

October 4, 2022

TO: State E&I Apprenticeship Advisory Committee Members and Consultants
FROM: Owen Smith, Bureau of Apprenticeship Standards; Owen.Smith@dwd.wisconsin.gov
SUBJECT: **State Electrical & Instrumentation Apprenticeship Advisory Committee**
DATE: **Wednesday, October 5, 2022**
TIME: **1:00 P.M.**

OPTIONS: [Attend virtually.](#)

Attend via phone.

608-571-2209; 309 948 505#

Attend in person.

Department of Workforce Development, Room H103
201 E Washington Ave
Madison, 53703

TENTATIVE AGENDA

1. Call the meeting to order.
2. Record attendees.
3. Review the roster.
4. **Actions**
 - a. Approve the minutes.
 - b. Review the Maintenance Technician Exhibit A.
5. **Discussions**
 - a. BAS Director's Call with State Committees
 - a. How is this industry preparing for infrastructure projects?
 - b. Reimbursements for on-the-job learning and supportive services
 - c. [Register your National Apprenticeship Week event with the U.S. Department of Labor.](#)
 - d. Other
6. Review the program participants.
7. Adjourn

Draft Minutes of the
Electrical & Instrumentation
State Apprenticeship Advisory Committee

May 26, 2022
10:00 a.m.

Fox Valley Technical College w/ virtual option

Members Present	Employer / Organization
Butt, Nate (Co-Chair)	Quad Graphics
Cannestra, Anthony (Co-Chair)	GE Healthcare
Laehn, Steve	Sargento Foods, Inc.
Palzill, Craig	Madison Metropolitan Sewerage District
Randall, Bob	Brakebush Brothers
Woehlke, Scott	Mercury Marine
Members Absent	Employer / Organization
Cestkowski, Jim	MPI
Dehnel, Charlie	Domtar
Hafeman, Brian	PCA
Winkler, Mike	John Deere Horicon Works
Zak, Tyler	Kimberly Clark
Consultants & Guests	Employer / Organization
Alft, Tim	
Badger, Richard	Bureau of Apprenticeship Standards
Bishop, Matt	Fox Valley Technical College
Gast, Brad	
Herber, Ryan	Bureau of Apprenticeship Standards
Jungwirth, Christina	Northeast Wisconsin Technical College
Metko, Katie	Northcentral Technical College
Nakkoul, Nancy	Wisconsin Technical College System
O'Shasky, Lynn	Bureau of Apprenticeship Standards
Polk, David	Bureau of Apprenticeship Standards
Popp, Corey	Bureau of Apprenticeship Standards

Pusch, Liz	Bureau of Apprenticeship Standards
Schroepfer, Melinda	Worldwide Instructional Design System
Smith, Owen	Bureau of Apprenticeship Standards

1. The meeting was called to order at 10:03 a.m. by Nate Butt, Committee Co-Chair, in conformance with the Wisconsin Open Meeting Law.
2. Mr. Smith recorded attendees. A quorum was present.
3. The committee advised the Bureau to recruit an additional Employer member that sponsors Mechatronics.

4. Action Items

a. Approve the minutes.

The state committee approved the minutes as revised: Craig Palzkill's name was misspelled.

b. Review the Maintenance Technician related instruction.

Ms. Schroepfer reviewed that the state committee approved the first chunk of revisions at its last meeting and requested additional time to consider the revisions proposed by technical college instructors, which were based on their independent review and a survey of sponsors. She reviewed the two pending groups of revisions.

The first pending revision is to add two courses, A general discussion followed about how related occupations are delineated from the Industrial Electrician occupation.

Action: a motion to add Programmable Logic Controllers 2 and Programmable Logic Controllers 3, which would increase the related instruction by 72 hours, did not pass. Two members voted in favor; five voted against. The opponents argued the revisions would tread too closely to other occupations and could instead be added via local options.

The lack of consensus shifted the decision to the Bureau, according to policy. Director Polk declined to add the additional courses because they are available via local options.

