Approved Minutes of the

Machine Tool

State Apprenticeship Advisory Committee

April 28, 2020
Virtual

Members Present	Organization / Employer
Dennis, Mark (Co-Chair)	Fox Valley Tool & Die
Haban, Eric (Co-Chair)	LDI Industries
Heins, Ken	KLH
Members Absent	**Organization / Employer**
Bates, Dan	Rexnord
Brockelman, Doug	Stanek Tool Corp
Johnson, Greg	PowerTest
Rainey, Tony	Master Lock Company
Schneider, Roque	Mercury Marine
Consultants and Guests	**Organization / Employer**
Conklin, Olivia	Bureau of Apprenticeship Standards
Dragosh, Chris	Fox Valley Technical College
Johnson, Joshua	Bureau of Apprenticeship Standards
Krowas, Eric	Fox Valley Technical College
Mayek, Mandy	Mid-State Technical College
Metko, Katie	Northcentral Technical College
Myles, Tommy	Bureau of Apprenticeship Standards
Nakkoul, Nancy	Wisconsin Technical College System
O'Shasky, Lynn	Bureau of Apprenticeship Standards
Polk, David	Milwaukee Area Technical College
Smith, Owen	Bureau of Apprenticeship Standards
Statz, Jacob	

1. The meeting was called to order at 10:05 a.m. by Co-Chair Mark Dennis in conformance with the Wisconsin Open Meeting Law.

2. A sign-in sheet was distributed.

3. The committee reviewed the current roster. A quorum was not present.

4. **Old Business**

a. Review the follow-up items from previous meeting

i. **For action**: approve the minutes
The minutes were approved as written.

ii. **For action:** review minimum hours of RI for remaining registered apprenticeships
A quorum was not present, but the Bureau did not want to table the decisions further. So, it asked the member present to advise on the related instruction hours of the remaining registered apprenticeships.

Action: *the state committee advised that the RI hours for CNC Technician, EDM, Machinist, Tool and Die Maker, and Tool Maker did not need to be changed; the hours for Mold Maker should be modified to 512 and the additional hours could be added to local options.*

iii. **For action:** adopt statewide minimum standards for Injection Mold Specialist?
Mr. Smith explained that the Bureau will research the sponsors and local Exhibit A's this summer to create an inclusive statewide Exhibit A.

iv. Developing the Industrial Metrologist registered apprenticeship
Mr. Smith explained that the project has begun: the DACUM was completed; a survey on minimum standards is active; and the next meeting will determine the minimum standards for the program. The project is projected to be completed this summer.

b. Implementing revisions to CFR 29.30
Mr. Johnson updated attendees on the Bureau's progress. BAS updated the apprentice application to include the opportunity to disclose disabilities and is planning to meet with sponsors this spring and summer to discuss diversity and inclusivity activities and expectations. The Bureau's approach is to educate and assist sponsors, not punish them. More information on the revisions, including links to the law and the anti-harassment video provided by the U.S. Department of Labor, is available on the Bureau website. Sponsors should email their questions to Mr. Andrew Kasper.

Attendees did not have questions or comments.

c. Industry-Recognized Apprenticeship Programs
Mr. Johnson reported that IRAPs have been implemented nationally. The Bureau, as the approving agency of all apprenticeships in Wisconsin, will deny IRAPs in Wisconsin and instead discuss the many flexible options available through registered apprenticeship.

Attendees asked whether sponsors could registered themselves. Director Johnson answered that they could not; IRAPs must register with Standards Recognition Entities, which have not been determined. He reiterated that the Bureau will not permit IRAPs in Wisconsin.

Attendees asked how many states will recognize IRAPs. Director Johnson replied that IRAPs were implemented by the U.S. Department of Labor, so all states can implement them. The twenty-five states, that have their own state approving agencies, such as Wisconsin, can choose whether to permit or decline IRAPs. He stated that the first IRAPs will likely not registered until fall.

Attendees asked whether NIMS would be considered an IRAP. Director Johnson replied that NIMS is curriculum and a credential that are built into an apprenticeship; it is not an apprenticeship.

A brief, general discussion followed on whether to discuss whether to implement NIMS in Wisconsin. The state committee agreed that the initial pilot was not successful and an insufficient number of employer support the credentials.

d. Federal grants to expand registered apprenticeship

The Bureau has three active federal grants. The first, WAGE$, is proceeding well. The Bureau anticipates meeting all over its targets except total number of apprentices in new occupations, which is not a surprise because the first programs in new sectors grow slowly at first.

The second and third grants—State Apprenticeship Expansion (SAE) and Apprenticeship State Expansion (ASE)—will help integrate registered apprenticeship throughout the workforce system. The SAE grant will, in part, reimburse sponsors for hiring certified pre-apprenticeship graduates. The ASE grant funded two full-time Apprenticeship Navigators which will connect registered apprenticeship sponsors with WIOA certified individuals, youth apprentices, certified pre-apprentices, and offenders. ASE will reimburse registered apprenticeship sponsors for certain costs of on-the-job learning.

Attendees did not have questions or comments

e. Revisions to www.WisconsinApprenticeship.org

Mr. Johnson reported that the Bureau received permission from the Department of Workforce Development to re-revise its website to look and function differently than the DWD template. The request was influenced by claims from featured sponsors that the recent redesign made their contact information more challenging to access. The Bureau will revise the site this summer.

