

Approved Minutes of the
Industrial Mechanical & Fluid Maintenance
State Apprenticeship Advisory Committee

November 3, 2021
Virtual

Members Present	Employer
Dehnel, Charle	Domtar
Mortenson, Brandon (Co-Chair)	Int Assoc of Machinists & Aerospace Workers
Steckl, James	Quad
Members Absent	Employer
Green, Carl	Expera Specialty Solutions LLC
Harry, Bob	GKN Sinster
Lezendorf, Bryan	3M
Lischka, Ken	John Deere Horicon
Consultants and Guests	Employer
Olson, Rich	Lakeshore Technical College
Masaros, Tad	Northcentral Technical College
Metko, Katie	Northcentral Technical College
Johnson, Terri	Worldwide Instructional Design System
Nakkoul, Nancy	Wisconsin Technical College System
Smith, Owen	Bureau of Apprenticeship Standards
Wildenberg, Mark	Fox Valley Technical College

1. The meeting was called to order at 10:03 am by Co-Chair Jamie Steckel, in conformity with the Wisconsin Opening Meeting Law.
2. Mr. Smith recorded attendance.
3. The committee reviewed the roster. A quorum was not present.

4. Action Items

a. Approve the minutes.

The committee approved the minutes as written.

b. Revise the related instruction.

Ms. Schroepfer reviewed the instructors' recommended revisions to the course "Mathematics for the Machine Trades." The revisions would increase add 18 hours to related instruction.

The committee members in attendance discussed the pros and cons of the recommendations and increase in hours. The primary advantage was apprentices would receive more instruction in fundamental mathematics. The primary disadvantage is that some employers might object to the increase in hours, although it is less than half of a work week, because apprentices that are challenged by math could receive additional academic support.

Action: *the Bureau and the committee tabled the discussion until a quorum was present.*

Attendees did not have questions or comments.

c. Postpone reviewing the state standards.

Mr. Smith reviewed that he had invited state committees to review its state standards concurrently with its related instruction. However, he reported that review of the state standards has been postponed due to the pending review of the *Wisconsin Apprenticeship Manual*, which provides the boilerplate language that constitutes 90% of the state standards. The standards that are unique to the committee, such as its size, Exhibit A, and related instruction, are always able to be reviewed by the committee.

Mr. Smith will table the review until *Manual* is approved.

Attendees did not have questions or comments.

5. Discussion Items

a. 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.

b. 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.

c. 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.

d. 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.

e. 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.

f. 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.

g. 2021 National Apprenticeship Week

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

Attendees did not have questions or comments.

h. 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.

h. Other

Attendees did not have questions or comments.

7. WTCS Update

Ms. Nakkoul discussed the items included on the written report, particularly scholarships available to eligible registered apprenticeships.

Attendees did not have questions or comments.

8. Review the program participants.

The state committee reviewed the participant statistics and did not find discrepancies.

9. The Bureau will schedule the next meeting via electronic survey.

10. The meeting adjourned at 11:30 a.m.

Submitted by Owen Smith, Senior Analyst, Wisconsin Apprenticeship

7. WTCS Update

Ms. Nancy Nakkoul reviewed the written report. Attendees did not have questions or comments.

8. Participants included 267 apprentices and 84 employers with contracts in active or unassigned status on October 1, 2020.
9. The Bureau will schedule the next meeting via electronic survey.
10. The meeting adjourned at 11:20 a.m.

Submitted by Owen Smith, Bureau of Apprenticeship Standards

TO: State Industrial Mechanical & Fluid Maintenance Apprenticeship Advisory Committee

FROM: Owen Smith, Bureau of Apprenticeship Standards; Owen.Smith@dwd.wisconsin.gov

SUBJECT: State Industrial Mechanical & Fluid Maintenance Apprenticeship Advisory Committee Meeting

DATE: Wednesday, November 3, 2021

TIME: 1:00 p.m.

