

ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER NORTHERN DIVISION

Occupation: Operating Engineer
O-NET Code: 47-2073.00 RAPIDS Code: 0365
Time-Based Apprenticeship Program

- ✓ Similar Program Notice Letters
- ✓ Form 5910 Application for Approval On-the-Job Training & Apprenticeship
- ✓ U.S. Department of Labor Apprenticeable Occupation List ONET Code Confirmation
- √ Attachment 3, 4, 5 Checklist
- √ Attachment 3 Program Description
- √ Attachment 4 Work Process Schedule
- ✓ Attachment 5 Related Technical Instruction

January 10, 2020

Brian Prather Operating Engineers Local 3 JATC 1290 Corporate Blvd Reno, NV 89502

Dear Brian,

The State Apprenticeship Council will be considering the approval of an additional occupation for Associated Builders and Contractors Northern and Southern Division Apprenticeship Trust at its meeting on February 13, 2020.

In accordance with NAC 610.355, when the Council considers approving a new apprenticeship occupation by an employer or association of employers, the Council must notify existing program sponsors with similar objectives for similar jobs and give them between 30 and 60 days to comment before final action on the proposed occupation is taken.

It has come to our attention that the occupation under consideration for approval by the Council is Operating Engineer. Our records indicate that your organization has a similar occupation.

Attached you will find the standards and accompanying appendices for the proposed occupation. The State Apprenticeship Council will welcome any comments you may have.

Thank you.

Sincerely,

Richard J. Williams

State Apprenticeship Director



January 10, 2020

Larry Hopkins Southern Nevada Operating Engineers Local 12 JATC 6350 Howdy Wells Avenue Las Vegas, NV 89515

Dear Larry,

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STATE OF NEVADA Office of the Labor Commissioner Nevada State Apprenticeship Council

APPLICATION FOR APPROVAL ON THE JOB TRAINING & APPRENTICE

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ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER NORTHERN DIVISION

Occupation – Operating Engineer
O-NET Code: 47-2073.00 RAPIDS Code: 0365
Time-Based Apprenticeship Program

U.S. Department of Labor Apprenticeable Occupation List:

OPERATING ENGINEER (Alternate Title: Heavy	0365	47-2073.00	6000	тв	
Construction Equipment Mechanic)					

Link to list: https://www.doleta.gov/oa/occupations.cfm

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2019 ABC GNJ Standards of Apprenticeship Attachment Checklist Operating Engineer, Time-Based

Standards Placement	29 CFR, NRS 610, and NAC 610 Required Provisions
Attachment 3	2) Term: A term of apprenticeship of not less than 2,000 hours of work experience, consistent with training requirements as established by practice in the trade. NRS 610.144 3 (b)
	Type of Occupation: The term of apprenticeship, which for an individual apprentice may be measured either through the completion of the industry standard for on-the-job learning (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach). 29 CFR 29.5 (b)
Attachment 4	3) Work Processes: An outline of the processes in which the apprentice will receive supervised experience and training on the job, and the allocation of the approximate time to be spent in each major process. NRS 610.144 3 (c)
Attachment 5	4) Related Instruction: Provisions for organized, related and supplemental instruction in technical subjects (and the costs thereof) related to the trade with a minimum of 144 hours for each year of apprenticeship, given in a classroom or through trade, industrial or correspondence courses of equivalent value or other forms of study approved by the State Apprenticeship Council. NRS 610.1443 (d); NAC 610.433
5910 Form	5) Wages: A progressively increasing, reasonable and profitable schedule of wages to be paid to the apprentice consistent with the skills acquired, not less than that allowed by federal or state law or regulations or by a collective bargaining agreement. Employers shall pay a beginning wage for apprentices which is at least 35 percent of the rate for journeymen in the same trade, or Minimum and Reasonable and profitable wage for apprentice in construction industry. NRS 610.144 3 (e); NAC 610.480, NAC 610.485
Attachment 3	6) Ratio: A numeric ratio of apprentices to journeymen consistent with proper supervision, training, safety, continuity of employment and applicable provisions in collective bargaining agreements, in language that is specific and clear as to its application in terms of job sites, workforces, departments or plants. NRS 610.1443 (g)
	ALL DOCUMENTS HAVE BEEN CHECKED FOR SPELLING, FORMATTING, GRAMMAR, (INCLUDING TABLE OF CONTENTS), ETC.

Attachment 3 – Apprentice Operator Program Description

ABC Nevada Apprentice Operator:

Apprentice Operators are taught to operate heavy equipment of many types of heavy equipment including earth moving equipment such as dozers, scrapers, compactors, backhoes, motor graders, cranes etc.

The Apprentice Operators will complete a total of 6,000 on the job training hours.

Apprentice Operators will also complete a minimum of 432 hours of classroom and the ball (d) instruction.

The probationary period for the Apprentice Operators Program will be 1,500 on the probation in the probation of the probation

To provide for a steady supply of trained persons into the construction industry and to reflect employment opportunities, apprentice to journeyperson ratios will be enacted in accordance with the following provisions. One Apprentice Operator may be trained for the first Journeyperson Operator employed, with a ratio of one Apprentice Operator for every five Journeyperson Operators thereafter. The ratio is per job site and not to exceed the employers overall workforce.

Our registered apprentices will graduate our program with the fundamental skills and knowledge needed to operate the following types of heavy equipment.

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Attachment 4- Apprentice Operator Work Processes

If an Apprentice Operator learns to operate five major pieces of equipment proficiently, they shall be considered diversified and eligible to complete the program when they have accumulated 6,000 on-the-job training hours.

Suggested Hours

Bulldozer

1,000

- (a) Learn the different types of work assigned the dozer from pioneer and rough excavation to finish work, including GPS.
- (b) Learn to make minor adjustments and repairs and work with Heavy Duty Repair Mechanic and/or welder on major repairs.

Motor Patrol

1,000

- (a) Learn to service, maintain and adjust the machine.
- (b) Learn to different types of work the machine does, such as fine grading, back sloping, mixing and laying oil, including GPS.
- (c) Learn to make adjustment and minor repairs with Heavy Duty Repair Mechanic and/or welder on major repairs.

Scrapers, Self-Propelled

1,000

- (a) Learn to operate the various types of motor and motor-electric driven machines, including GPS.
- (b) Learn to service, maintain and repair the different makes of machines.