Attendees did not have questions or comments

f. Apprenticeship Completion Award Program (ACAP)

Mr. Johnson reported that ACAP continues to be a strong example of bipartisan support for registered apprenticeship. He reviewed the most recent totals and noted that the denied reimbursements will always be greater than awarded reimbursements because the maximum reimbursement is 25% of total costs or $1,000, whichever comes first.

Mr. Johnson shared that the Bureau is further automating its processing system to reduce its percent error. The Department will likely request that ACAP is included in the next biennial budget request.

Attendees did not have questions or comments.

g. Other

Attendees did not have additional topics.

5. New Business

a. Lessons learned from DWD tour of Germany Apprenticeship Program

Mr. Johnson reported that he, Secretary Frostman, and several WI Apprenticeship stakeholders visited Germany to tour the Germany Apprenticeship Program. The visit was invaluable in learning how WI Apprenticeship could improve and how well it works already.

He noted several key take-aways:

- Apprenticeship in Germany is a socio-economic institution. Many, many industries and occupations train workers through registered apprenticeship, and students qualified for apprenticeships are tracked as early as fourth grade. These dynamics are possible due to greater government involvement in industries and the K-12 institutions.
- Similarly, apprenticeship in Germany focuses almost exclusively on preparing students and youth; apprenticeship is used much less as a career change by adults. In contrast, Wisconsin Apprenticeship focuses mostly on helping adults enter careers and exposing youth to broad career clusters or industries rather than a specific occupation.
- WI Apprenticeship works very well within the contexts of U.S. society. Involving K-12 students in career and technical education is very important. Although the U.S. secondary school system would not accept "tracking" students early, students are now required to begin "academic career planning" in middle school.
- Therefore, the most feasible means of strategically positioning Wisconsin Apprenticeship in the K-12 system is to include it as an option within academic career planning. Middle-school students could then prepare by taking the necessary academic subjects, such as math and science, and then pursue youth apprenticeship in high school.

Attendees did not have questions or comments.

b. 2021 Biennial Apprenticeship Conference

Mr. Johnson reported that the conference will be held February 22-24, 2021, at the Wilderness Hotel in the Wisconsin Dells. The planning team has begun meeting. The specific theme, workshops, and speakers are under discussion, but the primary focus will be that apprenticeship is for everyone, e.g. every sector, worker, student, partner, etc. apprenticeship sectors, occupations, and partners, including youth apprenticeship, certified pre-apprenticeship, and the workforce system.

The Apprenticeship Expo will be included. By summer the Bureau will launch the registration page via EventBrite and mail a save-the-date notice.

Attendees did not have questions or comments.

c. 2020 National Apprenticeship Week

The 2020 National Apprenticeship Week was not yet announced nationally, so the Bureau will observe Wisconsin Apprenticeship Week November 8-14. Director Johnson encouraged the Arborists to host an event with their local stakeholders.

Attendees did not have questions or comments.

d. Revising Transition to Trainer

Director Johnson reported that the Bureau, Wisconsin Technical College System, and Worldwide Instructional Design System have begun revising "Transition to Trainer." The revisions will make the course more accessible to non-traditional apprenticeship occupations, update terminology and learning activities, and introduce on-line delivery of specific modules. The project is lead by WTCS and includes an industry focus group of trainers from traditional and new sectors.

Attendees did not have questions or comments

e. BAS leadership and personnel changes

Director Johnson thanked attendees for their letters of support for his acceptance as Bureau Director. He emphasized that his vision is to innovate registered apprenticeship by integrating it further with certified pre-apprenticeship, youth apprenticeship, technical diplomas, and more.

Additional personnel changes include the following:

- Tommy Myles, Apprenticeship Navigator
- Dawn Pratt, Apprenticeship Navigator
- Milton Rogers, Apprenticeship Training Representative for Madison
- Corey Popp, Apprenticeship Training Representative for Madison
- Melissa Kendhammer, Apprenticeship Training Representative for La Crosse
- Chris Landreman, Apprenticeship Training Representative for Appleton

f. Other

Attendees did not have additional topics.

6. WTCS Update

Ms. Nancy Nakkoul shared the latest version of the WTCS Apprenticeship Completer Report. She noted that it now includes occupations in new sectors, such Information Technology and Health Care, and will include more new occupations in the future. The data is low due to the low number of participants, but that will increase with future cohorts.

Attendees complimented Ms. Nakkoul for including questions in the report that pertain to the work environment, average hours per week, etc. Those factors are important to job satisfaction. Ms. Nakkoul replied that the WTCS may add questions pertaining to work-life balance in the future.

Attendees asked Ms. Mandy Mayek how Mid-State Technical College is preparing for the coming fall semester. She replied that the entire college is moving 80% of courses online. Moving the courses for Machining will be challenging because many competencies are hands-on. Faculty are preparing to bring students back to campus under social distancing guidelines.

Ms. Nakkoul commented that each technical college has the discretion to hold classes online or in-person in adherence with state and federal guidelines.

