



Pathways Wisconsin Advanced Manufacturing Technology Madison Regional High School Career Pathway



High School

Sequence of Courses

- 3+ [Building Block](#) courses identified by school (required)

College Credit Opportunities

- **Transcripted (Dual) Credit Courses**
 - [Blackhawk Technical College](#)
 - [Madison College](#)
 - ✓ [Machine Tool 1](#)
 - ✓ [Fabrication 1](#)
 - ✓ [Basic Gas Metal Arc Welding](#)
 - ✓ [Basic Arc \(SMAW\)](#)
 - [Southwest Tech](#)
- **Start College Now Program**
 - [Blackhawk Technical College](#)
 - [Madison College](#)
 - ✓ [Safety for Industry \(OSHA 10\)](#)
 - ✓ [DC/AC Circuits](#)
 - ✓ [Interpreting Engineering Drawings](#)
 - ✓ [Oxyfuel Cutting 1](#)
 - [Southwest Tech](#)
- **Early College Credit Program**
 - [UW Madison](#)
 - [UW Platteville](#)
 - [Beloit College](#)
 - [Private Colleges](#)
- **Advanced Placement (AP):** see back
- **Dual Enrollment Academies**
 - *[Approved for CTE Incentive Grants](#) (Act 59)

Work-Based Learning

- [Employability Skills Certificate](#) (90 hrs)
- Youth Apprenticeship (450-900 hrs/1-2 years): [Manufacturing](#)
 - Production
 - Production Operations Management
 - Maintenance, Installation & Repair
- Local [WBL](#) program *if DPI approved**
 - **Note: Region Manufacturing Employers value ANY work experience, regardless of whether it is State-certified WBL. Club/team participation is valued as well.*

Industry Recognized Certifications

- [American Welding Society](#) (AWS)*
 - Level 1: Entry Welder
- [Certified Solidworks Associate](#)
- [Lean Six Sigma](#) (ASQ)
- [Manufacturing Skills Standards Council](#) (MSSC)—Certified Production Technician (CPT) full program or any of the modules
- [NC3 Industry 4.0 and Mechatronics](#)
- [OSHA 10 -General Industry Version](#)
- [National Institute for Metalworking Skills](#) (NIMS)
 - Industrial Technology Maintenance Level 1 (any)
 - Machining Level I (any) *
 - Metalforming Level I *
- [Smart Automation Certification Alliance](#) (SACA)—Associate level (any)
- [Snap On](#)*
 - Precision Measurement Instruments Certification
 - Multimeter
 - Mechanical and Electronic Torque Certification
- [The Association for Packaging and Processing Technologies \(PMMI\) Mechatronics Certification](#)

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Postsecondary Options

Direct Employment Entry-Level Positions

Many positions available with on-the-job training and opportunities for advancement.

Military—[Career Options](#) (see back)

Technical College Semi-Skilled Positions

- **Madison Area Technical College**
 - Technical Diploma (less than 1 year)
 - [Electrical Maintenance](#)
 - [Electronic Assembler](#)
 - [Gas Metal Arc Welding \(GMAW\)](#)
 - Technical Diploma (1 year) • [Welding](#)
 - [Industrial Maintenance Mechanic](#)
 - [Industrial Mechanic-HVAC](#)
 - [Machine Tool Operations](#)
 - [Metal Fabrication](#)
- **Blackhawk Technical College**
 - Technical Diploma (1 year) • [Welding](#)
 - [Industrial Maintenance Mechanic](#)
- **Southwest Technical College**
 - Technical Diploma (1 year) • [Welding](#)
 - [CNC Machine Operator/Programmer](#)
 - [Industrial Mechanic](#)

Skilled/Technical Positions

- **Madison Area Technical College**
 - Associate Degree (2 years) • [Electronics](#)
 - [Electromechanical Technology](#)
 - [Electrical Engineering Technology](#)
 - [Mechanical Design Technology](#)
 - Technical Diploma (2 years)
 - [Machine Tooling Technics](#)
 - [Industrial Maintenance Technician](#)
 - Certificate: [Industrial Automation Post-Bac](#)
- **Blackhawk Technical College**
 - Associate Degree (2 years)
 - [Electromechanical Technology](#)
 - Technical Diploma (2 years)
 - [CNC Technician](#)
 - [HVAC/R Technology](#)
 - [Manufacturing IT Specialist](#)
- **Southwest Technical College**
 - Associate Degree (2 years)
 - [Instrumentation & Controls Tech](#)
 - [Electro-Mechanical Technology](#)

