SINCE 1911 APPRENTICESHIP WISCONSIN

STATE OF WISCONSIN DWD Department of Workforce Development

Approved Minutes of the

Electrical & Instrumentation

State Apprenticeship Advisory Committee

November 4, 2021

Webinar

Members Present	Employer / Organization
Butt, Nate (Co-Chair)	Quad Graphics
Cannestra, Anthony (Co-Chair)	GE Healthcare
Cestkowksi, Jim	MPI
Dehnel, Charlie	Domtar
Hafeman, Brian	PCA
Laehn, Steve	Sargento Foods, Inc.
Palzill, Craig	Madison Metropolitan Sewerage District
Randall, Bob	Brakebush Brothers
Woehlke, Scott	Mercury Marine
Members Absent	**Employer / Organization**
Roach, Mike	Trane Co.
Winkler, Mike	John Deere Horicon Works
Zak, Tyler	Kimberly Clark
Consultants & Guests	**Employer / Organization**
Badger, Richard	Bureau of Apprenticeship Standards
Bishop, Matt	Fox Valley Technical College
Rogers, Milton	Department of Corrections
Martindale, Marc	Northcentral Technical College
Mayek, Mandy	Mid-State Technical College
Metko, Katie	Northcentral Technical College
Nakkoul, Nancy	Wisconsin Technical College System
O'Shasky, Lynn	Bureau of Apprenticeship Standards
Schroepfer, Melinda	Worldwide Instructional Design System
Smith, Owen	Bureau of Apprenticeship Standards
Straub, Steve	Fox Valley Technical College

1. The meeting was called to order at 1:05 p.m. by Tony Cannestra, 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 at least two additional members.

4. Action Items

a. Approve the minutes.
The state committee approved the minutes as written.

b. Review the related instruction.

Action: *the state committee approved the instructor's recommendation to re-sequence courses within the Mechatronics related instruction without changing competencies or total hours.*

Action: *the state committee approved the instructors' recommendation to add 36 hours to the Fluid Power Systems course and remove 36 hours from Bearings, Measurements, and Print Reading, which does not change the total hours.*

Action: *the state committee approved a motion to table the instructor's recommendation to add PLC 2 and PLC 3 courses to the Maintenance Technician related instruction, which add 72 hours to related instruction. The committee expressed concern that the need might not be statewide.*

Action: *the state committee approved a motion to review the Maintenance Technician Exhibit A at the next meeting; the program combines two registered apprenticeships that were revised recently.*

c. Review the youth apprenticeship curriculum.
BAS Youth apprenticeship staff reviewed the curriculum modernization project, which will sequentially revise the competencies in all youth apprenticeship.

The state committee supported the project. Several attendees volunteered to help review the curriculum.

d. Revise the E&I Technician program.
The Bureau tabled the project until 2022 due to the pandemic and the pending change in leadership.

5. Discussions

a. Letters of support for Racine Youthful Offender Correctional Institutions Mechatronics CPA
Mr. Rogers reviewed the Mechatronics certified pre-apprenticeship offered through the Racine Youthful Offender program. He asked attendees to consider emailing letters of support to him.

Attendees voiced support for the program and pathway and thanked Mr. Rogers.

b. Mandatory registration in BASERS, effective July 1, 2021
Mr. Smith reviewed that, effective July 1, all sponsors are now required to do the following: register in BASERS and register new contracts in BASERS.

Attendees did not have questions or comments.

c. Implementing revisions to CFR 29.30
Mr. Smith reported that Apprenticeship Training Representatives have begun to review local committees' affirmative action plans. The reviews had been delayed due to the pandemic. Local committees can expect to be contacted soon by their ATR.

Attendees did not have questions or comments.

d. Implementing Transition to Trainer and Teaching Transition to Trainer
Mr. Smith and Ms. Nakkoul reviewed that the course was revised in 2020 and instructors certified prior to 2021 must take a three-hour refresher in the revisions by December 31, 2021. The final refresher has been scheduled for November 12, 1-4 p.m., online. The Wisconsin Technical College System and Wisconsin Apprenticeship have coordinated four refreshers this year; the next refresher is the last. Instructors who do not take it must continue to teach the old curriculum.

Attendees did not have questions or comments.

e. Supportive services and OJL reimbursement for registered apprentices
Mr. Smith reviewed that reimbursements are available to sponsors for hiring graduates of qualified certified pre-apprentices and youth apprenticeships and reimbursements are available to qualified apprentices for supportive services. He noted the details and points of contact were communicated to sponsors and apprentices through BASERS and official letters.

Attendees did not have questions or comments.

f. Applicant outreach campaign and revisions to www.WisconsinApprenticeship.org
Mr. Smith reported that the campaign, "Apprenticeship: A Different Kind of Classroom," is underway and encourages women and minorities to pursue registered apprenticeships. The campaign includes social media collateral, billboards, bus wraps, outreach material, and electronic media spots. He played a video from the campaign.

Attendees did not have questions or comments.

g. Apprenticeship Completion Award Program
Mr. Smith reported that the program continues to be an example of strong bipartisan support for registered apprenticeship. It has been renewed multiple times. Reimbursements are granted on a first

come, first served basis while funds last. All funds were dispersed during the last fiscal year, which concluded June 30. The allocation for the current fiscal year was increased by the legislature.

Attendees did not have questions or comments.

h. 2021 National Apprenticeship Week
Mr. Smith reported that Wisconsin will observe National Apprenticeship November 14 -20.

Attendees did not have questions or comments.

i. BAS leadership and personnel changes
Mr. Smith reported that Director Johnson accepted a new position as Assistant Director Of Diversity

and Inclusion with Jobs for the Future, a national nonprofit organization. Director Johnson's last day with Wisconsin Apprenticeship was October 8.

Attendees did not have questions or comments.

j. Other

Representatives of Fox Valley Technical College recommended the state committee develop an additional program for Industrial Electrician that retains the same content but requires prior experience in electrical work. The proposed program would help the college admit applicants with prior electrical experience without assessing credit for prior experience, which the college prefers not to do.

Action: *the Bureau will convene a focus group to discuss the proposal before the next meeting.*

6. WTCS Update

Ms. Nakkoul reviewed the executive summary included in the meeting material.