Bucket-Type Equipment, Shovel, Backhoe and Other Bucket Type

1,000

- (a) Learn the names and uses of various types of draglines, buckets and attachments.
- (b) Learn care, preventive maintenance, proper oil and greases, cables, and minor adjustments.
- (c) Learn to change teeth, cables, adjust frictions, brakes and clutches.
- (d) Learn the controls, their importance in proper operation and movement of the machine for safety of other employees and equipment working near machine.
- (e) Learn to read and set grades stakes, also to read plans and instructions.
- (f) Learn to make major overhauls working with Operator, Heavy Duty Repair Mechanic and/or welder.
- (g) Grades Stakes and Plan Reading.
- (h) Learn the names and uses of various types of shovels, buckets, cables and attachments.
- (i) Learn care, preventive maintenance, proper oils and greases, cables and minor adjustments.
- (j)Learn to change teeth and cables and adjust frictions, brakes and clutches.
- (k) Learn the controls their importance in proper operation and movement of machine for safety of other employees and equipment working near machine.
- (I) Learn to read and set grades stakes, also to read prints and instructions.
- (m) Learn to make major overhauls working with the Operator, heavy Duty Repair Mechanic and/ or welder.

Grade Checking

1,000

- (a) Learn proper use of hand instruments and to read plans for making grades.
- (b) Learn proper use of GPS equipment (Rover) or similar.

Crawler and Truck Type Cranes, Derricks, Bridges, Towers & Gantry Cranes	500
(a) Learn care, preventative maintenance, proper oils, grease, cables and minor adjustments	
(b) Learn the controls, their importance in the proper operation and movements of the n	nachine
for the safety of other employees and equipment working near the machine.	
(c) Learn to make major overhauls working with Operator, Heavy Duty Repair Mechanic welder.	and/or
(d) Learn to proper load the machine and cables will safety handle.	
(e) Learn the operating difference between a live boom and regular operation	
(f) Learn to give and receive proper signals for hoisting, swinging and lowering materi equipment.	
(g) Learn to use out-riggers on wheel-type machines for protection of the machine and m being handled.	aterials
(h) Learn to understand proper horn and hand signals when assigned to mobile cranes.	
Concrete and Asphalt, Spreaders, Tampers and Finishers	500
(a) Learn to service, make minor repairs, adjust and be able to operate the machine	
phon in an all beautiful and the second pages.	Participal Inc.
Maintenance-Cutting and Welding-Grease and Oils made majorite because	500
(a) Learn minor repairs and adjustment.	
(b) Learn Minor welding repair and cutting.	
(c) Learn the types of greases and oils and their uses.	
Roller – Flat Wheel, Sheep Foot and Pneumatic	400
(a) Learn the purpose of the different rollers, the different procedures for compaction of	variou
materials, remote control and the operation for care off different types of rollers.	
Tractor-Type skip Loaders	400
(a) Learn to operate the various types, service and make minor repair and adjustments.	
Wheel-Type Tractors, Including Fork Lifts, Lumber carriers, High Lifts, etc.	400
(a) Learn to service, maintain, and make minor repairs and adjustments.	1.
Trenching Machine	400
(a) Learn to operate the various types and sizes of machines, their maintenance and repair.(b) Grades Stakes and Plan Reading.	
Air Compressors-Pumps of all Types and Miscellaneous Equipment	100
(a) Learn the proper servicing and adjustments for proper operation of the machine.	

TOTAL HOURS 6,000

Attachment 5- Apprentice Operator Related Training Instruction

Level 1: Minimum of 144 Hours

Orientation to the Trade
Heavy Equipment Safety
Identification of Heavy Equipment
Basic Operational Techniques
Utility Tractors
Introduction to Earthmoving
Grades

Level 2: Minimum of 144 Hours

Rough Terrain Forklifts
On-Road Dump Trucks
Excavation Math
Interpreting Civil Drawings
Site Work
Soils
Skid Steers

Loaders

Scrapers

Level 3: Minimum of 144 Hours

Finishing and Grading
Compaction Equipment
Backhoes
Off-Road Dump Trucks
Dozers
Excavators
Motor Graders



ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER SOUTHERN DIVISION

Occupation: Operating Engineer
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January 10, 2020

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Thank you.

Sincerely,

Richard J. Williams

State Apprenticeship Director

January 10, 2020

Larry Hopkins Southern Nevada Operating Engineers Local 12 JATC 6350 Howdy Wells Avenue Las Vegas, NV 89515

Dear Larry,

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MICHAEL A. URBAN
MATHAR R. RING
ADMITTED IN NV, WA & OR
SFAN W. McDonald
ADMITTED IN NV & WA

PAUL D. COTSONS

THE URBAN APROTESIONAL CORPORATION

FILE NO.:

568.0007

January 31, 2020

Via Email and U.S. Mail

ADMITTED IN NV

Nevada State Apprenticeship Council Governor's Office of Workforce Innovation Attn: Richard Williams, State Director of Apprenticeship Grant Sawyer Building 555 E. Washington Ave., #4900 Las Vegas, NV 89101

Re: Objections of International Union of Operating Engineers Local 12 Journeyman and Apprentice Training Committee to Application for Apprenticeship Standards - Operator Engineer Apprentice - ABC Nevada, Associated Builders and Contractors, Southern Division Apprenticeship Trust Hearing Date: Thursday, February 13, 2020 (9:00 a.m.)

Dear Mr. Williams,

Enclosed with this letter please find the Objections of the International Union of Operating Engineers Local 12 Journeyman and Apprentice Training Committee ("OE12 JATC") to the Application for Apprenticeship Standards for an "Operator Engineer Apprentice" filed by ABC Nevada, Associated Builders and Contractors, Southern Division Apprenticeship Trust for consideration by the Nevada State Apprenticeship Council at the Hearing scheduled for Thursday, February 13, 2020 at 9:00 a.m.

I have been retained to represent the OE12 JATC at the hearing of this matter on February 13, 2020. I will be present at the February 13, 2020 Council meeting along with a representative of the OE12 JATC. If you have any questions, please do not hesitate to contact me directly.

Sincerely.

Nathan R. Ring, Esq.

cc: Client

BEFORE THE

NEVADA STATE APPRENTICESHIP COUNCIL

In the Matter of the:

Application for Apprenticeship Standards – Operator Engineer Apprentice - ABC Nevada, Associated Builders and Contractors, Southern Division Apprenticeship Trust

Applicant.