Action: the committee approved the second pending revision.

c. Review the Maintenance Technician Exhibit A.

Mr. Smith reviewed that the state committee requested to revise the Maintenance Technician program at its last meeting because the program is a hybrid of two occupations, both of which have been revised in the past few years.

Action: the committee approved a motion to revise the Exhibit A for Maintenance Technician. The Bureau will convene a focus group this summer and bring the recommendations to the committee's fall meeting. Volunteers included Mr. Butt, Mr. Cannestra, Mr. Laehn. Ms. O'Shasky recommended Darryl Mrozinsky of Sargento, too.

d. Revise the E&I Technician registered apprenticeship.

Mr. Smith reported that he will complete the remaining steps this summer and bring the final input to the fall meeting for a vote. He explained that the project had been delayed by three factors: the pandemic, several transitions in BAS leadership, and sponsor's ability to add desired training via local options rather than modify the master program.

He reviewed that the industry focus group agreed on the following revisions prior to the pandemic:

1. Change the title to Electrical & Automation Technician.
2. Combine the individual work processes for instrumentation into a single work process.
3. Add a work process for automation.
4. Add the revised work processes from the Industrial Electrician registered apprenticeship.

Action: Mr. Smith reported that he will email a summary of the proposed revisions to all E&I Tech sponsors and a survey to collect their input. He will bring the results to the state committee's fall meeting for a final vote.

5. Discussions

a. BAS Directors Call with State Committees

Director Polk reviewed that the Bureau convened the first BAS Director's Call with State Committees. The virtual meeting, approved by the WI Apprenticeship Advisory Council, presented BAS updates that pertain to most or all committees in a single forum. As a result, the items will no longer be included in each committee's agenda; rather, each committee's meeting will focus only on its unique policies.

However, Director Polk emphasized that state committees are encouraged to raise questions or comments on BAS updates during their meetings.

Director Polk asked the state committee for feedback, which he will share with the Advisory Council.

The state committee voiced support for the Director's Call and for using its meetings to focus only on its registered apprenticeships.

b. Modified format of state committee meetings.

Director Polk and Mr. Smith reviewed that all state committee meetings will be held in person and include a virtual option. The streamlined agenda may result in shorter meetings. They emphasized that these modifications are not intended to lessen the role or voice of state committees; rather, the modifications focus the state committees' meetings on their unique needs.

The state committee voiced support for all the changes.

c. Pending review of the *Wisconsin Apprenticeship Manual*

Director Polk reported that the *Manual* was reviewed by the Wisconsin Apprenticeship Advisory Council's Policy and Standards Subcommittee and is currently under review by the full Council. The Council will meet on June 6 to approve the working draft, which will begin a 90-day public comment period. The Bureau will make the "old" manual, the revised manual, and a table of revisions available to the public via its website. Input can be emailed to apprenticeship@dwd.wisconsin.gov.

Attendees did not have questions or comments.

d. Pending review of the state standards

Mr. Smith reviewed that the *Manual* provides the boilerplate language for all state standards. The boilerplate language comprises 90% of any committee's standards. The remaining content is specific to the state committee, e.g. committee size, contractor organizations, applicant assessment procedures, etc.

Once the *Manual* is approved by the Council, the Bureau will revise the boiler plate language and format of all state standards accordingly and present them at the fall meetings. Mr. Smith reiterated that the changes do not include new policies; rather, they include necessary updates and a more logical order.

Attendees did not have questions or comments.

e. Other

Attendees did not have additional topics or comments.

6. The state committee reviewed the participant report and did not have questions or comments.
7. The meeting adjourned at 11:30 a.m. The Bureau will schedule the next meeting via online survey.

Submitted by Owen Smith, Bureau of Apprenticeship Standards

Blue = new work processes changes from current Exhibit A

Orange = concern

Purple: remaining text from current Exhibit A

Adhere to safety requirements and hazard awareness procedures.