7. Program participants included 248 apprentices and 575 sponsors with a contract in active or unassigned status as of April 1, 2020

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

9. The meeting was adjourned at 12:25 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
Department of Workforce Development
Tony Evers, Governor
Caleb Frostman Secretary

April 23, 2020

TO: State Machine Tool Apprenticeship Advisory Committee Members and Consultants

FROM: Owen Smith, Bureau of Apprenticeship Standards
608-266-2491; Owen.Smith@dwd.wisconsin.gov

SUBJECT: State Machine Tool Apprenticeship Advisory Committee Agenda

DATE: Tuesday, April 28, 2020

TIME: 10:00 a.m.

PLACE: Link: https://dwdwi.webex.com/dwdwi/j.php?MTID=m33e063117c5c203c846b240ac2b9bee6
Meeting number: 925 036 363
Password: syZ8ctMig42
Join by phone: +1-855-282-6330 US TOLL FREE
Access code: 925 036 363

TENTATIVE AGENDA

1. Call the meeting to order.
2. Distribute the sign-in sheet.
3. Review the roster.

4. Special update: continuing business under #SaferAtHome

5. **Old Business**
   a. Review the follow-up items from previous meeting
      i. **For action**: approve the minutes
      ii. **For action:** review minimum hours of RI for remaining registered apprenticeships
      iii. **For action:** adopt statewide minimum standards for Injection Mold Specialist
      iv. Developing the Industrial Metrologist registered apprenticeship
   b. Implementing revisions to CFR 29.30
   c. Industry-Recognized Apprenticeship Programs
   d. Federal grants to expand registered apprenticeship
   e. Revisions to www.WisconsinApprenticeship.org
   f. Apprenticeship Completion Award Program (ACAP)
   g. Other

6. **New Business**
   a. Lessons learned from DWD tour of Germany Apprenticeship Program
   b. 2021 Biennial Apprenticeship Conference
   c. 2020 National Apprenticeship Week

d. Revising Transition to Trainer
e. BAS leadership and personnel changes
f. Other

6. WTCS Update
7. Review the program participants.
8. Schedule the next meeting.
9. Adjourn.

State Machine Tool Committee • Madison WI
CNC Technician • 02-609360010-01-T
Exhibit A - Program Provisions

Approved: 3/30/2018

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 3 years of not less than 6,320. 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 6 months 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 432 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)**
Adhere to employer's safety requirements and procedures. A. Select, use and maintain the proper personnel protective equipment. B. Select, use and maintain the proper tools. C. Select, use and maintain the proper lifting, moving and manufacturing equipment. D. Select, use and ensure the proper precision measuring tool is in calibration. E. Establish and maintain safe work sites and zones. F. Demonstrate safety practices unique to job requirements.	500
Demonstrate awareness of the foundations of CNC programming. A. Identify the coordinate system for all machine tools used by the employer. B. Demonstrate awareness of all G and M codes or conversational programming. C. Adhere to the employer's procedure for sending, receiving and saving programs. D. Perform basic modifications to programs used by the employer.	300
Perform precision measurement and inspection. A. Review work instructions and specifications critical to quality. B. Verify parts' dimensions using calibrated precision measuring and marking tools. C. Ensure parts conform to specifications critical to quality. D. Exchange technical information with supervisor and appropriate personnel.	300
Set up CNC machines. A. Analyze all safety requirements and job instructions used by employer. B. Select the appropriate machine. C. Select the proper holding fixture, cutting tool, attachment, material, and program. D. Fabricate minor fixtures, if needed. E. Align and secure the proper holding fixture, cutting tool, attachment, and material. F. Set up tool lengths and work origins. G. Calculate and set controls to regulate machining. H. Perform the initial run.	1800

I. Inspect the work-piece to ensure part conforms with specifications.
J. Adjust offsets on tooling to ensure part conforms with specifications and cycle time.

Perform milling, drilling, turning and threading on CNC machines A. Operate the machine according to the employer's procedure. B. Inspect the workpiece at the appropriate quality frequency. C. Maintain all offsets on tooling, if needed, to conform with specifications. D. During the machining process, inspect and maintain equipment and tools. E. During the machining process, maintain a clean and orderly work station. F. Document adjustments to set up instructions. G. When job is complete, inspect, clean and return fixtures, tooling and equipment to proper area.	2500
Local Optional Work Processes	488
Paid Related Instruction	432
TOTAL	6320

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

MINIMUM COMPENSATION TO BE PAID:

The apprentice's wage must average no less than 60% of the skilled wage rate during the term of the apprenticeship (DWD 295.05). The apprentice may not be started at less than the minimum wage.

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.

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 will complete standard Red Cross First Aid and CPR courses during the first year of the apprenticeship and maintain such certification throughout the apprenticeship.

Approved: 1/1/2017

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 3 years of not less than 6,240 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 1560 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 512 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)**
Precision Measurement and Inspection 1. Includes geometric dimensioning and tolerancing, using prints of drawings, if applicable, and cutting tools. 2. Layout and verify dimensions of parts using precision measuring, marking instruments and knowledge of general mathematics and trigonometry. 3. Measure, examine and test products to ensure conformance to specifications. 4. Confer with engineering, supervisory and manufacturing personnel to exchange technical information.	200
Milling Machines 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining; or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and economically. 5. Clean, lubricate and maintain machines, tools and equipment to remove grease, rust, debris and foreign matter.	250
EDM Drilling Machines 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining; or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and	750

economically.
5. Clean, lubricate and maintain machines, tools and equipment to remove grease, rust, debris and foreign matter.