Attendees did not have questions or comments.

7. The state committee reviewed the participant report and did not have questions or comments.

8. The Bureau will schedule the next meeting via online survey.

9. The meeting adjourned at 3:00 p.m.

Submitted by Owen Smith, Bureau of Apprenticeship Standards

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Employment and Training Division
Bureau of Apprenticeship Standards
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STATE OF WISCONSIN
DWD
Department of Workforce Development
Tony Evers, Governor
Amy Pechacek, Secretary-Designee
Michele Carter, Division Administrator

October 29, 2021

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: Thursday, November 4, 2021

TIME: 1:00 p.m.

ACCESS: Join the virtual meeting.

Audio only: 608-571-2209; 254 670 526#

TENTATIVE AGENDA

1. Call the meeting to order.
2. Record attendees.
3. Review the roster.

4. **Action items**
   a. Approve the minutes.
   b. Review the related instruction.
   c. Review the youth apprenticeship curriculum.
   d. Revise the E&I Technician registered apprenticeship.

5. **Discussion items**
   a. Letters of support for Racine Youthful Offender Correctional Institutions Mechatronics Pre-Apprenticeship
   b. Mandatory registration in BASERS, effective July 1, 2021
   c. Implementing revisions to CFR 29.30
   d. Implementing Transition to Trainer and Teaching Transition to Trainer
   e. Reimbursements for employers and apprentices
   f. 2021 National Apprenticeship Week
   g. 2022 Biennial Apprenticeship Conference
   h. BAS leadership and personnel changes
   i. Other

7. WTCS update
8. Review the program participants.
9. Schedule the next meeting.
10. Adjourn

WTCS Related Instruction Review

50-620-1 MECHATRONICS TECHNICIAN APPRENTICE
50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
50-464-1 MAINTENANCE TECHNICIAN APPRENTICE
50-414-2 ELECTRICAL & INSTRUMENTATION APPRENTICE

1

Systematic Planned Reviews

All apprenticeships

Over 5 years

Flexible to meet employer and WTCS needs

2

Goals

- Update course documentation to ensure curriculum is accurate
  - Course Competencies
  - Performance Standards
  - Credits/Hours
- Examine potential alignments with other credentials
  - WTCS fulltime programs
- Discuss the Delivery Options for Courses

3

FY21-22 Projects

- 50-401-9 HVAC APPRENTICE
- 50-420-9 INDUSTRIAL MANUFACTURING TECHNICIAN
- 50-413-6 ELECTRIC LINE APPRENTICE
- 50-413-7 METERING TECHNICIAN APPRENTICE
- 50-468-1 SUBSTATION ELECTRICIAN APPRENTICE
- 50-502-1 COSMETOLOGIST APPRENTICE
- 50-502-5 BARBER APPRENTICE
- 50-001-1 ARBORIST APPRENTICE
- 50-620-1 MECHATRONICS TECHNICIAN APPRENTICE
- 50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
- 50-464-1 MAINTENANCE TECHNICIAN APPRENTICE
- 50-414-2 ELECTRICAL & INSTRUMENTATION APPRENTICE

4

Review process

Share plan with BAS and Trade Committees initially and at spring meetings
- Survey employers to determine new needs and revisions

Create instructor team
- All colleges approved (with active enrollments past three years?) to offer the apprenticeship are invited to identify 1-2 instructors to participate.

Share course review packet
- WIDS will share the program configuration and COS packets for review

Conduct 1-4 web meeting reviews
- Faculty determine if changes are needed (1 web meeting)
- Faculty revise course outcome summaries (2-3 web meetings. Changes may include updates to course credits, competencies or performance standards and or new courses.
- Discuss potential for RA to TD alignment

Obtain approval
- Determine approvals needed
- WIDS provides a revision summary including major changes and justification for changes for discussion

Publish revisions
- Publish revisions from the Repository for college use

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50-620-1 MECHATRONICS TECHNICIAN
50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
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WISCONSIN TECHNICAL COLLEGE SYSTEM

- BTC
- CVTC
- GTC
- LTC
- MATC-MDSN
- MPTC
- MSTC
- NTC
- SWTC
- WCTC
- WTC

6

Curriculum Review Participants

College	App Coord/Dean	Instructor
BTC	Greg Phillips	Ryan Hartter
CVTC	Julie Sherman,	Darrin Falk, Jeff Johnson,
GTC	Steve McNaughton Jennifer Pagan	Matthew Adams Tony Lestan
LTC	Jeff Grunewald	David Schwobe
MATC-Madison	Randall Way	Tom Helbig,
MPTC	Stephen Horvath	Josh Cohn,
MSTC	Ryan Kawski	Matt McCall Jim Koskey
NTC	Katie Metko	Marc Martindale
SWTC	Derek Dachelet,	Stephen Goss Bart Wood Jobert Bermudo
WCTC	Tim Alff	Wayne Buroker
WTC	Josh Gamer	Phillip Reed
WTCS	Nancy Nakkoul, Education Director – Apprenticeship, Construction, and Architecture	
WIDS	Melinda Schroepfer - WIDS Annette Czarnecki - WIDS	

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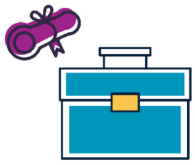
College Degree Alignments:

Reponses were consistent across all [illegible] programs' surveys

- [illegible] recommendations
- [illegible] crosswalks to [illegible]



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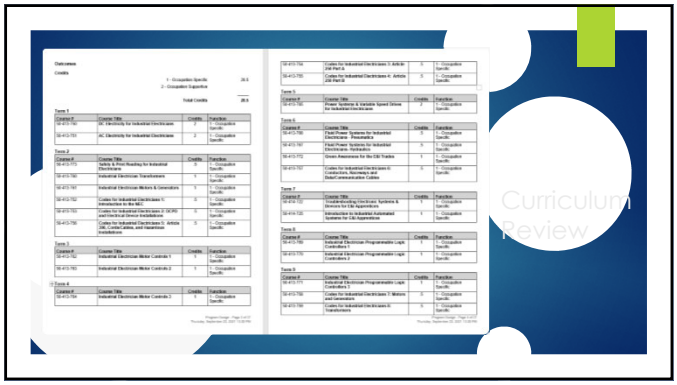
Delivery

- Online during COVID
- [illegible] interest in hybrid [illegible]
- [illegible]

9



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Mechatronics – No shared courses with the other three programs. No recommended changes.