Registered Apprenticeships Skilled/Technical

- [Industrial](#) WI Registered Apprenticeship
- **Madison Area Technical College** [Appren.](#)
- **Blackhawk TC** [Apprenticeships](#)
- **SWTC** [Apprenticeships](#)

University Management Positions

- **UW-Stout - Bachelor Degrees**
 - [BS Career, Technical Education & Training](#)
 - [BS Computer and Electrical Engineering](#)
 - [BS Engineering Technology](#)
 - [BFA Industrial Design](#)
 - [BS Manufacturing Engineering](#)
 - [BS Mechanical Engineering](#)
 - [BS Plastics Engineering](#)
- **UW-Whitewater**
 - [BS Supply Chain & Operations Management](#)

Professional Positions

- **Edgewood College** [Pre-Engineering](#)
- **UW- Madison**
 - [BS Industrial Engineering](#)
 - [BS Materials Science & Engineering](#)
 - [BS Mechanical Engineering](#)
 - [MS Industrial Engineering Systems Engineering & Analytics](#)
 - [MS Manufacturing Systems Engineering](#)
- **UW Platteville**
 - [Industrial Technology Management](#)
 - [Occupational Safety Management](#)
- **UW- Stout**
 - [MS Manufacturing Engineering](#)
 - [MS Operations & Supply Management](#)

Career Ladder

Some positions may also require industry certifications, field training or experience.

Entry Level

May require High School Diploma or GED
Median Wage: \$29,591-\$36,673

- Assembler
- Data Entry Clerk
- General Laborer
- Helper—Production Worker
- Machine Feeders & Offbearers
- Material Handler
- Packager

Semi-Skilled

Industry Recognized Certification or Technical Diploma
Median Wages: \$32,071-\$43,513

- Bindery Operator
- CNC Machine Operator ⚙
- Chemical Equipment Operator
- Finishing Technician
- Food Processing Operator ⚙
- Food Batchmaker ⚙
- Machine Setter and Operator ⚙
- Machine Builder
- Mold Technician
- Paint Technician ⚙
- Quality Control Technician
- Sheet Metal Fabricator
- Shipping & Receiving Clerk

Journey Worker & Skilled/Technical Industrial Apprenticeship Program or Associate Degree

Median Wages: \$37,056-\$77,005

- Automation or Robotics Technician
- CNC Machinist ⚙
- CNC Programmer ⚙
- Chemical Technician ⚙
- Electrical and Electronics Drafter ⚙
- Electrical and Instrumentation Technician
- Electromechanical Technician
- Food Science Technician
- Industrial Electrician
- Industrial Engineering Technician
- Industrial Machinery Mechanic ⚙
- Machinist ⚙
- Maintenance Technician ⚙
- Mechanical Drafter (CAD)
- Mechanical Engineering Technician
- Millwright
- Printing Press Operator
- Tool and Die Maker
- Welder

Management

Associate or Bachelor Degree
Median Wages: \$58,399-\$120,273

- Design & Engineering Manager
- Logistics Manager
- Maintenance Manager
- Manufacturing Manager
- Operations Manager
- Production Supervisor
- Quality Manager
- Safety Manager
- Shipping Manager

Professional

Bachelor Degree or Graduate Degree
Median Wages: \$51,913-\$95,492

- Automation Engineer ⚙
- Buyer
- Commercial/Industrial Designer
- Electrical Engineer
- Electromechanical Engineering Technologist ⚙
- Environmental Specialist ⚙
- Food Scientist
- Industrial Data Scientist
- Industrial Engineer ⚙
- Industrial Engineering Technologist ⚙
- Material, Welding or Process Engineer ⚙
- Mechanical Engineer
- Mechatronics Engineer ⚙
- Network or Cybersecurity Specialist
- Quality or Reliability Engineer ⚙
- Sales Representative

⚙ High Demand, High Skill Jobs in WI,
DWD projections 2016-2026



State-Endorsed

V1.JAN2020



Pathways Wisconsin

Advanced Manufacturing Technology
Madison Regional High School Career Pathway



College Credit Courses through
Start College Now

- [Madison Area Technical College](#)
- [Blackhawk Technical College](#)
- [Southwest Tech](#)