Turning Machines 250
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining; or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain machines, tools and equipment to remove grease, rust, debris and foreign matter.

Grinding Machines 300
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining; or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain machines, tools and equipment to remove grease, rust, debris and foreign matter.

Cut-Off Machines 100
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining; or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain machines, tools and equipment to remove grease, rust, debris and foreign matter.

Materials and Metallurgy 200
1. Select, examine and test materials to ensure product conformance to specifications.
2. Measure, examine and test product to detect defects and ensure conformance to specifications.
3. Operate brazing, heat-treating and welding equipment to cut, solder and braze metals.

Jigs and Fixtures 250
1. Fabricate, assemble and modify tooling, such as jigs, fixtures, templates, molds or dies to produce parts to specification.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering/production needs.

CAD/CAM Programming 500

1. Study sample parts, blueprints, drawings, and engineering information to determine methods and sequence of operations.
2. Prepare geometric layout from graphic displays using computer-assisted drafting software or drafting instruments and graph paper.
3. Write instruction sheets and machine instruction programs to guide setup.
4. Analyze drawings, specifications and design data to calculate dimensions, tool selection, machine speeds and feed rates.
5. Determine reference points, machine cutting paths or hold locations, and compute angular and linear dimensions, radii and curvatures.
6. Compare computer printout with original program sheet to verify accuracy of instructions.
7. Enter computer commands to store or retrieve parts patterns, graphic displays or programs to transfer data to other media.
8. Load and unload machine data instructions, and observe operation of machine on trial run to test programmed instructions.
9. Review shop orders to determine job specifications and requirements.

EDM Work Processes	2928

1. Sort shop orders into groups to maximize materials utilization and minimize machine setup.
2. Revise programs to eliminate instruction errors and omissions.
3. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
4. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
5. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
6. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering/productions needs.
7. Clean, lubricate and maintain machines, tools and equipment to remove grease, rust, debris and foreign matter.

Paid Related Instruction	512
TOTAL	6240

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

MINIMUM COMPENSATION TO BE PAID:

The apprentice's wage must average no less than 60% of the skilled wage rate during the term of the apprenticeship (DWD 295.05). The apprentice may not be started at less than minimum wage.

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.

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 will complete the standard Red Cross First Aid and CPR courses during the first year of the apprenticeship and maintain such certification throughout the apprenticeship.

The apprentice must take and successfully complete the Transition to Trainer course during the final 12 months of the Apprentice Contract.

State Machine Tool Committee • Madison WI
Machinist • 02-600280022-01-T
Exhibit A - Program Provisions

Approved: 3/26/2015

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 8,320 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 2080 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 432 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)**
Perform precision measurement and inspection, including Geometric Dimensioning and Tolerancing, using prints of drawings, if applicable, and cutting tools. 1. Lay out and verify dimensions of parts, using precision measuring and marking instruments and knowledge of general mathematics and trigonometry. 2. Measure, examine and test products to ensure conformance to specifications. 3. Confer with engineering, supervisory and manufacturing personnel to exchange technical information.	400
Milling, Including Manual and/or CNC Controlled 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and economically. 5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.	2000
Drilling, Including Manual and/or CNC Controlled 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and economically. 5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and	200

foreign matter.

Turning, Including Manual and/or CNC Controlled 2000
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Cut-Off, Including Manual and/or CNC Controlled 200
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Materials and Metallurgy 200
1. Select, examine and test materials to ensure product conformance to specifications.
2. Measure, examine and test product to detect defects and ensure conformance to specifications.
3. Operate brazing, heat-treating and welding equipment to cut, solder and braze metals.

Bench Work/Layout (Assembly): 500
1. Assemble parts into completed units using jigs, fixtures, and hand and power tools.
2. Fabricate, assemble and modify tooling, such as jigs, fixtures, templates, molds or dies to produce parts and assemblies to specification.
3. Dismantle equipment using hand and power tools to examine parts for defect or to remove defective parts.
4. Cut and shape sheet metals, and heat and bend metals to specified shapes.
5. Confer with engineering, supervisory and manufacturing personnel to exchange technical information.
6. Design fixtures, tooling and experimental parts to meet special engineering/production needs.
7. Evaluate procedures and recommend changes or modifications for efficiency and adaptability to setup and production.

Local Optional Work Processes 2388
These hours may be used for additional work in any of the above listed work processes and/or for additional processes identified by the employer, including but not limited to the following:
1. Grinding
2. EDM
3. Jigs and fixtures

4. CAD/CAM
5. CNC programming and planning
6. Indexing/rotary devices
7. Turret lathe
8. Broaching and/or keyseating
9. Gearing and jig boring
10. Welding

Paid Related Instruction	432
TOTAL	8320

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

MINIMUM COMPENSATION TO BE PAID:

The apprentice's wage must average no less than 60% of the skilled wage rate during the term of the apprenticeship (DWD 295.05). The apprentice may not be started at less than minimum wage.

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.

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 will complete standard Red Cross First Aid and CPR courses during the first year of the apprenticeship and maintain such certification throughout the apprenticeship.

The apprentice must complete the Transition to Trainer course during the last twelve (12) months of the Apprentice Contract.