ACCESS: [Join the virtual meeting.](#)
Or call in (audio only): 608-571-2209; 80120644#

TENTATIVE AGENDA

1. Call the meeting to order.
2. Record attendees.
3. Review the current roster.
4. **Action items**
 - a. Approve the minutes.
 - b. Review proposed revisions to related instruction, including alternative vendors to MSSC.
 - c. Postpone review of state standards.
5. **Discussion items**
 - a. Mandatory registration in BASERS, effective July 1, 2021
 - b. Implementing revisions to CFR 29.30
 - c. Implementing Transition to Trainer and Teaching Transition to Trainer
 - d. Supportive services and OJL reimbursement for registered apprentices
 - e. Applicant outreach campaign and revisions to www.WisconsinApprenticeship.org
 - f. 2021 National Apprenticeship Week
 - g. 2022 Biennial Apprenticeship Conference
 - h. Apprenticeship Completion Award Program
 - i. BAS leadership and personnel changes
 - j. Other
6. WTCS Update
7. Review the program participants.
8. Schedule the next meeting.
9. Adjourn.

WTCS Related Instruction

Review of Recommended Curriculum Changes

Originally Presented to the Committee in February, 2021

50-520-9 INDUSTRIAL MANUFACTURING TECHNICIAN APPRENTICE
CHANGES RECOMMENDED FOR THE MATHEMATICS FOR THE MACHINE TRADES COURSE

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

3

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

4

Curriculum Review Participating Colleges



CVTC

FVTC

LTC

MATC

WCTC

5

Curriculum Review Participants

College	Apprentice Coordinator	Instructor
FVTC	Steve Straub	Mike Catellano
LTC	Jeff Grunewald	Rich Pfister
CVTC	Julie Sherman	Darin Falk
MATC	David Palk	Mitchell Schuffke
WCTC	Tim All	Mike Shiels
WTC3	Nancy Nakkoul	
WIDS	Terril Johnson	

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Mathematics for the Machine Trades

This course is used by the following programs:

- ▶ 50-439-1 TOOL MAKER APPRENTICE
- ▶ 50-444-1 CNC MACHINE OPERATOR APPRENTICE
- ▶ 50-439-4 TOOL & DIE TECHNOLOGIES APPRENTICE
- ▶ 50-439-5 MOLD MAKER APPRENTICE
- ▶ 50-439-3 TOOL & DIE APPRENTICE
- ▶ 50-425-1 PATTERNAKING APPRENTICE
- ▶ 50-420-2 MACHINIST APPRENTICE

7

Specific Curriculum Recommendations

Course	Review Notes
50-420-711 Mathematics for the Machine Trades	<ul style="list-style-type: none"> Change the competency "Apply geometric formulas to right and oblique triangles" to "Apply geometric formulas to right triangles." The group indicated the skill is not used often and when needed, apprentices can use electronic tools to do so. See detailed revision below. Remove the competency "Solve compound angle applications." Instructors indicated they were not teaching the content and it was unnecessary for apprentices. Add additional time to the course. There are 12 competencies in this course and oftentimes apprentices struggle with math. Instructors suggested adding 5 credits/18 hours to the course to improve apprentice performance and grasp of the skills. <p><small>Note: This course is shared by other Apprenticeship programs and they will be given an opportunity to weigh in on the changes.</small></p>

8

Current	Suggested Revision
Apply geometric formulas to right and oblique triangles Assessment Strategies Machinist Math Worksheet Criteria Criteria - Performance will be satisfied when: <ul style="list-style-type: none"> apprentice selects the appropriate formula apprentice selects the relevant dimensions the formula has all numerical values correctly inserted the formula solution is stated to specified precision with 90% accuracy apprentice uses a calculator correctly apprentice uses the Machinery's Handbook and other references apprentice sets up a grinding process for V blocks 	Apply geometric formulas to right triangles Assessment Strategies Machinist Math Worksheet Criteria Criteria - Performance will be satisfied when: <ul style="list-style-type: none"> apprentice selects the appropriate formula apprentice selects the relevant dimensions the formula has all numerical values correctly inserted the formula solution is stated to specified precision with 90% accuracy apprentice uses a calculator correctly apprentice uses appropriate resources