Eight courses shared among:
50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
50-464-1 MAINTENANCE TECHNICIAN
50-414-2 ELECTRICAL & INSTRUMENTATION APPRENTICE

Seven courses shared between:
50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
50-464-1 MAINTENANCE TECHNICIAN

Faculty Provided Recommendations for Seven Courses (4 Shared)

Course Number, Name and Hours	Course Title	Shared?
50-413-773 18 hours	Safety & Print Reading for Industrial Electricians	• Electrical and Instrumentation Technician • Maintenance Technician • Industrial Electrician
50-413-762 36 hours	Industrial Electrician Motor Controls 1	• Maintenance Technician • Industrial Electrician
50-413-763 36 hours	Industrial Electrician Motor Controls 2	• Maintenance Technician • Industrial Electrician
50-413-764 36 hours	Industrial Electrician Motor Controls 3	• Maintenance Technician • Industrial Electrician
50-413-769 36 hours	Industrial Electrician Programmable Logic Controllers 1	• Industrial Electrician Only – Not Shared
50-464-718 24 hours	Fluid Power Systems for Maintenance Tech Apprentices	• Maintenance Technician Only – Not shared
50-464-712 72 hours	Bearings, Measurement & Print Reading for Maintenance Tech Apprentices	• Maintenance Technician Only – Not shared

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Curriculum Review	Summary and Recommendations
50-413-762 Industrial Electrician Motor Controls 1 • Maintenance Technician • Industrial Electrician	**Remove:** • Draw a circuit that incorporates control devices and timers – move to MC 2 • Draw a reversing control circuit for a three-phase AC motor – move to MC 2 **Add:** • Select test equipment – move from MC3 (add to MC 1 and 2) • Implement the proper techniques in troubleshooting an electrical motor control circuit– move from MC3 (add to MC 1 and 2) • Gather information – move from MC3 (add to MC 1 and 2)
50-413-763 Industrial Electrician Motor Controls 2 • Maintenance Technician • Industrial Electrician	**Add:** • Select test equipment – moved from MC3 (added to MC 1 and 2) • Implement the proper techniques in troubleshooting an electrical motor control circuit– move from MC3 (added to MC 1 and 2) • Gather information – move from MC3 (add to MC 1 and 2) • Draw a circuit that incorporates control devices and timers – move from MC 1 • Draw a reversing control circuit for a three-phase AC motor – move from MC 1
50-413-764 Industrial Electrician Motor Controls 3 • Maintenance Technician • Industrial Electrician	**Add:** • Draw a speed control and a reduced voltage control circuit – move from MC 2 • Detail the various mechanical and electronic methods used in accelerating and decelerating AC and DC motors – move from MC 2

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50-413-762 Industrial Electrician Motor Controls 1	50-413-763 Industrial Electrician Motor Controls 2	50-413-764 Industrial Electrician Motor Controls 3
Course Competencies: 1. Apply safety procedures, tools, and instrument to specific situations 2. Complete the decision/action portion of a line drawing 3. Select test equipment 4. Implement the proper techniques in troubleshooting an electrical motor control circuit 5. Gather information	**Course Competencies:** 1. Apply electromechanical and solid-state devices to a specific situation 2. Select test equipment 3. Implement the proper techniques in troubleshooting an electrical motor control circuit 4. Gather information 5. Draw a circuit that incorporates control devices and timers 6. Draw a reversing control circuit for a three-phase AC motor	**Course Competencies:** 1. Gather information 2. Select test equipment 3. Implement the proper techniques in troubleshooting an electrical motor control circuit 4. Formulate a preventative maintenance program 5. Draw a speed control and a reduced voltage control circuit 6. Detail the various mechanical and electronic methods used in accelerating and decelerating AC and DC motors

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Curriculum Review	Summary and Recommendations
50-413-769 Industrial Electrician Programmable Logic Controllers 1 • Industrial Electrician	**No changes to the individual course:** **Recommend adding the PLC 2 and 3 courses to the program:** • **50-413-770 Industrial Electrician Programmable Logic Controllers 2 -adds 36 hours to the program** • **50-413-771 Industrial Electrician Programmable Logic Controllers 3 -adds 36 hours to the program** **Total potential hours: 72**

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Curriculum Review	Summary and Recommendations
50-464-718 - Fluid Power Systems for Maintenance Tech Apprentices • Maintenance Technician	• Recommend adding 1 competency: - Control pneumatics and hydraulics electrically • Recommend bumping this up from 36 to 72 hour minimum to allow for more hydraulics content. **Adds 36 hours to program.**
50-464-712 Bearings, Measurement & Print Reading for Maintenance Tech Apprentices • Maintenance Technician	• Recommend consolidating/reducing the number of competencies. • Current competencies are redundant. • Recommend reducing hours from 72 to 36 because current content can be addressed in 36 hours. **Removes 36 hours from program.**

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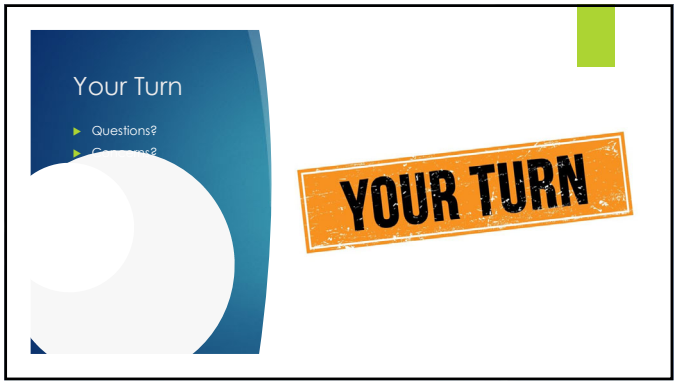

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50-620-1 MECHATRONICS TECHNICIAN
50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
50-464-1 MAINTENANCE TECHNICIAN
50-414-2 ELECTRICAL & INSTRUMENTATION APPRENTICE