State Machine Tool Committee • Madison WI
Mold Maker (Die Cast) (Plastic) • 02-601280030-01-T
Exhibit A - Program Provisions

Approved: 2/11/2015

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 10,400 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 2080 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 576 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)**
Perform precision measurement and inspection, including Geometric Dimensioning and Tolerancing, using prints of drawings, if applicable, and cutting tools. 1. Lay out and verify dimensions of parts, using precision measuring and marking instruments and knowledge of general mathematics and trigonometry. 2. Measure, examine and test products to ensure conformance to specifications. 3. Confer with engineering, supervisory and manufacturing personnel to exchange technical information.	400
Milling, Including Manual and/or CNC Controlled 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and economically. 5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.	2000
Drilling, Including Manual and/or CNC Controlled 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and economically. 5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and	200

foreign matter.

Turning, Including Manual and/or CNC Controlled 300
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Grinding (Precision), Including Manual and/or CNC Controlled 800
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Cut-Off, Including Manual and/or CNC Controlled 200
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Materials and Metallurgy 300
1. Select, examine and test materials to ensure product conformance to specifications.
2. Measure, examine and test product to detect defects and ensure conformance to specifications.
3. Operate brazing, heat-treating and welding equipment to cut, solder and braze metals.

Jigs and Fixtures 400
1. Fabricate, assemble and modify tooling, such as jigs, fixtures, templates, molds or dies, to produce parts and assemblies to specification.
2. Design fixtures, tooling and experimental parts to meet special engineering and production needs.

Mold Making 2000
1. Study blueprint or specifications of part, tool or mold/die.
2. Fabricate mold components using a variety of machine tools and operations.
3. Confer with engineering, supervisory and manufacturing personnel to exchange

technical information.
4. Assemble and adjust mold components so that mold produces parts to specification.

Bench Work/Layout (Assembly) 1. Assemble parts into completed units using jigs, fixtures, hand and power tools. 2. Dismantle equipment using hand and power tools to examine parts for defect and wear or to remove defective parts. 3. Smooth and polish flat and contoured surfaces using hand and power tools. 4. Evaluate procedures and recommend changes or modifications for efficiency and adaptability to setup and production.	1500
Local Optional Work Processes These hours may be used for additional work in any of the work processes listed above and/or for additional processes identified by the employer, including but not limited to the following: 1. CAD/CAM 2. Program and plan CNC. 3. Design molds and die.	1724
Paid Related Instruction	576
TOTAL	10400

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

MINIMUM COMPENSATION TO BE PAID:

The apprentice's wage must average no less than 60% of the skilled wage rate during the term of the apprenticeship (DWD 295.04). The apprentice may not be started at less than minimum wage.

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.

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 will complete standard Red Cross First Aid and CPR courses during the first year of the apprenticeship and maintain such certification throughout the apprenticeship.

The apprentice must attend and successfully complete the Transition to Trainer course during the last twelve (12) months of the Apprentice Contract.

State Machine Tool Committee • Madison WI
Patternmaker All Around • 02-693280014-01-T
Exhibit A - Program Provisions

Approved: 2/11/2015

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 5 years of not less than 10,400 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 2080 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 576 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)**
Perform general shop work including cleaning, material handling and machine maintenance.	520
Perform general machining on manual and CNC-controlled machines.	1560
Perform general pattern tooling including gating, rigging, mounting, fitting, layout, repair, and bench work.	1560
Lay out and construct simple pattern tooling using manual, CNC, duplicating and CAM machining.	2080
Design and construct complex pattern tooling using manual, CNC, duplicating, CAD design and CAM machining.	2080
Local Optional Work Processes: These hours may be used for additional work in the processes listed above and/or for additional processes identified by the employer, including but not limited to the following: 1. General wood pattern finishing and construction 2. Plastic construction 3. CNC programming	2024
Paid Related Instruction	576
TOTAL	10400

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

MINIMUM COMPENSATION TO BE PAID:

The apprentice's wage must average no less than 60% of the skilled wage rate during the term of the apprenticeship (DWD 295.04). The apprentice may not be started at less than minimum wage.

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.

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 will complete standard Red Cross First Aid and CPR courses during the first year of the apprenticeship and maintain such certification throughout the apprenticeship.

The apprentice must attend and successfully complete the Transition to Trainer course during the last twelve (12) months of the Apprentice Contract.

State Machine Tool Committee • Madison WI
Tool And Die Maker • 02-601260010-01-T
Exhibit A - Program Provisions

Approved: 1/11/2019

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 10,400 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 2080 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 512 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)**
Perform precision measurement and inspection, including Geometric Dimensioning and Tolerancing, using prints of drawings, if applicable, and cutting tools. 1. Lay out and verify dimensions of parts, using precision measuring and marking instruments and knowledge of general mathematics and trigonometry. 2. Measure, examine and test products to ensure conformance to specifications. 3. Confer with engineering, supervisory and manufacturing personnel to exchange technical information.	400
Milling, Including Manual and/or CNC Controlled 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and economically. 5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.	2000
Drilling, Including Manual and/or CNC Controlled 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and	200

economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Turning, Including Manual and/or CNC Controlled 300
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Grinding (Precision), Including Manual and/or CNC Controlled 800
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Cut-Off, Including Manual and/or CNC Controlled 200
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Materials and Metallurgy 300
1. Select, examine and test materials to ensure product conformance to specifications.
2. Measure, examine and test product to detect defects and ensure conformance to specifications.
3. Operate brazing, heat-treating and welding equipment to cut, solder and braze metals

Jigs and Fixtures 400
1. Fabricate, assemble and modify tooling, such as jigs, fixtures, templates, molds or dies to produce parts and assemblies to specification.