450

- A. Adhere to all applicable federal, state, local and employer safety requirements.
- B. Follow lock-out and tag-out procedures.
- C. Properly use personal protective equipment.
- D. Safely use hand and power tools, meters, and testing equipment.
- E. Work at heights, in tight quarters, in confined spaces, and other industrial settings.
- F. Perform rigging.

*** Install electrical equipment, components, and devices.**

1500

- * A. Apply WI Administrative Electric Code and NFPA 70: National Electric Code.
- * B. Document circuits using employer's preferred software or tools.
- * C. Install conduit, wire ways and raceways.
- * D. Install power distribution equipment.
- * E. Install machine and equipment control systems.
- * F. Install communication systems.
- * G. Install branch circuits.
- * H. Install lighting systems, controls, and emergency lighting systems.
- * I. Construct control cabinets.
- * J. Install grounding and bonding.
- * K. Install transformers.
- * L. Install electrical field devices.

Perform reliability-centered maintenance.

1000

- A. Electrical systems
- B. Industrial manufacturing equipment
- C. PLCs and control networks
- D. Substations
- E. Power distribution transformers
- F. Back-up power systems
- G. Lighting systems
- H. Document equipment conditions and work performed.
- I. Lubrication systems

Perform facilities maintenance.

- A. HVAC
- B. Boilers and controls
- C. Generators
- D. Compactors
- E. Automatic doors
- F. Air compressors
- G. Cranes
- H. Loading dock equipment
- I. Conveyors

Troubleshoot hydraulics and pneumatics systems.

500

- A. Pumps
- B. Valves
- C. Cylinders
- D. Actuators
- E. Compressors

Troubleshoot mechanical systems.

- A. Bearings
- B. Belts
- C. Roller chains
- D. Gear boxes
- E. Pumps

2000

Troubleshoot electrical systems.

- A. General electrical systems
- B. PLCs and controllers
- C. Control networks and automation systems
- D. Power distribution
- E. Motors, drives, and starters
- F. Document equipment conditions and work performed.

2000

Perform metal fabrication.

- A. Perform metal cutting, e.g. plasma, flame, water jet.
- B. Perform welding, e.g. TIG welding, MIG welding, stick welding.
- C. Perform metal manipulation, e.g. heat-treating, aging, forging.
- D. Repair fixtures.

500

Operate machine tools.

- A. Grinders
- B. Drill press
- C. Saws
- D. Lathes
- E. Milling machines
- F. Sharpen tooling.

500

Interpret schematics and blueprints.

- A. Hydraulics
- B. Pneumatics
- C. Electrical
- D. Mechanical drawings

Design schematics and blueprints.

- A. Hydraulics
- B. Pneumatics
- C. Electrical
- D. Mechanical drawings

Orphaned Tasks

Piping, tubing and hoses
Alignment

Local Options

Circuit board troubleshooting and repair
start-up and debugging new equipment;
grouting and masonry; form building/carpentry;
demolition;
robot installation;
painting;

830

State Electrical & Instrumentation Comm • Madison WI
Maintenance Technician • 02-829261018-05-T
Exhibit A - Program Provisions

Approved: 11/10/2011

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 10,144 hours. Hours of labor shall be the same as established for other skilled employees in the trade.

PROBATIONARY PERIOD: The probationary period shall be the first 2000 hours of the apprenticeship, but in no case shall it exceed twelve calendar months. During the probationary period, this contract may be cancelled by the apprentice or the sponsor upon written notice to the Department, without adverse impact on the sponsor.

SCHOOL ATTENDANCE: The apprentice shall attend the Wisconsin Technical College System or other approved training provider, as assigned, for paid related instruction four hours per week or the equivalent and satisfactorily complete the prescribed course material for a minimum of 864 hours, unless otherwise approved by the Department. The employer must pay the apprentice for attended related instruction hours at the same rate per hour as for services performed.

WORK PROCESS SCHEDULE: In order to obtain well-rounded training and thereby qualify as a skilled worker in the trade, the apprentice shall have experience and training in the following areas. This instruction and experience shall include the following operations but not necessarily in the sequence given. Time spent on specific operations need not be continuous.

