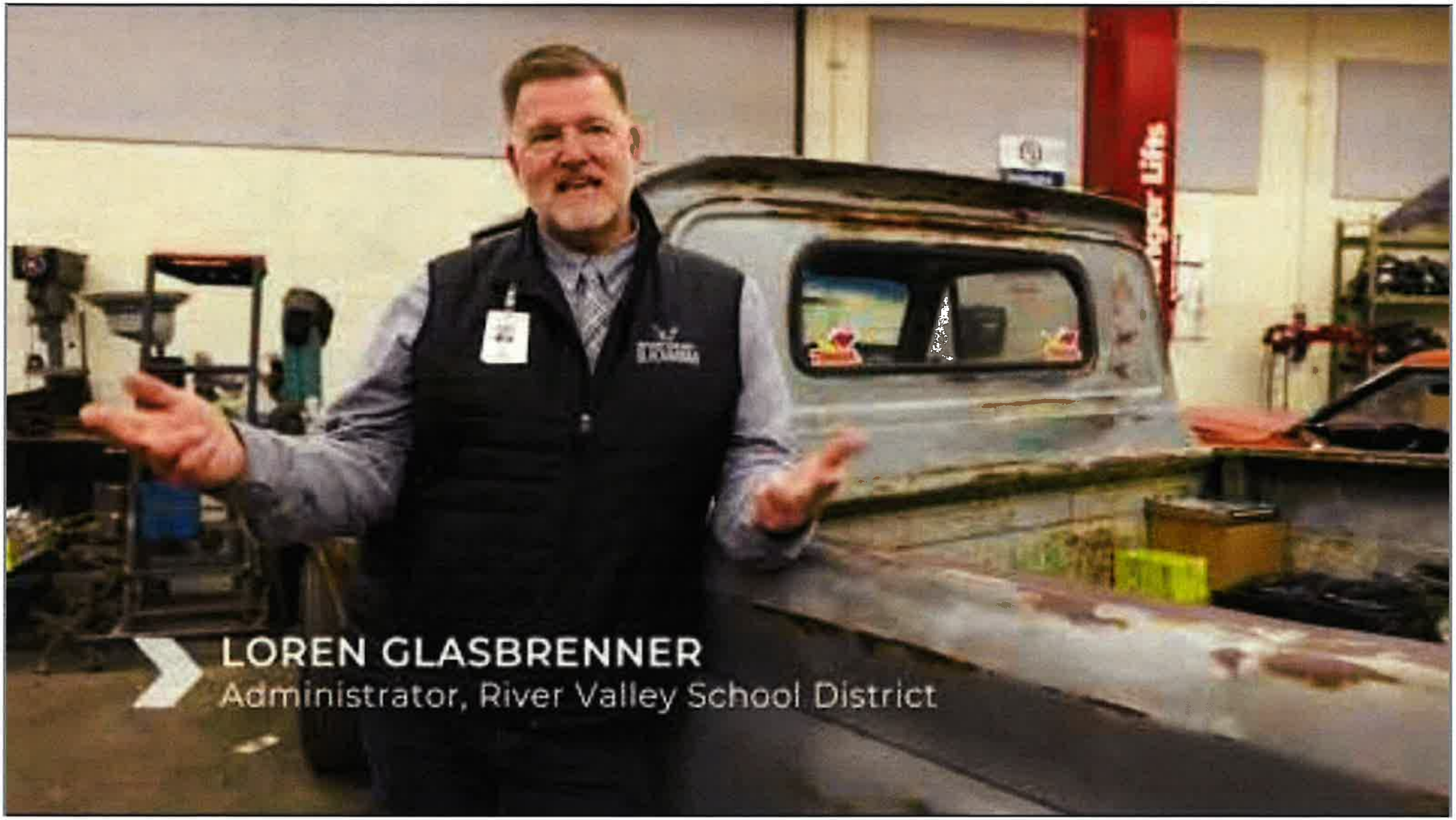
LOREN GLASBRENNER
Administrator, River Valley School District