2. Design fixtures, tooling and experimental parts to meet special engineering and production needs.

Die Making 1. Study blueprint or specifications of part, tool or die. 2. Fabricate die components using a variety of machine tools and operations. 3. Confer with engineering, supervisory and manufacturing personnel to exchange technical information. 4. Assemble and adjust die components so that die produces parts to specification.	2000
Bench Work/Layout (Assembly) 1. Assemble parts into completed units using jigs, fixtures, and hand and power tools. 2. Fabricate, assemble and modify tooling, such as jigs, fixtures, templates, molds or dies to produce parts and assemblies to specification. 3. Dismantle equipment using hand and power tools to examine parts for defect or to remove defective parts. 4. Cut and shape sheet metals, and heat and bend metals to specified shapes. 5. Confer with engineering, supervisory and manufacturing personnel to exchange technical information. 6. Design fixtures, tooling and experimental parts to meet special engineering/production needs. 7. Evaluate procedures and recommend changes or modifications for efficiency and adaptability to setup and production.	1500
Local Optional Work Processes These hours may be used for additional work in any of the processes listed above and/or for additional processes identified by the employer, including but not limited to the following: 1. EDM 2. Jigs and fixtures 3. CAD/CAM 4. CNC programming and planning and stamping 5. Die designing	1788
Paid Related Instruction	512
TOTAL	10400

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

MINIMUM COMPENSATION TO BE PAID:

N/A

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.

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 will complete standard Red Cross First Aid and CPR courses during the first year of the apprenticeship and maintain such certification throughout the apprenticeship.

The apprentice must attend and successfully complete the Transition to Trainer course during the last twelve (12) months of the Apprentice Contract.

State Machine Tool Committee • Madison WI
Tool Maker • 02-601280042-01-T
Exhibit A - Program Provisions

Approved: 2/11/2015

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Time-based, which has been established to be 8,320 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 2080 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 432 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)**
Perform precision measurement and inspection, including Geometric Dimensioning and Tolerancing, using prints of drawings, if applicable, and cutting tools. 1. Lay out and verify dimensions of parts, using precision measuring and marking instruments and knowledge of general mathematics and trigonometry. 2. Measure, examine and test products to ensure conformance to specifications. 3. Confer with engineering, supervisory and manufacturing personnel to exchange technical information.	400
Milling, including manual and/or CNC Controlled 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and economically. 5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.	2000
Drilling, Including Manual and/or CNC Controlled 1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool. 2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs. 3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media. 4. Safely operate and adjust the machine tool to produce quality product efficiently and economically. 5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and	200

foreign matter.

Turning, Including Manual and/or CNC Controlled 300
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Grinding (Precision), Including Manual and/or CNC Controlled 800
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Cut-Off, Including Manual and/or CNC Controlled 200
1. Select, align and secure holding fixtures, cutting tools, attachments, accessories and materials onto machine tool.
2. Design, fabricate, and install fixtures, tooling and experimental parts to meet special engineering and production needs.
3. Calculate and set controls to regulate machining, or enter commands to retrieve, input or edit computerized machine control media.
4. Safely operate and adjust the machine tool to produce quality product efficiently and economically.
5. Clean, lubricate and maintain tools and equipment to remove grease, rust, debris and foreign matter.

Materials and Metallurgy 300
1. Select, examine and test materials to ensure product conformance to specifications.
2. Measure, examine and test product to detect defects and ensure conformance to specifications.
3. Operate brazing, heat-treating and welding equipment to cut, solder and braze metals.

Jigs and Fixtures 400
1. Fabricate, assemble and modify tooling, such as jigs, fixtures, templates, molds or dies to produce parts and assemblies to specification.
2. Design fixtures, tooling and experimental parts to meet special engineering/production needs.

Bench Work/Layout (Assembly) 1500
1. Assemble parts into completed units using jigs, fixtures, and hand and power tools.
2. Fabricate, assemble and modify tooling, such as jigs, fixtures, templates, molds or dies to produce parts and assemblies to specification.

3. Dismantle equipment using hand and power tools to examine parts for defect or to remove defective parts.
4. Cut and shape sheet metals, and heat and bend metals to specified shapes.
5. Confer with engineering, supervisory and manufacturing personnel to exchange technical information.
6. Design fixtures, tooling and experimental parts to meet special engineering/production needs.
7. Evaluate procedures and recommend changes or modifications for efficiency and adaptability to setup and production.

Local Optional Work Processes These hours may be used for additional work in any of the processes listed above and/or for additional processes identified by the employer, including but not limited to the following: 1. EDM 2. Jigs fixtures 3. CAD/CAM 4. CNC programming and planning 5. Indexing/rotary devices 6. Turret lathe 7. Broaching and/or keyseating 8. Gearing 9. Jig boring 10. Welding	1788
Paid Related Instruction	432
TOTAL	8320

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

MINIMUM COMPENSATION TO BE PAID:

The apprentice's wage must average no less than 60% of the skilled wage rate during the term of the apprenticeship (DWD 295.05). The apprentice may not be started at less than the minimum wage.