Work Process Description

Approximate Hours
(Min - Max)

Electrical Construction:

1400

Installation/modification of conduit and wiring for power distribution and lighting; Panel building; Installation of conduit and wiring for machine and equipment controls; Layout, planning and installation of control systems including programmable controllers, drives, servo systems, etc.; Installation of communication and data systems.

Electrical Maintenance:

3200

Maintain, trouble shoot, repair and/or replace the following items:

- * Power Distribution and lighting systems;
- * Industrial machinery and equipment, such as: motors and transformers, electronic controls (CNC Power Distribution and lighting systems, PLC logic systems), material handling equipment (cranes, conveyors, fork trucks), welding equipment, machine tools and robotics;
- * General plant equipment such as HVAC, compactors, automatic doors, air compressors, generators, cranes, conveyors, loading dock equipment, boilers and controls.
- * Must also effectively use electrician's tools (hand, power, electrical and electronic test equipment).
- * Circuit design and drafting; schematic and/or blueprint reading.
- * Interpret and manage documents/prints.

Machine and Equipment Repair, All Types:

2800

- * Bearings, friction/anti-friction; belts and chains;
- * Coupling alignment;
- * Gear boxes;
- * Pumps, rebuilding and overhauling, including scrape and alignment;
- * Conveyor maintenance; exhaust fans and blowers; roll changes;
- * Electric motor replacement;
- * Overhead crane repair;
- * Preventative Maintenance Inspection (visual and diagnostic; optical alignment/laser

State Electrical & Instrumentation Comm • Madison WI
Maintenance Technician • 02-829261018-05-T
Exhibit A - Program Provisions

transit, fabrications (fiberglassing, sheet metal, guards/rails).

* Interpret and manage documents/prints.

Hydraulics/Pneumatics: 500

* Pumps, valves, cylinders and actuators, lubricants and coolants;

* Trouble shoot, repair and rebuild; compressor repair, piping, tubing and hoses;

* Hydraulics/pneumatics design and drafting;

* Schematics and/or blue print reading;

Safety: 300

* Proper use of personal protective equipment;

* Safe use of hand tools, power tools, electrical and electronic test equipment;

* Lockout-tagout procedures and other employer safety requirements to be in compliance with NFPA 70E, OSHA standards and the NEC.

Metallurgy: 100

Flame cutting and heating; welding; heat treating; blacksmithing; fabrication (sheet metal, guards/rails).

Machine Operation: 150

Grinders; drill press; saws; lathes; milling machines; misc. machines; alter and repair fixtures and tools; sharpening tools.

Local Options: 830

* Circuit board troubleshooting and repair

* Machine & Equipment Installation

* Rigging and hoisting; start-up and debugging new equipment; grouting and masonry; form building/carpentry; demolition; robot installation; painting; structural layout/fabrication (structural steel, etc.); fabrication (fiberglassing, sheet metal, guards/rails).

Paid Related Instruction 864

TOTAL 10144

The above schedule is to include all operations and such other work as is customary in the trade.

MINIMUM COMPENSATION TO BE PAID:

Compensation must average at least 60% of the skilled wage rate over the period of the Apprentice Contract. (DWD 295.04(1))

Base skilled wage rate N/A per hour.

If at any time the base skilled wage rate rises or falls, the apprentice's wage shall be adjusted proportionately. The wage rate of apprentices employed in this trade and this firm shall be based on the base skilled wage rate stated above.

All apprentices are covered by State and Federal Wage and Hour Standard requirements. All apprentices shall be paid no less than the minimum wage established under regulations.

CREDIT PROVISIONS: The apprentice, granted credit at the start or during the term of the apprenticeship, shall be paid the wage rate of the pay period to which such credit advanced the apprentice.

State Electrical & Instrumentation Comm • Madison WI
Maintenance Technician • 02-829261018-05-T
Exhibit A - Program Provisions

Work credit hours approved:	N/A
School credit hours approved:	
Paid related instruction:	N/A
Unpaid related instruction:	N/A
Total credit hours to be applied to the term of the apprenticeship:	N/A

SPECIAL PROVISIONS:

The apprentice in his/her final year must take the Transition to Trainer Course.