Hearing Date: February 13, 2020

Hearing Time: 9:00 a.m.

Objections to Standards and Request for Denial
Filed by
International Union of Operating Engineers Local 12
Journeyman and Apprentice Training Committee

I. STATEMENT OF FACTS AND PRIOR PROCEEDINGS

On November 15, 2019, the Southern Nevada Operating Engineers Local 12 Journeyman and Apprentice Training Committee ("OE12 JATC") received a copy of an Application for Apprenticeship Standards ("Application") for an Operator Engineer Apprentice ("Operator Apprentice") submitted to the Nevada State Apprenticeship Council ("Council") by ABC Nevada, Associated Builders and Contractors, Southern Division Apprenticeship Trust ("ABC Trust"). The Application is a request for approval of a "parallel" training program, which would allegedly be located in Southern Nevada. The Application contains Standards, which would be parallel to the Council's approved standards registered by the OE12 JATC. OE12 JATC is an interested party to the Application.

The Application initially came before the Council for review at the December 16, 2019 Council meeting. The Application was reset for hearing at the February 13, 2020 meeting due to a concern over the Open Meeting Law. The OE12 JATC takes this opportunity to resubmit and further revise its objections to the Application by the ABC for its parallel program.

It is the duty of the Nevada State Apprenticeship Council to "[e]stablish standards for programs and agreements that are not lower than those prescribed by this chapter." NRS 610.090(1). Therefore, when a program's standards do not meet the standards set under Chapter 610 of NRS and the regulations adopted thereunder, the Council has a duty to deny approval of the non-conforming program.

Equally as important as the duties of the Council are the duties of the program applying for approval of its standards. It is the program's duty to "submit the standards in their entirety." NAC 610.314.

II. OBJECTIONS TO ABC APPLICATION STANDARDS

The ABC Standards must be denied by the Council because the ABC Standards are not in compliance with Chapter 610 of the Nevada Revised Statutes and Chapter 610 of the Nevada Administrative Code. The Application is out of compliance with these governing laws for seven distinct and wholly separate reasons. Each of those seven reasons will be addressed separately.

1. The ABC Committee Does Not Conform with the Statute.

The ABC Application Standards do not include a Committee composed of an "equal number of representatives of management and labor" as required by NAC 610.225(2) (emphasis added). The purpose of requiring equal representation is to "ensure meaningful and trustworthy representation of employees and apprentices in the management of the program." NRS 610.146.

Section II(B)(1) of the ABC Standards state "the Committee shall be composed of Apprenticeship sponsor companies to represent the membership of the Association selected by his or her fellow employees to represent the apprentices." As it is written, this sentence is non-sensical. It is difficult to even interpret what the sentence is trying to say. The Standards do not provide for an equal number of representatives. Furthermore, the ABC Standards do not provide for a process of appointment of representatives of the employees and apprentices in the management of the program, which is required by NRS 610.146.

Section II(C)(2) of the ABC Application Standards state that "A quorum at meeting shall consist of at least one (1) member representing the employers and one (1) member representing the employees, selected by the group they are representing." On its face, there is no issue with this quorum requirement because it provides for equal representation at meetings. But the issue is the Standards do not provide a process for how employee representatives will be appointed. Without a provision for appointment of employee representatives, the quorum of any meetings is completely irrelevant.

The Council must require this Applicant to delete or revise its inconsistent language in its Standards. The revisions must conform with the requirements of Chapter 610 of NRS. The Standards must clearly and unequivocally provide for an equal number of employee representatives, selected by the employees and apprentices. The Standards must also clearly provide for how the employee representatives will be appointed. In the form in which they were submitted to the Council, the ABC Standards cannot be approved.

2. The ABC Standards Do Not Provide Sufficient Background and Experience of Their Program's Qualified Instructors.

The ABC Standards merely provide for two instructors the ABC claims are qualified to instruct Operator Engineer apprentices. Their claim of qualification is merely a certification from NCCER. The fact that someone has received a certification does not prove they are a qualified instructor under NRS Chapter 610.

NRS 610.110(2)(d)(2) requires the State Apprenticeship Director to assess the adequacy of "the protection of the public interest as related to the subject fields." Nevada law also requires "related and supplemental instruction for apprentices, coordination of instruction with job experiences, and...selection and training of teachers...for that instruction [which is]...the responsibility of the local joint apprenticeship committees." NRS 610.120(2). Nevada law further requires that Standards include "provisions for adequate and safe equipment and facilities for training...of apprentices in safety...in related instruction" and "assurance of qualified training personnel." NRS 610.144(3)(i)-(n).

ABC's Standards do not provide any background or real-world experience whatsoever of their instructors. Those persons teaching Apprentices must be qualified instructors and a simple claim of third party certification is insufficient to prove requisite experience for that instruction. The concern with not having qualified instructors is important in any apprenticeship program but the concern is more important here because of the dangerous work performed by those in this occupation.

ABC's Standards do not provide proof of its Program having qualified instructors. Without this proof, the Council is being asked to blindly authorize a training environment without appropriate protections for the apprentices and the public. ABC must revise this specific standard to appropriately and fully provide for qualified and experienced instructors. For this reason, in the form in which they were submitted, the ABC Standards should not be approved.

3. The ABC Standards Do Not Provide a Training Facility.

In its purpose section, NRS 610.020 includes the establishment of "an organized program for...training of persons under approved standards for apprenticeship, providing facilities for their training and guidance in the arts and crafts of industry and trade, with instruction in related and supplementary education." NRS 610.020 (emphasis added). Thus, within the explicitly stated legislative purpose of Nevada's apprenticeship laws is a requirement for providing facilities for training

The ABC Standards do not provide any commitment on the Program's part to provide a training facility for the training of apprentices. Existing approved parallel programs in this state include specific training sites and specific equipment that will be used to provide competent training to apprentices. The ABC Standards are silent on the site or location of the training facility and the equipment that will be used to train the Program's registered apprentices. The ABC Standards do not provide any information to show financial capacity, investment or contribution of funds, facilities and equipment that is required to properly train apprentices. The ABC Standards lack a training facility, which requires the Council to reject the ABC Standards as submitted.