9

Current	Suggested Revision
<p>Solve compound angle applications</p> <p>Assessment Strategies Machinist Math Worksheet</p> <p>Criteria</p> <p><i>Criteria - Performance will be satisfied when:</i></p> <ul style="list-style-type: none"> • apprentice determines missing dimensions using trigonometry • apprentice states solutions to specified precision with 80% accuracy • apprentice uses a calculator correctly • apprentice uses the Machinery's Handbook and other references • apprentice solves problems when given 2 angles applied simultaneously (i.e., machining taper on piece elevated in sine bar) • apprentice creates a draft angle for an injection mold 	<p>Remove this competency from the course.</p>

10

Your Turn

- ▶ Questions?
- ▶ Concerns?

YOUR TURN

11

50-520-9 Industrial Manufacturing Technician Apprentice

Mathematics for the Machine Trades

Related Instruction Review



Date: November 3rd, 2021

Originally presented to the committee on February 10, 2021



Project Review Team from 2020-21

College	Apprentice Coordinator	Email	Instructor	Email
FVTC	Steve Straub	straub@fvtc.edu	Mike Cattelino	cattelin@fvtc.edu
LTC	Jeff Grunewald	Jeffrey.Grunewald@gotoltc.edu	Rich Pfister	richard.pfister@gotoltc.edu
CVTC	Julie Sherman	jsherman10@cvtc.edu	Darrin Falk	dfalk@cvtc.edu
MATC	David Polk	polkdd@matc.edu	Mitchell Schuttke	schuttkm@matc.edu
WCTC	Tim Alft	talft@wctc.edu	Mike Shiels	mshiels@wctc.edu
WTCS	Nancy Nakkoul	Nancy.nakkoul@wtcsystem.edu		
WIDS	Terri Johnson	johnsont@wids.org		

Current Related Instruction Course List

Number	Title	Credits
50-420-711	Mathematics for the Machine Trades	1

Summary and Recommendations

Review	Summary and Recommendations
Curriculum Review	The group suggested changes to the 50-420-711 Mathematics for the Machine Trades course competencies and an increase in hours for the course from 36 (1 credit) to 54 (1.5 credits) to allow more time for apprentices to master the math skills.

Course Review Summary and Recommendations

Course	Review Notes
50-420-711 Mathematics for the Machine Trades	<ol style="list-style-type: none">1. Change the competency "Apply geometric formulas to right and oblique triangles" to "Apply geometric formulas to right triangles." The group indicated the skill is not used often and when needed, apprentices can use electronic tools to do so. See detailed revision below.2. Remove the competency "Solve compound angle applications." Instructors indicated they were not teaching the content and it was unnecessary for apprentices.3. Add additional time to the course. There are 12 competencies in this course and oftentimes apprentices struggle with math. Instructors suggested adding .5 credits/18 hours to the course to improve apprentice performance and grasp of the skills. <p><i>Note: This course is shared by other Apprenticeship programs and they will be given an opportunity to weigh in on the changes.</i></p>