The Probationary Period can be less than one year at the determination of the individual employer.

In addition to the 864 hours of paid related instruction the apprentice shall complete standard First Aid and CPR courses during the first year of the apprenticeship. Certification will be maintained throughout the apprenticeship.



APPRENTICESHIP GRANT FUNDING AVAILABLE

(up to) **\$2,500** for **EMPLOYERS** and **\$600** for **APPRENTICES**

On-the-Job Learning

up to \$2,500 available for employers (per apprentice)

- Reimbursement for employers who hire apprentices
- Compensation for hands-on training (OJL) provided to the apprentice by the employer

Supportive Services

up to \$600 available for apprentices

- Work-related clothing, boots and tools
- Books and testing fees
- Required physicals
- Transportation
- Housing or Childcare

[Apply here - dwd.wisconsin.gov/aBASERS/](https://dwd.wisconsin.gov/aBASERS/)

~ WHO TO CONTACT ~

**Kenosha, Milwaukee, Racine, Ozaukee,
Walworth, Washington & Waukesha Counties**
Employ Milwaukee, Inc.

Jeff McAlister

apprenticeships@employmilwaukee.org

All Other Wisconsin Counties
Workforce Development Board
of South Central Wisconsin, Inc.

Jeff Kennedy

JKennedy@wdbscw.org
(608) 249-9001 Ext. 230

This Department of Labor federal grant funding is available for employers and apprentices if the apprentice is deemed eligible based on the following criteria:

- Registered apprenticeship contract must have been activated within the time period of: 07/01/19 – 06/30/23
- Apprentice has not received funding from a previous registered apprenticeship grant

This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration

For more detailed information, please visit our website:
WisconsinApprenticeship.org

State Committee Report



This summary counts employers and apprentices, between 10/1/2022 and 10/1/2022 with contract status as Active & Unassigned in occupation(s) associated with this committee.

Report is based on apprentice contracts where:

- Contract sector is 'Industrial'.
- Contract occupation code matches a occupation code assigned to committee.
- Contract sponsor is the employer.

Note: Employers active in more than one occupation or committee can cause Column #3 totals at the Committee or State level to deviate from the summed total of the individual occupation or committee rows.

Occupation	Apprentices									Employers				
	Total	Minority		Females		Union		Non-Union		Total	Union		Non-Union	
		#	%	#	%	#	%	#	%		#	%	#	%
1	2	3	3a	4	4a	5	5a	6	6a	7	8	8a	9	9a
Report Total	818	68	8.3	20	2.4	365	44.6	453	55.4	275	101	36.7	175	63.6
Electrical and Instrumentation (E & I) Technician (0271028101801)	178	6	3.4	5	2.8	121	68.0	57	32.0	55	28	50.9	28	50.9
Industrial Electrician (0282926101801)	356	33	9.3	10	2.8	156	43.8	200	56.2	138	53	38.4	85	61.6
Instrument Mechanic (0271028102603)	1	0	0	0	0	1	100.0	0	0	1	1	100.0	0	0
Maintenance Electrician (0282926101802)	8	0	0	0	0	5	62.5	3	37.5	3	2	66.7	1	33.3
Maintenance Technician (0282926101805)	275	33	12.0	5	1.8	82	29.8	193	70.2	117	29	24.8	88	75.2

Historical Report by Year

Report Period: 2022* and Previous -10 Years

*Current year is YTD data as of Run Date: 10/04/2022		
Run Date: 10/04/2022		
State Electrical & Instrumentation Comm		
Sponsored Trade Group(s): Industrial		
Year	Active Apprentices	Active Sponsors
2012	331	133
2013	355	141
2014	397	155
2015	459	174
2016	506	184
2017	529	186
2018	619	218
2019	700	247
2020	751	260
2021	738	269
2022	777	267