4. The Standards Violate the Guarantee on Payment of Program Costs

NRS 610.170 requires program sponsors, like the ABC here, to "use its best endeavors to procure...training for the apprentice" and requires the program to "accept full

responsibility...for...training." Expounding upon this requirement, this Council adopted NAC 610.433, which provides that "a program must pay the costs of training an apprentice." The ABC Standards do not provide the Council with an explanation of who will be responsible for the costs of the program. For this reason, the ABC Standards do not meet the requirements of Nevada law and should be denied.

5. Wages in the ABC Standards Do Not Conform With Nevada Law.

The ABC Standards do not include a commitment to abide by the prevailing wage requirements for apprentices under Nevada law. In particular, SB207 passed by the Nevada Legislature in 2019 requires a certain percentage of apprentice hours to be worked on certain public works projects. Work of an Operator Engineer apprentice will be "horizontal construction" as defined in SB 207. This means apprentices must be paid the required prevailing wage rate for their work on public works' projects. The Labor Commissioner's Operating Engineer wage rate is between \$73.59 and \$78.44 per hour. The ABC Standards provide for a \$30.00 per hour journeyman rate and assume a 50-75% legitimate fringe benefit, which is referenced in the 5910 Form. The rates proposed in the ABC Standards do not satisfy the requirements of SB207 and Nevada's prevailing wage laws. Based upon this non-conforming standard, the Council must reject the ABC Standards.

6. The ABC Standards Do Not Provide Department of Education Approval of Their Classroom Training Curriculum and Do Not Provide Details of its Classes Offered.

NRS 610.144(3)(d) requires program standards to contain provisions for "organized, related and supplemental instruction in technical subjects related to the trade with a minimum of 144 hours for each year of apprenticeship, given in a classroom or...courses of equivalent value or other forms of study approved by the Council." In attachment 5, the ABC Standards reference Apprentice Operator Related Training Instruction. This includes a list of 23 courses without any detail on the class or any specifications of the competency-based instruction for the 23 courses.

In the past, when considering approval of program standards, the Council has required a review and approval of curriculum for course instruction proposed by any new program. The ABC Standards do not contain a competent description of its classroom instruction. When approving previous programs, the Nevada Department of Education, through a designated curriculum professional, has approved course and classroom curriculum. The submitted ABC Standards do not contain approved course curriculum, and the Council should reject the ABC Standards.

7. <u>Inadequate Apprentice to Journeyperson Ratio</u>.

Nevada law requires the Council to ensure the ratio of apprentices to journeypersons is consistent with proper supervision, training, and safety. NRS 610.144(3)(g). The Council's own regulations specifically spell out the appropriate ratio of apprentices to journeymen. The

Council's regulations state all "construction industry" programs must use a jobsite ratio of "not more than one apprentice for the first journeyman at the jobsite and not more than one apprentice for every three additional journeymen." NAC 610.438(1)(a).

Section XV(A) of the ABC Standards merely define their ratio as not "greater than the ratio approved for the employer as to the entire work force." Thus, if a participating employer under the ABC program employs a work force of equal number of apprentices and journeyman, the ABC Standards, if approved, allow the Program to avoid the jobsite specific requirements of Nevada law. Violating the jobsite specific requirements of NAC 610.438(1)(a) will expose apprentices and the public to unsafe conditions.

The ABC Standards are permitted to vary from the construction industry ratio laid out in NAC 610.438(1)(a) if they provide evidence demonstrating a "different ratio is consistent with the proper supervision, training, safety and continuity of employment of an apprentice". The ABC Standards do not provide evidence to demonstrate this to be true.

Without a jobsite specific ratio that conforms to the regulations previously adopted by the Council and without evidence that a different ratio will ensure proper supervision, training, and safety, the ABC Standards must be denied by the Council.

III. AGGRIEVED PARTY STATUS

OE12 JATC and its approved apprenticeship standards would be injured if the ABC Standards for the "Operator Engineer Apprentice" are approved. Because it files these objections and have an approved "parallel program" receiving notice from the Council, OE12 JATC requests that the Council deem OE12 JATC as a potential "aggrieved party."

IV. CONCLUSION

Based upon the arguments above and Nevada law governing this matter, OE12 JATC requests the Council deny approval of the ABC Standards for its Operator Engineer program (Southern Nevada). The Standards, as submitted, are incomplete and do not meet the requirements of Nevada law. The OE12 JATC further requests it be recognized as an "aggrieved party".

Respectfully submitted,

Nathan R. Ring, Esq.

The Urban Law Firm

Counsel for OE12 JATC



STATE OF NEVADA Office of the Labor Commissioner Nevada State Apprenticeship Council

APPLICATION FOR APPROVAL ON THE JOB TRAINING & APPRENTICE

rogram Name ABC Nevada Char	oler Southern Div	islon Appre	enticeship T	rust Fund	-		_Prog	ram #	
ddress 5070 Arville St. #4	· · · · · · · · · · · · · · · · · · ·	City_	Las Vegas		State	NV	relepho	ne <u>702,227,0536</u>	
ontact Person <u>Kara Arenas</u>	Title	Vice Presi	dent	Туре of	Program	Construction	on	Sic Code:	, ,
Type of Action: (Check One) A. □ Wage Increase B. □ Revision of Standards C. 図 New Occupation	Type of Program A. □ Individual B. □ Individual C. □ Group Ur D, ⊠ Group No E. □ If Union B	Union Non Unior Union Union	A. B. C. D.	urney Work No. of Fen No. of Min No. JW <u>14</u> No. of Em	nales <u>2</u> prilles <u> 48</u> 8	図 口 口 Pay l	Period Weekly Bi-Wee Semi M ncrease II 6 I	kly	ery 1,000 hour
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Operator Apprentice	\$ 15.00	\$ 16,50	\$ 18.00	\$ 19.50	\$21,00	\$ 22.50			1,0
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Approved:		may see	- Annanage (*	- dignissa	ek (jime)		- Commercial Commercia		- 1-
Disapproved:				Con	otoni Dir	ector of App	rentices	hln	Date



ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER SOUTHERN DIVISION

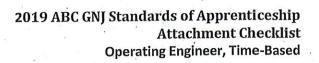
Occupation – Operating Engineer
O-NET Code: 47-2073.00 RAPIDS Code: 0365
Time-Based Apprenticeship Program

U.S. Department of Labor Apprenticeable Occupation List:

OPERATING ENGINEER (Alternate Title: Heavy	0365	47-2073.00	6000	ТВ
Construction Equipment Mechanic)				1000

Link to list: https://www.doleta.gov/oa/occupations.cfm

a.		
a.		