AMYA Academy Curriculum

- Academy courses were developed by LAB Midwest and include:
  - Course 1 - Introduction to Mechatronics
  - Course 2 - Introduction to Industrial Control Systems
  - Course 3 - Introduction to Industrial Robotics
  - Course 4 - Introduction to Industrial Internet of Things (IIoT)

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AMYA Academy Curriculum

Course 1 – Introduction to Mechatronics

- Safety
- Introduction to Industry 4.0
- AC/DC Electricity
- Pneumatics
- Robotics
- Electrical Relay Control
- Measurement
- Print Reading
- Mechanical Drives
- Electronics Sensors
- Hand Tools
- Skill Boss Projects

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AMYA Academy Curriculum

Course 2 – Introduction to Industrial Control Systems

- Industry 4.0
- Mechanical Drives
- Fluid Power
- Electronic Sensors
- Electrical Relay Control
- PLC's
- CNC Programming
- Robot Programming
- Ethernet Network Comm
- Mechatronic Systems
- Skill Boss Projects









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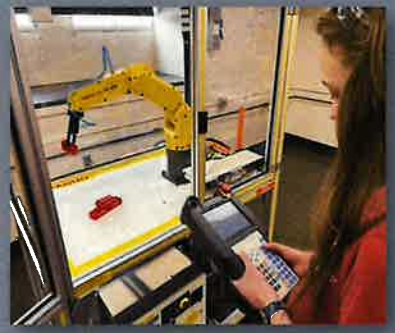
AMYA Academy Curriculum

Course 3 – Introduction to Industrial Robotics

- Robot Safety
- Robot Components
- Teach Pendants
- Coordinate Systems
- Jogging
- Fault Recovery
- Frames
- Programs & Files
- Digital Twin
- Robotic Simulation



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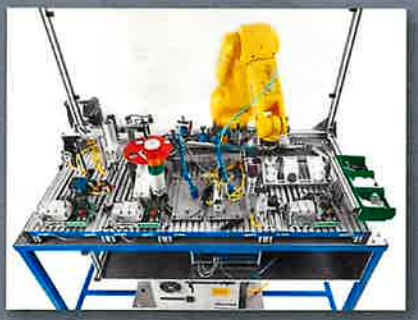
AMYA Academy Curriculum

Course 4 - Introduction to IIoT

- IIoT Applications
- Lean Production
- Barcode Systems
- Network Performance
- Network Security
- RFID
- Smart Sensors
- Database Concepts
- Production Stats
- Troubleshooting



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AMYA Academy Curriculum

- Students will earn up to nine industry-recognized credentials and complete a one- or two-year youth apprenticeship
  - NC3 Precision Measurement Instrument
  - NC3 Multimeter
  - NC3 Torque Fundamentals & Applications
  - NC3 Mechanical Torque
  - NC3 Mechatronics
  - SACA Certified Industry 4.0 Associate I – Basic Operations
  - SACA Certified Industry 4.0 Associate II – Advanced Operations
  - SACA Certified Industry 4.0 Associate III – Robot System Operations
  - SACA Certified Industry 4.0 Associate IV – IIoT, Networking & Data Analytics