Related Instruction Review

Date: November 4th, 2021

Project Review Team

College	App Coord/Dean	Instructor
BTC	Greg Phillips	Ryan Hartter
CVTC	Julie Sherman,	Darrin Falk. Jeff Johnson,
GTC	Steve McNaughton, Jennifer Pagan	Matthew Adams, Tony Lestan
LTC	Jeff Grunewald	David Schwobe
MATC-Madison	Randall Way	Tom Helbig
MPTC	Stephen Horvath	Josh Cohn,
MSTC	Ryan Kawski	Matt McCall, Jim Koskey
NTC	Katie Metko	Marc Martindale
SWTC	Derek Dachelet,	Stephen Goss, Bart Wood Jobert Bermudo
WCTC	Tim Alft	Wayne Buroker
WTC	Josh Gamer	Phillip Reed
WTCS	Nancy Nakkoul, Education Director – Apprenticeship, Construction, and Architecture	
WIDS	Melinda Schroepfer - WIDS Annette Czarnecki - WIDS	

Summary and Recommendations

Review	Summary and Recommendations
Curriculum Review Overview	The group recommended no changes to the 50-620-1 MECHATRONICS TECHNICIAN program or courses. The group recommended changes to seven courses that are shared in various configurations across the three programs: 50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE 50-464-1 MAINTENANCE TECHNICIAN 50-414-2 ELECTRICAL & INSTRUMENTATION APPRENTICE The group also recommended related instruction hour changes to: 50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE 50-464-1 MAINTENANCE TECHNICIAN

Suggested Alignments Courses in a Full-Time Program	There was not overwhelming support for alignment to full-time programs for any of the four programs.

Specific Recommendations

Course Change:

50-413-762 Industrial Electrician Motor Controls 1 Recommendations:	**Recommended Change Results:**
Instructional Level - Technical Diploma Total Credits 1 = 36 hours **Course Competencies:** 1. Apply safety procedures, tools, and instrument to specific situations 2. Draw a computer-generated ladder diagram 3. Complete the decision/action portion of a line drawing 4. Draw a circuit that incorporates control devices and timers 5. Draw a reversing control circuit for a three-phase DC motor **Remove:** • Draw a circuit that incorporates control devices and timers – moved to MC 2 • Draw a reversing control circuit for a three-phase AC motor – moved to MC 2 **Add:** • Demonstrate the ability to select test equipment – moved from MC3 (added to MC 1 and 2) • Demonstrate the ability to implement the proper techniques in troubleshooting an electrical motor control circuit– moved from MC3 (added to MC 1 and 2) • Demonstrate the ability to gather information – moved from MC3 (added to MC 1 and 2)	Instructional Level - Technical Diploma Total Credits 1 = 36 hours **Course Competencies:** 1. Apply safety procedures, tools, and instrument to specific situations 2. Complete the decision/action portion of a line drawing 3. Select test equipment 5. Implement the proper techniques in troubleshooting an electrical motor control circuit 6. Gather information

Course Change:

50-413-763 Industrial Electrician Motor Controls 2	**Recommended Change Results:**
Instructional Level - Technical Diploma Total Credits 1 = 36 Hours **Course Competencies:** 1. Apply electromechanical and solid-state devices to a specific situation 2. Draw a speed control and a reduced voltage control circuit **Add**: • ~~Demonstrate the ability to~~ select test equipment – moved from MC3 (added to MC 1 and 2) • ~~Demonstrate the ability to~~ implement the proper techniques in troubleshooting an electrical 2. motor control circuit– moved from MC3 (added to MC 1 and 2) • ~~Demonstrate the ability to~~ gather information – moved from MC3 (added to MC 1 and 2) • Draw a circuit that incorporates control devices and timers – moved from MC 1 • Draw a reversing control circuit for a three-phase ~~DC~~ AC motor – moved from MC 1	Instructional Level - Technical Diploma Total Credits 1 = 36 hours **Course Competencies:** 1. Apply electromechanical and solid-state devices to a specific situation 2. Select test equipment 3. Implement the proper techniques in troubleshooting an electrical motor control circuit 4. Gather information 5. Draw a circuit that incorporates control devices and timers 6. Draw a reversing control circuit for a three-phase AC motor

Course Change:

50-413-764 Industrial Electrician Motor Controls 3	**Final Recommended Changes**
Instructional Level Technical Diploma Total Credits 1 36 hours **Course Competencies:** 1. Demonstrate the ability to gather information 2. Demonstrate the ability to select test equipment 3. Demonstrate the ability to implement the proper techniques in troubleshooting an electrical motor control circuit 4. Formulate a preventative maintenance program **Add**:	50-413-764 Industrial Electrician Motor Controls 3 Instructional Level Technical Diploma Total Credits 1 36 hours **Course Competencies:** 1. ~~G~~ather information 2. Select test equipment 3. ~~I~~mplement the proper techniques in troubleshooting an electrical motor control circuit

• Draw a speed control and a reduced voltage control circuit – moved from MC 2 • Detail the various mechanical and electronic methods used in accelerating and decelerating AC and DC motors – moved from MC 2	4. Formulate a preventative maintenance program 5. Draw a speed control and a reduced voltage control circuit 6. Detail the various mechanical and electronic methods used in accelerating and decelerating AC and DC motors

Resulting recommended configuration of the three EMC courses in a series:

50-413-762 Industrial Electrician Motor Controls 1	**50-413-763 Industrial Electrician Motor Controls 2**	**50-413-764 Industrial Electrician Motor Controls 3**
Course Competencies: 1. Apply safety procedures, tools, and instrument to specific situations 2. Complete the decision/action portion of a line drawing 3. Select test equipment 4. Implement the proper techniques in troubleshooting an electrical motor control circuit 5. Gather information	**Course Competencies:** 1. Apply electromechanical and solid-state devices to a specific situation 2. Select test equipment 3. Implement the proper techniques in troubleshooting an electrical motor control circuit 4. Gather information 5. Draw a circuit that incorporates control devices and timers 6. Draw a reversing control circuit for a three-phase AC motor	**Course Competencies:** 1. Gather information 2. Select test equipment 3. Implement the proper techniques in troubleshooting an electrical motor control circuit 4. Formulate a preventative maintenance program 5. Draw a speed control and a reduced voltage control circuit 6. Detail the various mechanical and electronic methods used in accelerating and decelerating AC and DC motors