Standards Placement	29 CFR, NRS 610, and NAC 610 Required Provisions
Attachment 3	 Term: A term of apprenticeship of not less than 2,000 hours of work experience, consistent with training requirements as established by practice in the trade. NRS 610.144 3 (b)
	Type of Occupation: The term of apprenticeship, which for an individual apprentice may be measured either through the completion of the industry standard for on-the-job learning (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach). 29 CFR 29.5 (b)
Attachment 4	3) Work Processes: An outline of the processes in which the apprentice will receive supervised experience and training on the job, and the allocation of the approximate time to be spent in each major process. NRS 610.144 3 (c)
Attachment 5	4) Related Instruction: Provisions for organized, related and supplemental instruction in technical subjects (and the costs thereof) related to the trade with a minimum of 144 hours for each year of apprenticeship, given in a classroom or through trade, industrial or correspondence courses of equivalent value or other forms of study approved by the State Apprenticeship Council. NRS 610.144 3 (d); NAC 610.433
5910 Form	5) Wages: A progressively increasing, reasonable and profitable schedule of wages to be paid to the apprentice consistent with the skills acquired, not less than that allowed by federal or state law or regulations or by a collective bargaining agreement. Employers shall pay a beginning wage for apprentices which is at least 35 percent of the rate for journeymen in the same trade, or Minimum and Reasonable and profitable wage for apprentice in construction industry. NRS 610.144 3 (e); NAC 610.480, NAC 610.485
Attachment 3	6) Ratio: A numeric ratio of apprentices to journeymen consistent with proper supervision, training, safety, continuity of employment and applicable provisions in collective bargaining agreements, in language that is specific and clear as to its application in terms of job sites, workforces, departments or plants. NRS 610.1443 (g)
	ALL DOCUMENTS HAVE BEEN CHECKED FOR SPELLING, FORMATTING, GRAMMAR, (INCLUDING TABLE OF CONTENTS), ETC.

Attachment 3 – Apprentice Operator Program Description

ABC Nevada Apprentice Operator:

Apprentice Operators are taught to operate heavy equipment of many types of heavy equipment including earth moving equipment such as dozers, scrapers, compactors, backhoes, motor graders, cranes etc.

The Apprentice Operators will complete a total of 6,000 on the job training hours.

as being an return distribution and adjust the machine

Apprentice Operators will also complete a minimum of 432 hours of classroom in the angle (d) instruction.

The probationary period for the Apprentice Operators Program will be 1,500 on the probation job training hours.

To provide for a steady supply of trained persons into the construction industry and to reflect employment opportunities, apprentice to journeyperson ratios will be enacted in accordance with the following provisions. One Apprentice Operator may be trained for the first Journeyperson Operator employed, with a ratio of one Apprentice Operator for every five Journeyperson Operators thereafter. The ratio is per job site and not to exceed the employers overall workforce.

Our registered apprentices will graduate our program with the fundamental skills and knowledge needed to operate the following types of heavy equipment.

make many overheads working with there after Measy Busy Repair Selection; and/o

(hitteen the parter and user of various types of shovely, buckers, cables and attachments.

. III Learn the controls their importance in proper operation and movement of precises for selective of

(in) Paint to riske mone avertants were ing with the Operator, heavy Cory is more Moderale and/ or

estable but and its countries realize her salded the draw earlies of country.

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ottes employees and equipment working new mariline.
(i) I seen to read on itself grains a leave to be need professed materialisms.

(B) Learn strapes use at GPS engineers strong second per strains

Attachment 4- Apprentice Operator Work Processes

If an Apprentice Operator learns to operate five major pieces of equipment proficiently, they shall be considered diversified and eligible to complete the program when they have accumulated 6,000 on-the-job training hours.

Suggested Hours

Bulldozer

1,000

- (a) Learn the different types of work assigned the dozer from pioneer and rough excavation to finish work, including GPS.
- (b) Learn to make minor adjustments and repairs and work with Heavy Duty Repair Mechanic and/or welder on major repairs.

Motor Patrol

1,000

- (a) Learn to service, maintain and adjust the machine.
- (b) Learn to different types of work the machine does, such as fine grading, back sloping, mixing and laying oil, including GPS.
- (c) Learn to make adjustment and minor repairs with Heavy Duty Repair Mechanic and/or welder on major repairs.

Scrapers, Self-Propelled

1,000

- (a) Learn to operate the various types of motor and motor-electric driven machines, including GPS.
- (b) Learn to service, maintain and repair the different makes of machines.

Bucket-Type Equipment, Shovel, Backhoe and Other Bucket Type

1,000

- (a) Learn the names and uses of various types of draglines, buckets and attachments.
- (b) Learn care, preventive maintenance, proper oil and greases, cables, and minor adjustments.
- (c) Learn to change teeth, cables, adjust frictions, brakes and clutches.
- (d) Learn the controls, their importance in proper operation and movement of the machine for safety of other employees and equipment working near machine.
- (e) Learn to read and set grades stakes, also to read plans and instructions.
- (f) Learn to make major overhauls working with Operator, Heavy Duty Repair Mechanic and/or welder.
- (g) Grades Stakes and Plan Reading.
- (h) Learn the names and uses of various types of shovels, buckets, cables and attachments.
- (i) Learn care, preventive maintenance, proper oils and greases, cables and minor adjustments.
- (j)Learn to change teeth and cables and adjust frictions, brakes and clutches.
- (k) Learn the controls their importance in proper operation and movement of machine for safety of other employees and equipment working near machine.
- (I) Learn to read and set grades stakes, also to read prints and instructions.
- (m) Learn to make major overhauls working with the Operator, heavy Duty Repair Mechanic and/or welder.

Grade Checking

1,000

- (a) Learn proper use of hand instruments and to read plans for making grades.
- (b) Learn proper use of GPS equipment (Rover) or similar.

