



# NTC'S INDUSTRY 4.0 Smart Manufacturing LAB



Northcentral Technical College (NTC) will lead the training and development of current and future manufacturing employees through interdisciplinary and focused programming. This is imperative to strengthen the workforce required to support, grow and expand north central Wisconsin's vibrant manufacturing sector.

**As part of the Smart Manufacturing initiative, NTC:**

- Constructed a 4,000 square foot flex lab and lights-out manufacturing cells within a factory/learning lab at NTC's Engineering and Advanced Manufacturing Center of Excellence in Wausau. Future plans include the expansion of Industry 4.0 into the Health/Smart Medicine and Ag/Transportation areas.
- Equipped the factory/learning lab with state-of-the-art Smart Factories equipment such as intelligent factory modular equipment and increased advanced robotics with simulation and artificial intelligence.
- Created a Data and Control Command Center Lab with dedicated services for data analysis.
- Provides a space for students to construct, design and program an automation cell each semester.
- Provides flexible training opportunities for businesses and industry members at NTC or on-site.

**Courses in Development**

In addition to our Automation Systems Technology and Electromechanical Technology Associate Degree programs, NTC is ready to train the next generation of smart manufacturing workers. Courses currently being developed include:

- Industry 4.0 Fundamentals
- Industrial Internet of Things
- Designing a Solution in Smart Factory
- Collaborative Robots & Vision
- Simulation & Artificial Intelligence
- Producing Products in an Intelligent Factory

**Training for Smart Manufacturing Careers**

NTC is prepared to train your workforce for the following career opportunities:

- Smart Manufacturing Technician
- Automation Technician
- Industry 4.0 Automation Leader
- Manufacturing Engineering Technician
- Technical Lead Manufacturing Execution Systems
- Assistant Quality Engineer
- Industry 4.0 Software Sales
- Industrial Engineering Technician
- Robotic Integrator

**CUSTOMIZED TRAINING AVAILABLE**

We offer high-tech training customized to the needs of your business. To schedule training for your business, contact:

**Brad Gast**  
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715.803.1665

**Dustin Van De Weerd**  
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715.803.1247

## **NTC'S ENGINEERING AND ADVANCED MANUFACTURING CENTER OF EXCELLENCE**

The Engineering and Advanced Manufacturing Center of Excellence is comprised of three different lab areas currently utilized by students in the Automation Systems Technology, Electromechanical Technology and Apprenticeship programs. Data collected within the space is sent to the College's Industry 4.0 Data Analytics Control Center (DACC), where Data Analytics students will analyze the data and identify ways to increase efficiencies, decrease waste and maximize performance. The College is also expanding Industry 4.0 technology into additional manufacturing programs including Welding, Machine Tool and Wood Science.



### **Mechatronics and Fluid Power Lab**

This renovated space is used by NTC's Electromechanical Technology and Apprenticeship students and features a variety of industrial trainers, 3D printers and workstations available. Electromechanical Technology students utilize the space for their capstone project each semester. In the Fluid Power Lab, students learn hydraulics and pneumatics for programs including Mechanical Design Engineering Technology, Electromechanical Technology, Diesel Technology, Automation Systems Technology and Apprenticeship.



### **Electronics, Mechanics and Robotics Lab**

This space houses NTC's Electromechanical Technology and Automation Systems Technology programs and features a series of student trainers, laser engravers and robots. Students who are unable to take courses in the traditional cohort model have the ability to utilize the College's FLEX modality to complete labs on their schedule, giving them the opportunity and flexibility to balance, work, life and school.



### **Industry 4.0 Smart Manufacturing Lab**

This space is made up of three distinct areas including a lights-out manufacturing line, a flex learning area with collaborative robots, autonomous vehicles, and artificial intelligence and a student-created automation line with smart technology.

## **LEARN MORE**

For more information on our Electromechanical Technology, Automation Systems Technology and Apprenticeship programs, visit: [www.ntc.edu](http://www.ntc.edu)



You can start here and go anywhere through NTC's transfer agreements that give you the opportunity to continue your education with our four-year partner colleges and universities. Save money in tuition when you begin your engineering degree at NTC then transfer the credits that you earn to earn a bachelor's degree with one of our transfer partners.

NTC PROGRAM	4 YEAR PARTNER	BACHELOR'S DEGREE
Architectural Design Technology	UW Platteville	Industrial Technology Management
Automotive Technology	UW Platteville	Industrial Technology Management
Diesel Technology	UW Platteville	Industrial Technology Management
Electromechanical Technology	Michigan Tech	Electrical Engineering Technology
	UW Stout	Engineering Technology Electrical
	UW Platteville	Industrial Technology Management
	UW Oshkosh	Electrical Engineering Technology
	Northern Michigan	Electrical Engineering Technology
Manufacturing Engineering Technology	UW Platteville	Industrial Technology Management
	UW Stout	Engineering Technology - Production Operations
	Michigan Tech	Mechanical Engineering Technology
Mechanical Design Engineering Technology	UW Stout	Engineering Technology Mechanical Design
	UW Platteville	Industrial Technology Management
	UW Oshkosh	Mechanical Design Technology
	UW Stout	Engineering Technology - Mechanical Design
Safety Engineering Technology	UW Platteville	Industrial Technology Management
Welding Fabrication and Robotics	UW Platteville	Industrial Technology Management