Course Change:

50-464-718 Fluid Power Systems for Maintenance Tech Apprentices	**Result of Recommended Changes:**
Instructional Level - Technical Diploma Total Credits .75 = 24 Hours **Course Competencies**	Instructional Level - Technical Diploma Total Credits 2 (72 hours)

1. Define the principles of fluid power systems for hydraulics and pneumatics 2. Interpret fluid power system schematic diagrams 3. Analyze the roles and functions of fluid power system components 4. Explain the functions of valves used in fluid power systems 5. Apply troubleshooting principles to both pneumatic and hydraulic systems ADD Competency: Control pneumatics and hydraulics electrically Recommend bumping this up to 72 hour minimum to allow for more hydraulics content.	**Course Competencies:** 1. Define the principles of fluid power systems for hydraulics and pneumatics 2. Interpret fluid power system schematic diagrams 3. Analyze the roles and functions of fluid power system components 4. Explain the functions of valves used in fluid power systems 5. Apply troubleshooting principles to both pneumatic and hydraulic systems 6. Control pneumatics and hydraulics electrically

Course Change:

50-464-712 Bearings, Measurement & Printreading for Maintenance Tech Apprentices	**Recommended Changes Results:**
Instructional Level - Technical Diploma Total Credits 2 = (72 hours) **Course Competencies** 1. Examine different types of precision measurement instruments and their uses 2. Take measurements with tape measures and steel rules 3. Take measurements with micrometers 4. Take measurements with calipers 5. Take measurements with indicators 6. Take height measurements with various types of gauges 7. Examine different types of prints 8. Interpret parts prints and drawings 9. Interpret mechanical prints 10. Interpret structural drawings/prints 11. Demonstrate awareness of CAD generated drawings and prints 12. Examine different bearing types and their applications 13. Handle equipment bearings 14. Inspect a bearing 15. Analyze bearing failures 16. Remove a bearing 17. Select a bearing 18. Mount a bearing 19. Lubricate a bearing Recommend consolidating/reducing the number of competencies. Recommend reducing hours to 36 (1 Credit).	Instructional Level - Technical Diploma Total Credits 1 = (36 hours) **Course Competencies** 1. Take measurements with appropriate measuring device(s) **Criteria:** • Take measurements with tape measures and steel rules • Take measurements with micrometers • Take measurements with calipers • Take measurements with indicators • Take height measurements with various types of gauges 2. Interpret prints **Criteria:** • Examine different types of prints • Interpret parts prints and drawings • Interpret mechanical prints • Interpret structural drawings/prints • Interpret CAD generated drawings and prints 3. Identify bearing types and their applications **Criteria:** • Handle equipment bearings • Examine bearing types • Inspect a bearing • Analyze bearing type applications 4. Install and replace bearings **Criteria:** • Remove a bearing • Analyze bearing failures • Select a bearing • Mount a bearing • Lubricate a bearing

Course Change:

50-464-718 Fluid Power Systems for Maintenance Tech Apprentices	**Results of Recommended Changes:**
Instructional Level - Technical Diploma Total Credits .75 = 24 Hours **Course Competencies** 1. Define the principles of fluid power systems for hydraulics and pneumatics 2. Interpret fluid power system schematic diagrams 3. Analyze the roles and functions of fluid power system components 4. Explain the functions of valves used in fluid power systems 5. Apply troubleshooting principles to both pneumatic and hydraulic systems ADD Competency: Control pneumatics and hydraulics electrically Recommend bumping this up to 72 hour minimum to allow for more hydraulics content.	Instructional Level - Technical Diploma Total Credits 2 = (72 hours) **Course Competencies** 1. Define the principles of fluid power systems for hydraulics and pneumatics 2. Interpret fluid power system schematic diagrams 3. Analyze the roles and functions of fluid power system components 4. Explain the functions of valves used in fluid power systems 5. Apply troubleshooting principles to both pneumatic and hydraulic systems 6. Control pneumatics and hydraulics electrically

RECOMMENDED PROGRAM CHANGE: Industrial Electrician

50-413-769 Industrial Electrician Programmable Logic Controllers 1	**Results of Recommendations:**
Instructional Level Technical Diploma Total Credits 1 36 hours **Course Competencies** 1. Perform basic computer operations 2. Illustrate the function of each major component of a Programmable Logic Controller 3. Differentiate numbering systems used with Programmable Logic Controllers 4. Define the fundamental logic gates used with Programmable Logic Controllers No Change to course. Recommend adding the PLC 2 and 3 courses to the program – 1 credit (36 hours) each	**Recommend adding the PLC 2 and 3 courses to the program:** **50-413-770 Industrial Electrician Programmable Logic Controllers 2: This would Add 1 Credit (36 hours) to the program** **50-413-771 Industrial Electrician Programmable Logic Controllers 3: This would Add 1 Credit (36 ours) to the program.**

WTCS Related Instruction Review

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50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
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1

Systematic Planned Reviews

- All apprenticeships
- Over 5 years
- Flexible to meet employer and WTCS needs

2

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- Update course documentation to ensure curriculum is accurate
  - Course Competencies
  - Performance Standards
  - Credits/Hours
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FY21-22 Projects

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- 50-420-9 INDUSTRIAL MANUFACTURING TECHNICIAN
- 50-413-6 ELECTRIC LINE APPRENTICE
- 50-413-7 METERING TECHNICIAN APPRENTICE
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- 50-620-1 MECHATRONICS TECHNICIAN APPRENTICE
- 50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
- 50-464-1 MAINTENANCE TECHNICIAN APPRENTICE
- 50-414-2 ELECTRICAL & INSTRUMENTATION APPRENTICE

4

Review process

Share plan with BAS and Trade Committees initially and at spring meetings

- Survey employers to determine new needs and revisions

Create instructor team

- All colleges approved (with active enrollments past three years?) to offer the apprenticeship are invited to identify 1-2 instructors to participate.