Crawler and Truck Type Cranes, Derricks, Bridges, Towers & Gantry Cranes	500
(a) Learn care, preventative maintenance, proper oils, grease, cables and minor adjustments	
(b) Learn the controls, their importance in the proper operation and movements of the m	achine
for the safety of other employees and equipment working near the machine.	
(c) Learn to make major overhauls working with Operator, Heavy Duty Repair Mechanic	and/o
welder.	¥0.1
(d) Learn to proper load the machine and cables will safety handle.	
(e) Learn the operating difference between a live boom and regular operation	
(f) Learn to give and receive proper signals for hoisting, swinging and lowering materi- equipment.	als and
(g) Learn to use out-riggers on wheel-type machines for protection of the machine and m being handled.	aterial
(h) Learn to understand proper horn and hand signals when assigned to mobile cranes.	
Concrete and Asphalt, Spreaders, Tampers and Finishers	500
(a) Learn to service, make minor repairs, adjust and be able to operate the machine	
Maintenance-Cutting and Welding-Grease and Oils	500
(a) Learn minor repairs and adjustment.	
(b) Learn Minor welding repair and cutting.	
(c) Learn the types of greases and oils and their uses.	•
Roller – Flat Wheel, Sheep Foot and Pneumatic	400
(a) Learn the purpose of the different rollers, the different procedures for compaction of materials, remote control and the operation for care off different types of rollers.	variou
Tractor-Type skip Loaders	400
(a) Learn to operate the various types, service and make minor repair and adjustments.	
Wheel-Type Tractors, Including Fork Lifts, Lumber carriers, High Lifts, etc.	400
(a) Learn to service, maintain, and make minor repairs and adjustments.	
Trenching Machine	400
(a) Learn to operate the various types and sizes of machines, their maintenance and repair.	
(b) Grades Stakes and Plan Reading.	
(M) SINGER STREET IN THE STREET	
Air Compressors-Pumps of all Types and Miscellaneous Equipment	100
(a) Learn the proper servicing and adjustments for proper operation of the machine.	

TOTAL HOURS 6,000

Attachment 5- Apprentice Operator Related Training Instruction

Level 1: Minimum of 144 Hours

Orientation to the Trade **Heavy Equipment Safety Identification of Heavy Equipment Basic Operational Techniques Utility Tractors** Introduction to Earthmoving Grades

Level 2: Minimum of 144 Hours

Rough Terrain Forklifts On-Road Dump Trucks Excavation Math Interpreting Civil Drawings Site Work

Soils

Skid Steers

Loaders

Scrapers

Level 3: Minimum of 144 Hours

Finishing and Grading Compaction Equipment Backhoes Off-Road Dump Trucks Dozers Excavators Motor Graders



ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER NORTHERN DIVISION

Occupation: Carpenter
O-NET Code: 47-2031.01 RAPIDS Code: 0067
Time-Based Apprenticeship Program

- √ Similar Program Notice Letters
- ✓ Form 5910 Application for Approval On-the-Job Training & Apprenticeship
- ✓ U.S. Department of Labor Apprenticeable Occupation List ONET Code Confirmation
- √ Attachment 3, 4, 5 Checklist
- √ Attachment 3 Program Description
- √ Attachment 4 Work Process Schedule
- √ Attachment 5 Related Technical Instruction

	(4)		



January 10, 2020

Bobbie Whitmore Southwest Carpenters Training Fund 4245 W. Sunset Road, Ste. 137 Las Vegas, NV 89115

Dear Bobbie,

The State Apprenticeship Council will be considering the approval of an additional occupation for Associated Builders and Contractors Northern Division Apprenticeship Trust at its meeting on February 13, 2020.

In accordance with NAC 610.355, when the Council considers approving a new apprenticeship occupation by an employer or association of employers, the Council must notify existing program sponsors with similar objectives for similar jobs and give them between 30 and 60 days to comment before final action on the proposed occupation is taken.

It has come to our attention that the occupation under consideration for approval by the Council is Carpenter. Our records indicate that your organization has similar occupation.

Attached you will find the standards and accompanying appendices for the proposed occupation. The State Apprenticeship Council will welcome any comments you may have.

Thank you.

Sincerely,

Richard J. Williams

State Apprenticeship Director



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State Apprenticeship Director



STATE OF NEVADA Office of the Labor Commissioner Nevada State Apprenticeship Council APPLICATION FOR APPROVAL ON THE JOB TRAINING & APPRENTICE

onlact Person <u>Kara Arenas</u>	70 73	Tille_	Vice Pre	esident		_Type of F	Program	Construc	lon ,	Slc Co	ode: <u>1731</u>		
Type of Action: (Check One) A. □ Wage increase B. □ Revision of Standards C. 図 New Occupation	A, [] B, [] C, [] D, [X]	of Program Individual Individual Group Uni Group Noi If Union Ba	Union Non Uni on n Union	on	A. N B. N C. N	ney Worke No. of Femi No. of Mino No. JW <u>25</u> No. of Emp	ales <u>0</u> rilles <u>6</u>	□ □ Pay	Period Weekly Bi-Wee Semi N Increase	ikly Ionthly is (Mo		ery 1,00	O hours
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Construction Carpenter Wage		\$ 15.00	\$ 16.0	50 \$18	.00	\$ 19.50	\$21.00	\$ 22.5	0 \$2	4.00	\$ 25.50		No.
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Construction Carpenter Fringe	1.	187 .	2ND	3RD	60%	4 TH 65%	БҮН 7	0% 6тн	7 ¹ H	80%	85%		
Per CFR 29 5.5								- 1			1		
*			Occupa	atlon	200			Ex	oerlence	(Year	(8)		
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ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER NORTHERN DIVISION

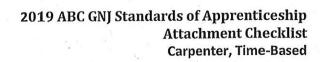
Occupation – Carpenter
O-NET Code: 47-2031.01 RAPIDS Code: 0067
Time-Based Apprenticeship Program

U.S. Department of Labor Apprenticeable Occupation List:

CARPENTER 0067 <u>47-2031.00</u> 8000 TB

Link to list: https://www.doleta.gov/oa/occupations.cfm

	rice.		





Standards Placement	29 CFR, NRS 610, and NAC 610 Required Provisions
Attachment 3	2) Term: A term of apprenticeship of not less than 2,000 hours of work experience, consistent with training requirements as established by practice in the trade. NRS 610.144 3 (b)
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	ALL DOCUMENTS HAVE BEEN CHECKED FOR SPELLING, FORMATTING, GRAMMAR, (INCLUDING TABLE OF CONTENTS), ETC.