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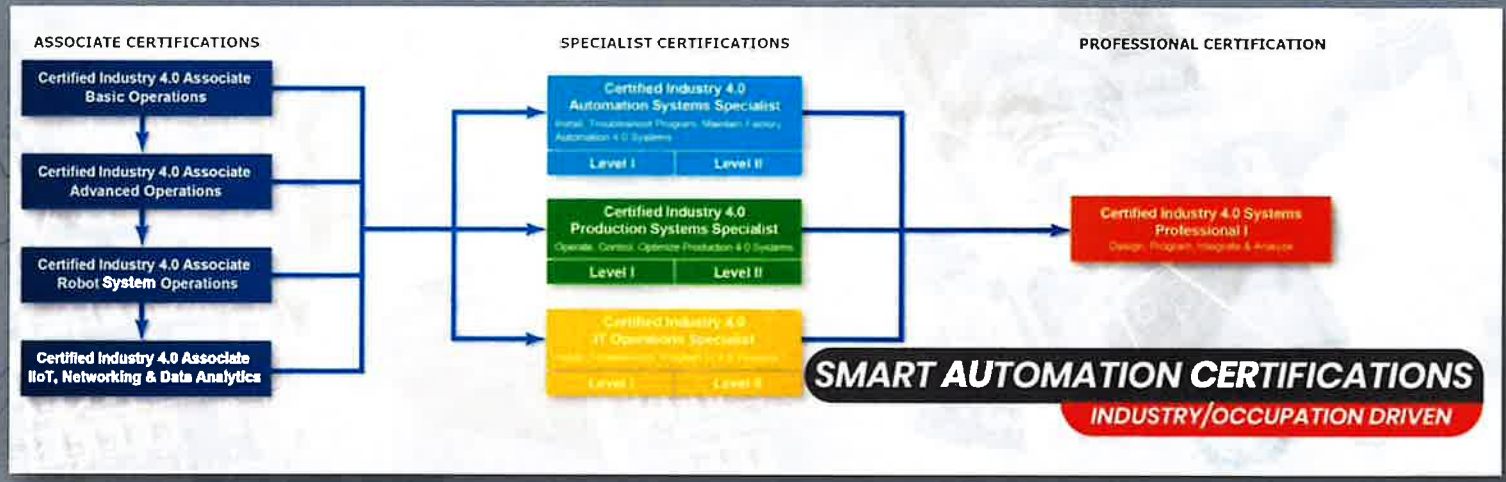

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Core Micro-Credentials

C-201 Electrical Systems 1
C-202 Electric Motor Control Systems 1
C-203 Variable Frequency Drive Systems 1
C-204 Motor Control Troubleshooting 1
C-205 Sensor Logic Systems 1
C-206 Electrical System Installation 1
C-207 Programmable Controller Systems 1
C-208 Programmable Controller Troubleshooting 1
C-209 Pneumatic Systems 1
C-210 Mechanical Power Systems 1
C-211 Industry 4.0 Total Productive Maintenance Management
C-212 Ethernet Communications 1
C-213 Smart Sensor and Identification Systems 1
C-214 Smart Factory Systems 1
C-215 Robot System Operations 1
C-216 Robot Systems Integration 1

Elective Micro-Credentials

C-251 Mechanical Power Troubleshooting
C-252 Laser Shaft Alignment
C-253 Electric Motor Troubleshooting
C-254 Pneumatic Troubleshooting 1
C-255 Hydraulic Systems 1
C-256 Hydraulic Maintenance
C-257 Process Control Systems 1
C-258 Process Control Troubleshooting 1
C-259 Rigging Systems 1
C-260 Rigging Systems 2

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AMYA Academy Timeline

- River Valley is the first regional hub for the academy
- We have a phased implementation plan
  - In the fall of 2024, coursework will begin in the tech ed classroom at River Valley School District
  - In the fall of 2025 and moving forward, the AMYA Academy will be available to students attending districts in a 30-mile radius
  - Our goal is to replicate this model throughout our region

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How would you and your organization like to get involved?

- Please share your thoughts with us. How would you and your organization like to get involved?
- Letters of support for Career Z Challenge
- Potential opportunities – and many more!
  - Youth apprenticeship opportunities
  - Job shadows
  - Engage with students in the classroom
  - Provide real world application to supplement equipment
  - Recognize credentials
  - Become a member of an advisory board
  - Provide opportunities for tours and visits
  - Share your expertise
  - Monetary support
  - In-kind donations
  - Get involved with the school districts
  - Classroom speaking opportunities
  - Attend career fairs
  - Mock interviews

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