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.

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 will complete standard Red Cross First Aid and CPR courses during the first year of the apprenticeship and maintain such certification throughout the apprenticeship.

The apprentice must attend and successfully complete the Transition to Trainer course during the last twelve (12) months of the Apprentice Contract.

WAGE$ Apprentices and Sponsors by Occupation
Spring 2020 Committee Update

The Wisconsin Apprenticeship Growth and Expansion Strategies (WAGE$) grant is a 5-year, $5 million grant from the US Department of Labor. The purpose is to expand Registered Apprenticeship in Advanced Manufacturing and develop new programs in Information Technology and Health Care. The grant started October 1, 2015, and will conclude September 30, 2020.

- The overarching goal is 1,000 apprentices in the occupations selected for grant support.
- The table below shows the number of apprentices and sponsors in each occupation.
- Community Health Worker and Cybersecurity Specialist are in development.
- Pharmacy Technician was recently completed.
- Data Analyst has four apprentices that are being counted by Employ Milwaukee, Inc.'s sister grant. There is one Data Analyst sponsor.

WAGE$ Apprentices by Occupation
Cumulative 10/01/2015 - 03/08/2020

This report includes apprentice contract records which, during the selected report period, match the following criteria: CONTRACT DISTRICT= ALL, CONTRACT SECTOR= ALL, CONTRACT TRADE=Industrial Manufacturing Technician;Maintenance Technician;Mechatronics Technician;Welder - Fabricator;Welder / Automated Welding;Software Developer;Pharmacy Technician, Retail Store;Medical Assistant;IT Service Desk Technician;Data Analyst;Broadband Service Technician;Cybersecurity Analyst, CONTRACT TYPE(s)=Apprentice, APPR SEX= ALL, APPR MINORITY= ALL, APPR RACE(s)= ALL, ER WDA= ALL, ER COUNTY= ALL, ER NAME= ALL, ER UI= ALL, INMATE= ALL, SCHOOL NAME= ALL, SPONSOR TYPE(s)= ALL, SPONSOR NAME(s)= ALL, TRANSFER TO= ALL, TRANSFER FROM= ALL

Occupation Name	Count Sponsors	Count App	Female	Minority
Report Total:	**Total 205 sponsors**	**633**	**63 (10%)**	**99 (16%)**
Industrial Manufacturing Technician	**12 sponsors**	135	19 (14%)	37 (27%)
Maintenance Technician	**131 sponsors**	329	4 (1%)	30 (9%)
Mechatronics Technician	**37 sponsors**	90	2 (2%)	6 (6%)
Welder / Automated Welding and Welder - Fabricator	**15 sponsors**	34	1 (3%)	4 (12%)
Broadband Service Technician	**1 sponsor**	1	0 (0%)	0 (0%)
Data Analyst (4 apprentices but all are counted by Employ Milwaukee)	**1 sponsor**	0		
IT Service Desk Technician	**4 sponsors**	4	1 (25%)	1 (25%)
Software Developer	**3 sponsors***	2	2 (100%)	0 (0%)
Medical Assistant	**1 sponsor**	38	34 (89%)	21 (55%)

*Number of sponsors is greater than the number of apprentices because one apprentice left one job and started with a different sponsor

All ACAP Reimbursement Requests Processed (Time Period) - Summary

Apprenticeship Completion Award Program (ACAP)
Bureau of Apprenticeship Standards
Division of Employment and Training
3/5/20 10:27 AM

Filters Applied: Determination Date between 7/1/19 and 3/5/20, Fiscal Year(s)= FY20

Type	Fiscal Year	# of RRs	$Approved	$Denied
Year One	20		$127,224.23	$616,354.68
Year One Totals		**618**	**$127,224.23**	**$616,354.68**
Completion	20		$164,478.91	$1,026,716.02
Completion Totals		**376**	**$164,478.91**	**$1,026,716.02**
Report Totals		**994**	**$291,703.14**	**$1,643,070.70**

WISCONSIN TECHNICAL COLLEGE SYSTEM

WTCS System-Wide Activity Update March 2020

WTCS-BAS 20 Apprenticeship Completion Report

The 2020 WTCS-BAS Apprenticeship Completer Report is now available online. The report contains employment, wage and training satisfaction outcomes for apprentices completing their programs in 2016-17. It can be found here: 2020 WTCS-BAS Apprentice Completer Report

- Of the 1,143 completers surveyed, 488 (43%) responded. (In the prior year report, 847 completers were surveyed and response rate was 39%.)
- Respondents reported a 92% satisfaction rate for on-the-job training and 96% for classroom instruction.
- Median salary across all trades increased to $80,344. This is up from $77,753 and $71,624 in the two prior reporting years.
- Respondents indicating an interest in continuing education beyond apprenticeship remained steady at 44%.