Share course review packet

- WIDS will share the program configuration and COS packets for review

Conduct 1-4 web meeting reviews

- Faculty determine if changes are needed (1 web meeting)
- Faculty revise course outcome summaries (2-3 web meetings. Changes may include updates to course credits, competencies or performance standards and or new courses.
- Discuss potential for RA to TD alignment

Obtain approval

- Determine approvals needed
- WIDS provides a revision summary including major changes and justification for changes for discussion

Publish revisions

- Publish revisions from the Repository for college use

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50-620-1 MECHATRONICS TECHNICIAN
50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
50-464-1 MAINTENANCE TECHNICIAN
50-414-2 ELECTRICAL & INSTRUMENTATION APPRENTICE

WISCONSIN TECHNICAL COLLEGE SYSTEM

- BTC
- CVTC
- GTC
- LTC
- MATC-MDSN
- MPTC
- MSTC
- NTC
- SWTC
- WCTC
- WTC

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Curriculum Review Participants

College	App Coord/Dean	Instructor
BTC	Greg Phillips	Ryan Hartter
CVTC	Julie Sherman,	Darrin Falk, Jeff Johnson,
GTC	Steve McNaughton Jennifer Pagan	Matthew Adams Tony Lestan
LTC	Jeff Grunewald	David Schwobe
MATC-Madison	Randall Way	Tom Helbig,
MPTC	Stephen Horvath	Josh Cohn,
MSTC	Ryan Kawski	Matt McCall Jim Koskey
NTC	Katie Metko	Marc Martindale
SWTC	Derek Dachelet,	Stephen Goss Bart Wood Jobert Bermudo
WCTC	Tim Alft	Wayne Buroker
WTC	Josh Gamer	Phillip Reed
WTCS	Nancy Nakkoul, Education Director – Apprenticeship, Construction, and Architecture	
WIDS	Melinda Schroepfer - WIDS Annette Czarnecki - WIDS	

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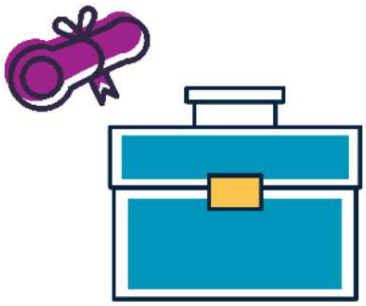
College Degree Alignments:

Reponses were consistent across all four programs' surveys

- Some interest - No strong recommendations
- Some colleges already providing crosswalks to interested apprentices



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Delivery

- Online during COVID
- Some interest in hybrid delivery
- Faculty Recommendation: Students prefer face-to-face

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Curriculum Review

Outcomes

Credits

1 - Occupation Specific	28.5
2 - Occupation Supportive	
Total Credits	28.5

Term 1

Course #	Course Title	Credits	Function
50-413-750	DC Electricity for Industrial Electricians	.2	1 - Occupation Specific
50-413-751	AC Electricity for Industrial Electricians	.2	1 - Occupation Specific

Term 2

Course #	Course Title	Credits	Function
50-413-773	Safety & Print Reading for Industrial Electricians	.5	1 - Occupation Specific
50-413-760	Industrial Electrician Transformers	.1	1 - Occupation Specific
50-413-761	Industrial Electrician Motors & Generators	.1	1 - Occupation Specific
50-413-752	Codes for Industrial Electricians 1: Introduction to the NEC	.5	1 - Occupation Specific
50-413-753	Codes for Industrial Electricians 2: OCPD and Electrical Device Installations	.5	1 - Occupation Specific
50-413-756	Codes for Industrial Electricians 5: Article 300, Cords/Cables, and Hazardous Installations	.5	1 - Occupation Specific

Term 3

Course #	Course Title	Credits	Function
50-413-762	Industrial Electrician Motor Controls 1	.1	1 - Occupation Specific
50-413-763	Industrial Electrician Motor Controls 2	.1	1 - Occupation Specific

Term 4

Course #	Course Title	Credits	Function
50-413-764	Industrial Electrician Motor Controls 3	.1	1 - Occupation Specific
50-413-754	Codes for Industrial Electricians 3: Article 250 Part A	.5	1 - Occupation Specific
50-413-755	Codes for Industrial Electricians 4: Article 250 Part B	.5	1 - Occupation Specific

Term 5

Course #	Course Title	Credits	Function
50-413-765	Power Systems & Variable Speed Drives for Industrial Electricians	.2	1 - Occupation Specific

Term 6

Course #	Course Title	Credits	Function
50-413-766	Fluid Power Systems for Industrial Electricians - Pneumatics	.5	1 - Occupation Specific
50-413-767	Fluid Power Systems for Industrial Electricians- Hydraulics	.5	1 - Occupation Specific
50-413-772	Green Awareness for the E&I Trades	.1	1 - Occupation Specific
50-413-757	Codes for Industrial Electricians 6: Conductors, Raceways and Data/Communication Cables	.5	1 - Occupation Specific

Term 7

Course #	Course Title	Credits	Function
50-414-722	Troubleshooting Electronic Systems & Devices for E&I Apprentices	.1	1 - Occupation Specific
50-414-725	Introduction to Industrial Automated Systems for E&I Apprentices	.1	1 - Occupation Specific

Term 8

Course #	Course Title	Credits	Function
50-413-769	Industrial Electrician Programmable Logic Controllers 1	.1	1 - Occupation Specific
50-413-770	Industrial Electrician Programmable Logic Controllers 2	.1	1 - Occupation Specific

Term 9

Course #	Course Title	Credits	Function
50-413-771	Industrial Electrician Programmable Logic Controllers 3	.1	1 - Occupation Specific
50-413-758	Codes for Industrial Electricians 7: Motors and Generators	.5	1 - Occupation Specific
50-413-759	Codes for Industrial Electricians 8: Transformers	.5	1 - Occupation Specific

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Mechatronics – No shared courses with the other three programs. No recommended changes.