Transcribed Credit Courses

- [Madison College](#)
- [Blackhawk Technical College](#)

Military Options

- Communications Equipment Repairers
- Computer Repairers
- Electrical Instrument and Equipment Repairers
- Machinists
- Non-Destructive Testers
- Power Plant Electricians
- Power Plant Operators
- Powerhouse Mechanics
- Precision Instrument and Equipment Repairers
- Preventive Maintenance Analysts
- Radar and Sonar System Repairers
- Survival Equipment Specialists
- Tactical Data System Repairers
- Weapons Maintenance Technicians
- Welders and Metal Workers

Regional Industry-Related
Career Awareness and Exploration Experiences

- State
- First Robotics
 - Wisconsin SkillsUSA
 - Hour of Code
 - Wisconsin Manufacturing Month (Oct)

Regional

- [BTC Tech Exploration Days](#)
- [Madison College Career Discovery Camps](#)
- [UW-Madison Engineering Summer Program](#)
- [UW Platteville Youth Programs](#)
- [UW Madison College of Engineering Outreach Programs](#)
- [Fab Labs](#)
- [Gold Collar Careers - Manufacturing Works](#)
- [Inspire Madison Region](#) (Profiles & Career Development Activities)

Regional businesses supporting this
Career Pathway

(found on [Inspire Madison Region](#))
[Inspire Madison Region Manufacturing Partners](#)

Minimum AP Scores

Course	BT C	MC	EC	MS OE	UW Mad	UW P	UW Rock	UW St	Bel
Calculus AB		3	3	4	4	3	3	3	4
Calculus BC		3	3	4	3	2	3	3	4
Eng Lang & Composition	3	4	3	4	3	3	3	3	4
Eng Lit & Composition		4	3	4	4	4	3	3	4
Physics 1					3	3	3	3	4
Physics 2					3	3	4	3	4
Physics C Electricity	3	4	4	4	4	3	3	3	4
Physics C Mechanics	3	4	4	4	3	3	4	4	4

- [Blackhawk Technical College](#)
 - [Madison College](#)
 - [Edgewood College](#)
 - [Milwaukee School of Engineering \(MSOE\)](#)
 - [UW-Madison](#)
- [UW- Platteville](#)
 - [UW-Rock Co \(Whitewater\)](#)
 - [UW-Stout](#)
 - [Beloit College](#)

See CollegeBoard [AP Credit Policy Search](#) to find colleges that offer credit or placement for AP scores, the minimum scores required at each school, and links to specific policies at each institution.

Regional Supportive Career Pathway Services

Regional:

- Beloit College: [Upward Bound](#) and [Help Yourself Programs](#)
- [Big Step: W RTP Career Services](#)
- [How to Become an Apprentice](#)
- [Latino Academy Employment and Training](#)
- [Operation Fresh Start Pre-Apprenticeship Certification](#)
- [Transportation Alliance for New Solutions \(TRANS\)](#)
- [Urban League of Greater Madison Career Academies](#)
- WIOA-funded Youth Programs
 - [Southwest WI Workforce Development Board](#)
 - [STEPS---](#)Workforce Development Board of South Central WI
- [Youth Apprenticeship](#):
 - [Blackhawk Technical College YA—Rock and Green counties](#)
 - [CESA 3—School to Work](#)
 - [CESA 5 Youth Apprenticeship- Columbia, Sauk, Marquette](#)
 - [Dane County Youth Apprenticeship](#)
 - [Jefferson County Youth Apprenticeship](#)
 - [Madison Metropolitan School District](#)

State:

- [Destinations Career Academy](#)
 - [Operating Engineer Pre-Apprenticeship Program](#)
- [Department of Vocational Rehabilitation](#)
 - [Project SEARCH](#)
 - [On-the-Job Training Hiring Initiative](#)
- [Foster Care - Independent Living Services](#)
- [DPI Wisconsin Educational Opportunity Programs](#)
- [ACT WorkKeys](#) and KeyTrain - through the Job Center of WI

Top Manufacturing Employment Categories in WI

- Computer and electronic products
- Electrical equipment
- Fabricated metal products
- Food and Beverage
- Machinery
- Metal Castings
- Paper
- Plastics and rubber products
- Printing
- Transportation equipment
- Wood products

[Quarterly Census of Employment and Wages - Bureau of Labor Statistics, Annual 2016 employment](#)
[Wisconsin Economic Development Corporation \(WEDC\)](#)