WTCS Apprenticeship Enrollment Trend

WTCS enrollments across all apprenticeship programs increased from 6903 to 7588 unduplicated, and 7450 to 7696 duplicated, students by the end of 2018-2019 academic year. That is a 9.9% and 3.3% increase, respectively, in one year. A current mid-year snapshot for 2019-20 is showing 7524 enrolled apprentices. Confirmed actual enrollment for the 2019-20 academic year will not be available until August 2020.

Active WTCS-BAS Apprenticeship Programs, By Sector, Occupation, and College as of January 2019

The master chart of all apprenticeship programs with related instruction offered through the WTCS colleges can be found here via the following link. "Active" is defined as approved programs with enrollments in the past two years. The color-coded chart can be found on the MyWTCS website here: WTCS Active Apprenticeship Programs March 2020 (Color Chart)

Wisconsin Technical College System

Apprentice Related Instruction

Active WTCS/BAS Programs by Sector and Occupation - February 2020

	BLACKHAWK	CHIPPEWA VALLEY	FOX VALLEY	GATEWAY	LAKESHORE	MADISON AREA	MID-STATE	MILWAUKEE AREA	MORAINE PARK	NICOLET AREA	NORTHCENTRAL	NORTHEAST WI	SOUTHWEST WI	WAUKESHA	WESTERN	WI INDIANHEAD
Construction Sector Apprentice Related Instruction																
Bricklaying/Masonry						■						■				
Carpentry					■				■	■		■				■
Concrete Finishing/Cement Mason								■						■		
Drywall Finisher								■						■		
Electrical	■	■	■	■		■	■	■	■			■	■	■	■	
Electronic Systems Tech/Voice-Data-Video						■		■								■
Glazing								■								
HVAC/Environmental Service				■		■		■				■				
Ironworking						■	■									
Operating Engineer/Heavy Equipment			■							■						
Painting & Decorating						■		■								
Plumbing		■	■	■	■	■	■			■	■	■	■	■	■	■
Roofing								■								
Sheet Metal					■	■		■				■				
Sprinkler Fitting								■								
Steamfitting Construction		■	■			■	■	■				■			■	
Steamfitting Service/Refrigeration			■			■	■	■							■	
Industrial Sector Apprentice Related Instruction																
Electrical & Instrumentation/Instrumentation Tech			■				■				■	■				
Industrial Electrician	■		■		■	■		■			■	■	■	■	■	
Industrial Manufacturing Technician			■	■	■			■								
Injection Mold Set-Up (Plastic)						■								■		■
Machinist			■		■	■	■	■			■	■		■		■
Maint Mech/Millwright/Lube Tech/Machine Repair		■	■	■	■	■	■	■			■	■		■	■	■
Maintenance Technician			■	■	■		■				■	■		■	■	
Mechatronics	■				■								■	■		
Metal Fabricator/Industrial Sheetmetal		■			■										■	
Pipe Fabricator/Welder		■	■									■		■		
Pipefitter			■					■		■		■				
Resilient Floor												■				
Tool & Die/Patternmaker/Moldmaker		■	■	■	■	■		■	■		■			■	■	

Wisconsin Technical College System

Apprentice Related Instruction

Active WTCS/BAS Programs by Sector and Occupation - February 2020

	BLACKHAWK	CHIPPEWA VALLEY	FOX VALLEY	GATEWAY	LAKESHORE	MADISON AREA	MID-STATE	MILWAUKEE AREA	MORAINE PARK	NICOLET AREA	NORTHCENTRAL	NORTHEAST WI	SOUTHWEST WI	WAUKESHA	WESTERN	WI INDIANHEAD
Service Sector Apprentice Related Instruction																
Arborist							■	■								
Barber/Cosmetologist			■	■		■		■	■							■
Broadband Service Technician																■
Cook/Chef								■								
Electrical Line Worker		■										■				
Facilities Maintenance Technician								■								
IT-Data Analyst		■						■								
IT-Service Desk Technician											■			■		
IT-Software Developer							■									
Metering Technician							■									
Substation Electrician												■				
Wastewater Treatment Operator				■					■							

Report Name COM-01 State Committee Report - Industrial & Service

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Wisconsin Bureau of Apprenticeship Standards

State Committee Report
State Machine Tool Committee

This summary counts employers and apprentices with a contract active or unassigned on 4/15/2020 in trade(s) associated with this committee.
Report is based on apprentice contracts where:

-Status is 'Active' or 'Unassigned'.
-Contract sector is 'Industrial' or 'Service'.
-Contract trade code matches a trade code assigned to committee.
-Contract sponsor is the employer.

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

Trade	Total # of Sponsors	Total # of Apprentices	Of Total Apprentices in Column 3, # who are...			
			Minority		Females	
			#	%	#	%
1	2	3	4	5	6	7
Report Total	**248**	**575**	**39**	**6.8**	**12**	**2.1**
CNC Machinist (0260028002215)	2	2			1	50.0
CNC Technician (0260936001001)	3	3			0	
Electrical Discharge Machining Technician (0260938001003)	2	4			0	
Machinist (0260028002201)	94	207	16	7.7	4	1.9
Mold Maker (Die Cast) (Plastic) (0260128003001)	18	42	4	9.5	1	2.4
Patternmaker All Around (0269328001401)	3	8	1	12.5	0	
Tool And Die Maker (0260126001001)	129	277	17	6.1	5	1.8
Tool Maker (0260128004201)	16	32	2	6.3	1	3.1