Eight courses shared among:
50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
50-464-1 MAINTENANCE TECHNICIAN
50-414-2 ELECTRICAL & INSTRUMENTATION APPRENTICE

Seven courses shared between:
50-413-1 INDUSTRIAL ELECTRICIAN APPRENTICE
50-464-1 MAINTENANCE TECHNICIAN

Faculty Provided Recommendations for Seven Courses (4 Shared)

Course Number, Name and Hours	Course Title	Shared?
50-413-773 18 hours	Safety & Print Reading for Industrial Electricians	• Electrical and Instrumentation Technician • Maintenance Technician • Industrial Electrician
50-413-762 36 hours	Industrial Electrician Motor Controls 1	• Maintenance Technician • Industrial Electrician
50-413-763 36 hours	Industrial Electrician Motor Controls 2	• Maintenance Technician • Industrial Electrician
50-413-764 36 hours	Industrial Electrician Motor Controls 3	• Maintenance Technician • Industrial Electrician
50-413-769 36 hours	Industrial Electrician Programmable Logic Controllers 1	• Industrial Electrician Only – Not Shared
50-464-718 24 hours	Fluid Power Systems for Maintenance Tech Apprentices	• Maintenance Technician Only – Not shared
50-464-712 72 hours	Bearings, Measurement & Print Reading for Maintenance Tech Apprentices	• Maintenance Technician Only – Not shared

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Curriculum Review	Summary and Recommendations
50-413-762 Industrial Electrician Motor Controls 1 • Maintenance Technician • Industrial Electrician	**Remove:** • Draw a circuit that incorporates control devices and timers – move to MC 2 • Draw a reversing control circuit for a three-phase AC motor – move to MC 2 **Add:** • Select test equipment – move from MC3 (add to MC 1 and 2) • Implement the proper techniques in troubleshooting an electrical motor control circuit– move from MC3 (add to MC 1 and 2) • Gather information – move from MC3 (add to MC 1 and 2)
50-413-763 Industrial Electrician Motor Controls 2 • Maintenance Technician • Industrial Electrician	**Add:** • Select test equipment – moved from MC3 (added to MC 1 and 2) • Implement the proper techniques in troubleshooting an electrical motor control circuit– move from MC3 (added to MC 1 and 2) • Gather information – move from MC3 (add to MC 1 and 2) • Draw a circuit that incorporates control devices and timers – move from MC 1 • Draw a reversing control circuit for a three-phase AC motor – move from MC 1
50-413-764 Industrial Electrician Motor Controls 3 • Maintenance Technician • Industrial Electrician	**Add:** • Draw a speed control and a reduced voltage control circuit – move from MC 2 • Detail the various mechanical and electronic methods used in accelerating and decelerating AC and DC motors – move from MC 2

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50-413-762 Industrial Electrician Motor Controls 1	50-413-763 Industrial Electrician Motor Controls 2	50-413-764 Industrial Electrician Motor Controls 3
Course Competencies: 1. Apply safety procedures, tools, and instrument to specific situations 2. Complete the decision/action portion of a line drawing 3. Select test equipment 4. Implement the proper techniques in troubleshooting an electrical motor control circuit 5. Gather information	**Course Competencies:** 1. Apply electromechanical and solid-state devices to a specific situation 2. Select test equipment 3. Implement the proper techniques in troubleshooting an electrical motor control circuit 4. Gather information 5. Draw a circuit that incorporates control devices and timers 6. Draw a reversing control circuit for a three-phase AC motor	**Course Competencies:** 1. Gather information 2. Select test equipment 3. Implement the proper techniques in troubleshooting an electrical motor control circuit 4. Formulate a preventative maintenance program 5. Draw a speed control and a reduced voltage control circuit 6. Detail the various mechanical and electronic methods used in accelerating and decelerating AC and DC motors

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Curriculum Review	Summary and Recommendations
50-413-769 Industrial Electrician Programmable Logic Controllers 1 • **Industrial Electrician**	**No changes to the individual course:** **Recommend adding the PLC 2 and 3 courses to the program:** • **50-413-770 Industrial Electrician Programmable Logic Controllers 2 -adds 36 hours to the program** • **50-413-771 Industrial Electrician Programmable Logic Controllers 3 -adds 36 hours to the program** **Total potential hours: 72**

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Curriculum Review	Summary and Recommendations
50-464-718 - Fluid Power Systems for Maintenance Tech Apprentices • **Maintenance Technician**	• Recommend adding 1 competency: - Control pneumatics and hydraulics electrically • Recommend bumping this up from 36 to 72 hour minimum to allow for more hydraulics content. **Adds 36 hours to program.**
50-464-712 Bearings, Measurement & Print Reading for Maintenance Tech Apprentices • **Maintenance Technician**	• Recommend consolidating/reducing the number of competencies. • Current competencies are redundant. • Recommend reducing hours from 72 to 36 because current content can be addressed in 36 hours. **Removes 36 hours from program.**

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Your Turn

- Questions?
- Concerns?

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Department of Workforce Development
Employment and Training Division
Bureau of Apprenticeship Standards
201 E. Washington Ave., Room E100
P.O. Box 7972
Madison, WI 53707
Telephone: (608) 266-3332
Fax: (608) 266-0766
Email: DWDDET@dwd.wisconsin.gov

STATE OF WISCONSIN
DWD
Department of Workforce Development

Tony Evers, Governor
Amy Pechacek, Secretary-designee

February 24, 2021

Dear Apprenticeship Employers:

The link is now live to access information on applying for on-the-job learning reimbursements through Wisconsin Apprenticeship grant funds. Follow the instructions offered in the link and review the information in this email regarding eligibility. The deadline for submitting questions regarding this announcement is March 5th at 2 p.m. CST. Awards may be made as soon as March 15th. Applications will be reviewed in the order in which they are received. Questions can be sent to our grants mailbox at dwddetgrants@dwd.wisconsin.gov.

The on-the-job learning reimbursements are part of a Wisconsin grant initiative, using federal grant funds, to help defray the extraordinary costs of training apprentices. Employers may be eligible for up to a $1,000 reimbursement for each apprentice that they hired between July 1, 2019 and January 30, 2021, as long as the apprentice meets one of the following criteria:

- The apprentice previously completed a Wisconsin Youth Apprenticeship program in any career cluster; or
- The apprentice previously completed a state certified pre-apprenticeship program in any job sector. A detailed list of Wisconsin certified pre-apprenticeship programs can be found here; or
- The apprentice was hired to work in the IT, Healthcare, Bio-Tech, Transportation, Agriculture or Financial Services sectors.