Competency Revision Details for 50-420-711 Mathematics for the Machine Trades

Current	Suggested Revision
<p>Apply geometric formulas to right and oblique triangles</p> <p>Assessment Strategies Machinist Math Worksheet</p> <p>Criteria <i>Criteria - Performance will be satisfied when:</i></p> <ul style="list-style-type: none"> • apprentice selects the appropriate formula • apprentice selects the relevant dimensions • the formula has all numerical values correctly inserted • the formula solution is stated to specified precision with 90% accuracy • apprentice uses a calculator correctly • apprentice uses the Machinery's Handbook and other references • apprentice sets up a grinding process for V blocks 	<p>Apply geometric formulas to right triangles</p> <p>Assessment Strategies Machinist Math Worksheet</p> <p>Criteria <i>Criteria - Performance will be satisfied when:</i></p> <ul style="list-style-type: none"> • apprentice selects the appropriate formula • apprentice selects the relevant dimensions • the formula has all numerical values correctly inserted • the formula solution is stated to specified precision with 90% accuracy • apprentice uses a calculator correctly • apprentice uses appropriate resources
<p>Solve compound angle applications</p> <p>Assessment Strategies Machinist Math Worksheet</p> <p>Criteria <i>Criteria - Performance will be satisfied when:</i></p> <ul style="list-style-type: none"> • apprentice determines missing dimensions using trigonometry • apprentice states solutions to specified precision with 80% accuracy • apprentice uses a calculator correctly • apprentice uses the Machinery's Handbook and other references • apprentice solves problems when given 2 angles applied simultaneously (i.e., machining taper on piece elevated in sine bar) • apprentice creates a draft angle for an injection mold 	<p>Remove this competency from the course.</p>

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.

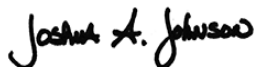
The on-the-job learning reimbursements are part of a Wisconsin grant initiative, using federal grant funds, to help defray the extraordinary costs of training apprentices. Employers may be eligible for up to a \$1,000 reimbursement for each apprentice that they hired between July 1, 2019 and January 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 Johnson, State Director
Wisconsin Apprenticeship

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

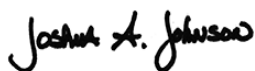
All other Wisconsin counties

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 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
<ul style="list-style-type: none">• Carpentry (All)• Wastewater Treatment• Electrical (All)• Industrial Manufacturing Technician• IT-Service Desk	<ul style="list-style-type: none">• HVAC (ABC)• Mechatronics• Barber/Cosmetology• Bricklaying/Masonry• Industrial Electrical, Maintenance Technician, and E&I Technician

<ul style="list-style-type: none"> • IT-Software Developer 	<ul style="list-style-type: none"> • Arborist • Electric Line, Metering Technician, and Substation Electrician
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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.

State Committee Report



This summary counts employers and apprentices, between 11/1/2021 and 11/1/2021 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.

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	619	40	6.5	16	2.6	293	47.3	326	52.7	194	68	35.1	129	66.5
Industrial Manufacturing Technician (0261636002202)	56	7	12.5	7	12.5	5	8.9	51	91.1	10	1	10.0	9	90.0
Industrial Pipefitter (0286228102202)	19	1	5.3	0	0	15	78.9	4	21.1	13	10	76.9	3	23.1
Lubrication Technician (0269968701804)	3	0	0	0	0	2	66.7	1	33.3	3	2	66.7	1	33.3
Machine Repair (0263826103001)	17	3	17.6	1	5.9	9	52.9	8	47.1	10	5	50.0	5	50.0
Maintenance Mechanic (0263828101401)	257	18	7.0	4	1.6	137	53.3	120	46.7	80	34	42.5	49	61.3
Maintenance Mechanic/Pipefitter (0263828101409)	34	1	2.9	1	2.9	30	88.2	4	11.8	6	4	66.7	2	33.3
Mechatronics Technician (0282826102202)	79	6	7.6	3	3.8	0	0	79	100.0	37	0	0	37	100.0
Millwright (0263828101801)	118	5	4.2	1	.8	67	56.8	51	43.2	50	24	48.0	26	52.0
Millwright/Pipefitter (0263828101803)	18	1	5.6	0	0	18	100.0	0	0	1	1	100.0	0	0
Welder - Fabricator (0281936101003)	18	1	5.6	0	0	10	55.6	8	44.4	9	4	44.4	5	55.6