Employers may only receive one on-the-job learning reimbursement per apprentice that meets the qualifying criteria and cannot request reimbursement for the same apprentice more than once.

Thank you for being valued Wisconsin apprenticeship employers and sponsors.

Sincerely,

Joshua A. Johnson

Joshua Johnson, State Director
Wisconsin Apprenticeship

Department of Workforce Development
Employment and Training Division
Bureau of Apprenticeship Standards
201 E. Washington Ave., Room E100
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Madison, WI 53707
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Fax: (608) 266-0766
Email: DWDDET@dwd.wisconsin.gov

STATE OF WISCONSIN
DWD
Department of Workforce Development

Tony Evers, Governor
Amy Pechacek, Secretary-designee

Dear Wisconsin Apprentices:

Wisconsin Apprenticeship has federal grant funds available to provide supportive services to registered apprentices. Up to $600 may be available to each Wisconsin registered apprentice to assist with the following apprenticeship-related costs:

- Uniforms or work clothing
- Tools
- Required physicals
- Books
- Test fees
- Mileage
- Bus passes
- Parking permits
- Childcare
- Rent & housing costs

Apprentices who began their apprenticeship between July 1, 2019 and March 31, 2022 are eligible. Reimbursements will be awarded to applicants through March 31, 2022, or until the funding runs out. Apprentices must contact the following organizations, according to location, to determine if they qualify:

Milwaukee, Racine, Kenosha, Walworth, Washington, Waukesha and Ozaukee counties
Employ Milwaukee Jose Galvan Jose.galvan@employmilwaukee.org 2342 North 27th Street Milwaukee, WI 53210 **Office 414-270-1743** **Cell 414-852-1914**

All other Wisconsin counties
South Central Workforce Development Board Jeff Kennedy jkennedy@wdbscw.org 3513 Anderson Street Ste 104 Madison, WI 53704 **Office 608-249-9001 Ext. 230**

Thank you for being valued Wisconsin apprentice.

Sincerely,

Joshua A. Johnson

Joshua Johnson, State Director
Wisconsin Apprenticeship

WTCS System-Wide Activity Update September 2021

WTCS Apprenticeship Enrollment Trend

WTCS enrollments across all apprenticeship programs decreased from 7923 to 7630 unduplicated, and 8053 to 7720 duplicated, students by the end of 2020-2021 academic year. That is a 3.7% and 4.1% decrease, respectively, in one year.

Ascendium Education Group Tools of the Trade Scholarships Increased Again in 2021

For the 2021-22 academic year, Ascendium Education Group has committed to awarding an additional 75 scholarships to industrial and construction sector apprentices who receive their related instruction through a WTCS college. A total of 325 awards of $1500 apiece will be granted statewide in March 2022, with the scholarship application period open from late August until late November 2021.

New MyWTCS Website: https://mywtcs.wtcsystem.edu/

MyWTCS is an intranet site for the Wisconsin Technical College System and stakeholders. Launched in February 2021, the re-designed site includes a new look and improved functionality and features, including an expanded apprenticeship resources section. WTCS systemwide publications, including the annual Apprenticeship Completion Report, can be found on the Wistechcolleges sister-site, under publications.

Preparing to Teach Transition to Trainer (PT2TT2T)

MyWTCS also hosts information, administrative guidance, and upcoming PT2TT2T course offerings for instructors of the BAS-mandated apprentice Transition to Trainer course. As of January 2021, current instructors of Transition to Trainer must complete the 3-hour abridged Preparing to Teach Transition to Trainer course by the end of 2021.

New Proactive Approach to Revisions of Apprenticeship Related Instruction offered through the WTCS

Starting in 2021, the WTCS and BAS adopted a 5-year cycle revision framework for all systemwide apprenticeship curriculum where related instruction is offered at more than one WTCS college. Approximately sixty systemwide apprenticeship programs have a documented curriculum standard model that will form the foundation for review of program and course outcomes and competencies. Apprenticeship faculty, industry sponsors and State Apprenticeship Trade Advisory Committees will be engaged in the review process. This proactive approach will ensure that learning remains current with industry needs and technological advancements. Program assignment within the 5-year cycle will remain fluid.

Curriculum Review Completed 2020-21	Curriculum Slated for Review 2021-22
• Carpentry (All) • Wastewater Treatment • Electrical (All) • Industrial Manufacturing Technician • IT-Service Desk	• HVAC (ABC) • Mechatronics • Barber/Cosmetology • Bricklaying/Masonry • Industrial Electrical, Maintenance Technician, and E&I Technician

• IT-Software Developer	• Arborist • Electric Line, Metering Technician, and Substation Electrician

Active WTCS-BAS Apprenticeship Programs, By Sector, Occupation, and College as of August 2021

The master color-coded chart of all apprenticeship programs with active related instruction offered through the WTCS colleges can be found on the MyWTCS website. “Active” is defined as approved programs with enrollments in the past two years.

Report Name COM-01 State Committee Report

Refresh Date 10/29/21 2:48 PM

Wisconsin Bureau of Apprenticeship Standards

State Committee Report

This summary counts employers and apprentices, between 10/29/2021 and 10/29/2021 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.

	Apprentices									Employers				
	Total	Minority		Females		Union		Non-Union		Total	Union		Non-Union	
Occupation		#	%	#	%	#	%	#	%		#	%	#	%
1	2	3	3a	4	4a	5	5a	6	6a	7	8	8a	9	9a
Report Total	**802**	**57**	**7.1**	**19**	**2.4**	**354**	**44.1**	**448**	**55.9**	**274**	**101**	**36.9**	**175**	**63.9**
Electrical and Instrumentation (E & I) Technician (0271028101801)	165	6	3.6	5	3.0	113	68.5	52	31.5	56	30	53.6	28	50.0
Industrial Electrician (0282926101801)	354	29	8.2	10	2.8	149	42.1	205	57.9	144	51	35.4	93	64.6
Maintenance Electrician (0282926101802)	8	0	0	0	0	4	50.0	4	50.0	2	1	50.0	1	50.0
Maintenance Technician (0282926101805)	275	26	9.5	4	1.5	88	32.0	187	68.0	121	33	27.3	88	72.7