Attachment 3 – Construction Carpentry Apprentice Program Description

The Construction Carpentry Apprentice will complete a total of 8,000 on the job training hours.

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Hapsuring and Layout State

Framing or Finish Carpanity Stalls Bask

2. Franchy or Finleh Carcontry Stills Advanced

Construction Carpentry Apprentice will also complete a minimum of 576 hours of classroom instruction.

The probationary period for the Construction Carpentry Apprentice Program will be 2,000 on the job training hours.

To provide for a steady supply of trained persons into the construction industry and to reflect employment opportunities, apprentice to journeyperson ratios will be enacted in accordance with the following provisions. One Construction Carpentry Apprentice may be trained for the first Journeyperson Carpenter employed, with a ratio of one Construction Carpentry Apprentice for every two Journeyperson Carpenter thereafter. The ratio is per job site and not to exceed the employers overall workforce.

Our registered apprentices will graduate our program with the fundamental skills and knowledge needed to complete as a Journey worker Carpenter.

Attachment 4- Construction Carpenter Apprentice Work Processes

Approximate Hours

Basic Knowledge & Safety	1500
1. Job Site Preparation	
2. Basic Prints and Layouts	
3. Tool Instruction and use	
4. Material Identification and Use	*,
Supplemental Skills	1500
1. Construction Safety	Use production
2. Operating Power Lifts	
3. Rigging and Signaling	
4. Proper Material Transportation and Storage	
5. Use of Powder Actuated and Pneumatic Tools	
6. Erecting and Dismantling	
7. Stocking and Scrapping	
8. Installation of Fire Stop	
9. Installing Fall Protection, Barricade Systems and Fa	ll Restraints
10. Installation and Dismantling	
11. Set-up & Use of Total Station	Calledon Callen
General Skills	2500
1. Job Preparation	
2. Blue print Interpretation	
3. Material Identification and Use	
4. Measuring and Layout Skills	
5. Framing or Finish Carpentry Skills Basic	
6. Concrete Skills Basic	
Advance Skills	2500
Installation Methods and Techniques	2500
2. Attachment Methods and Hardware	*
3. Framing or Finish Carpentry Skills Advanced	
4. Concrete Skills Advanced	
T. Concrete Skills Auvanced	

Total OJT Hours: 8000

Attachment 5- Construction Carpenter Apprentice Related Classroom Instruction

Year 1: 144 CRI Instruction	
Orientation to the Trade	
Building Materials, Fasteners, and Adhesives	
Hand and Power Tools	
Introduction to Construction Drawings, Specifications, and Layout	of the P
Floor Systems	
Wall Systems	
Ceiling Joist and Roof Framing	
Introduction to Building Envelope Systems	25
Basic Stair Layout	
Year 2: 144 CRI Instruction	
Commercial Drawings	
Cold-Formed Steel Framing	¥
Exterior Finishing	
Thermal and Moisture Protection	
Roofing Applications	
Doors and Door Hardware	
Drywall Installation	
Drywall Finishing	
Suspended Ceilings	
Window, Door, Floor, and Ceiling Trim	
Cabinet Installation	*
Year 3: 144 CRI Instruction	
Properties of Concrete	
Rigging Equipment	
Rigging Practices	1.40
Trenching and Excavating	200
Reinforcing Concrete	
Foundations and Slabs-On-Grade	
Vertical Formwork	- 1
Horizontal Formwork	Κ.
Handling and Placing Concrete	
Tilt-Up Wall Systems	p=
Year 4: 144 CRI Instruction	
Site Layout One: Differential Leveling	
Site Layout Two: Angular and Distance Measurement	
Advanced Roof Systems	2
Advanced Wall Systems	
Advanced Stair Systems	4
Introduction to Construction Equipment	14.
Introduction to Oxyfuel Cutting and Arc Welding	
Site Preparation	
Fundamentals of Crew Leadership	
	_



ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER SOUTHERN DIVISION

Occupation: Carpenter
O-NET Code: 47-2031.01 RAPIDS Code: 0067
Time-Based Apprenticeship Program

- √ Similar Program Notice Letters
- ✓ Form 5910 Application for Approval On-the-Job Training & Apprenticeship
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It has come to our attention that the occupation under consideration for approval by the Council is Carpenter. Our records indicate that your organization has similar occupation.

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Thank you.

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STATE OF NEVADA Office of the Labor Commissioner Nevada State Apprenticeship Council APPLICATION FOR APPROVAL ON THE JOB TRAINING & APPRENTICE

ontact Person <u>Kara Arenas</u>	i di ten	Title_\	/ice Pres	sident		_Type of P	rogram:	Con	struction	SIC (Code: <u>1731</u>		
Type of Action: (Check One) A. □ Wage Increase B. □ Revision of Standards C. ☑ New Occupation	A. C. C. C. D. E	of Program: Individual U Individual N Group Unic Group Nor If Union Ba	Jnion Non Unio on Union	n	A. N B. N C. N	rney Worke No. of Fema No. of Minor No. JW <u>83</u> No. of Empl	ales <u>1</u> rilles <u>36</u>	1	☐ Bl- ☐ Se Pay Incr	eekly Weekly mi Month eases (M		ery 1,000) hours)
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Construction Carpenter Wage		\$ 15.00	\$ 16.6	50 \$ 18	3.00	\$ 19.50	\$21.00	0	\$ 22.50	\$ 24.00	\$ 25,50		
Construction Carpenter Fring Per CFR 29 5.6)	181 50%	2ND	3RD	60%	4TH 65%	6TH	70%	6 TH 75%	7 TH 80	87H 85%	100 A	4
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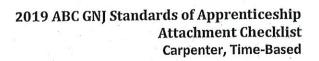
ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER SOUTHERN DIVISION

Occupation – Carpenter
O-NET Code: 47-2031.01 RAPIDS Code: 0067
Time-Based Apprenticeship Program

U.S. Department of Labor Apprenticeable Occupation List:

CARPENTER 0067 47-2031.00 8000 TB

Link to list: https://www.doleta.gov/oa/occupations.cfm





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	Type of Occupation: The term of apprenticeship, which for an individual apprentice may be measured either through the completion of the industry standard for on-the-job learning (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach). 29 CFR 29.5 (b)
Attachment 4	3) Work Processes: An outline of the processes in which the apprentice will receive supervised experience and training on the job, and the allocation of the approximate time to be spent in each major process. NRS 610.144 3 (c)
Attachment 5	4) Related Instruction: Provisions for organized, related and supplemental instruction in technical subjects (and the costs thereof) related to the trade with a minimum of 144 hours for each year of apprenticeship, given in a classroom or through trade, industrial or correspondence courses of equivalent value or other forms of study approved by the State Apprenticeship Council. NRS 610.144 3 (d); NAC 610.433
5910 Form	5) Wages: A progressively increasing, reasonable and profitable schedule of wages to be paid to the apprentice consistent with the skills acquired, not less than that allowed by federal or state law or regulations or by a collective bargaining agreement. Employers shall pay a beginning wage for apprentices which is at least 35 percent of the rate for journeymen in the same trade, or Minimum and Reasonable and profitable wage for apprentice in construction industry. NRS 610.144 3 (e); NAC 610.480, NAC 610.485
Attachment 3	6) Ratio: A numeric ratio of apprentices to journeymen consistent with proper supervision, training, safety, continuity of employment and applicable provisions in collective bargaining agreements, in language that is specific and clear as to its application in terms of job sites, workforces, departments or plants. NRS 610.1443 (g)
	ALL DOCUMENTS HAVE BEEN CHECKED FOR SPELLING, FORMATTING, GRAMMAR, (INCLUDING TABLE OF CONTENTS), ETC.

Attachment 3 – Construction Carpentry Apprentice Program Description

The Construction Carpentry Apprentice will complete a total of 8,000 on the job training hours.

Construction Carpentry Apprentice will also complete a minimum of 576 hours of classroom instruction.

The probationary period for the Construction Carpentry Apprentice Program will be 2,000 on the job training hours.

To provide for a steady supply of trained persons into the construction industry and to reflect employment opportunities, apprentice to journeyperson ratios will be enacted in accordance with the following provisions. One Construction Carpentry Apprentice may be trained for the first Journeyperson Carpenter employed, with a ratio of one Construction Carpentry Apprentice for every two Journeyperson Carpenter thereafter. The ratio is per job site and not to exceed the employers overall workforce.

Our registered apprentices will graduate our program with the fundamental skills and knowledge needed to complete as a Journey worker Carpenter.

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5. Franchis or Finish Europeany Statts basis

Attachment 4- Construction Carpenter Apprentice Work Processes

Approximate Hours

Ba	sic Knowledge & Safety	1500
1.	Job Site Preparation	- Sec. 5 - 12 - 15 - 15
2.	Basic Prints and Layouts	
3.	Tool Instruction and use	
4.	Material Identification and Use	
Su	pplemental Skills	1500
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7.	The same of the sa	Maria
8.		
9.	·	Restraints
10	O. Installation and Dismantling	· · · · · · · · · · · · · · · · · · ·
	1. Set-up & Use of Total Station	a on the
Ge	neral Skills	2500
1.	Job Preparation	2500
2.	Blue print Interpretation	
3.	Material Identification and Use	
4.	Measuring and Layout Skills	
5.	Framing or Finish Carpentry Skills Basic	
6.	Concrete Skills Basic	
Ad	vance Skills	2500
1.	Installation Methods and Techniques	2000
2.	Attachment Methods and Hardware	
3.	Framing or Finish Carpentry Skills Advanced	K

4. Concrete Skills Advanced

Total OJT Hours: 8000

Attachment 5- Construction Carpenter Apprentice Related Classroom Instruction

	Year 1: 144 CRI Instruction
	Orientation to the Trade
	Building Materials, Fasteners, and Adhesives
3. 2.	Hand and Power Tools
	Introduction to Construction Drawings, Specifications, and Layout
	Floor Systems
	Wall Systems
c. 5	Ceiling Joist and Roof Framing
# 1	Introduction to Building Envelope Systems
200	Basic Stair Layout
	Year 2; 144 CRI Instruction
	Commercial Drawings
W 10 10 10 10 10 10 10 10 10 10 10 10 10	Cold-Formed Steel Framing
-1	Exterior Finishing
# 1 Property of the Property o	Thermal and Moisture Protection
	Roofing Applications
	Doors and Door Hardware
and the second s	Drywall Installation
x	Drywall Finishing
3.	Suspended Ceilings
le constitution de la constituti	Window, Door, Floor, and Ceiling Trim
	Cabinet Installation
	Year 3: 144 CRI Instruction
4	Properties of Concrete
	Rigging Equipment
	Rigging Practices
	Trenching and Excavating
in the second	Reinforcing Concrete
K	Foundations and Slabs-On-Grade
2 A A A	Vertical Formwork
N	Horizontal Formwork
- H	Handling and Placing Concrete
	Tilt-Up Wall Systems
	Year 4: 144 CRI Instruction
	Site Layout One: Differential Leveling
The state of the s	Site Layout Two: Angular and Distance Measurement
9, 9,	Advanced Roof Systems
	Advanced Wall Systems
	Advanced Stair Systems
	Introduction to Construction Equipment
	Introduction to Oxyfuel Cutting and Arc Welding
	Site Preparation
	Fundamentals of Crew Leadership

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ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER NORTHERN DIVISION

Occupation: Sheet Metal Worker
O-NET Code: 47-2211.00 RAPIDS Code: 0510
Time-Based Apprenticeship Program

- √ Similar Program Notice Letters
- ✓ Form 5910 Application for Approval On-the-Job Training & Apprenticeship
- ✓ U.S. Department of Labor Apprenticeable Occupation List ONET Code Confirmation
- √ Attachment 3, 4, 5 Checklist
- √ Attachment 3 Program Description
- √ Attachment 4 Work Process Schedule
- √ Attachment 5 Related Technical Instruction



Josh Morrow Sheet Metal Local 26 JATC 1237 Gator Way Sparks, NV 89431

Dear Josh,

The State Apprenticeship Council will be considering the approval of an additional occupation for Associated Builders and Contractors Northern Division Apprenticeship Trust at its meeting on February 13, 2020.

In accordance with NAC 610.355, when the Council considers approving a new apprenticeship occupation by an employer or association of employers, the Council must notify existing program sponsors with similar objectives for similar jobs and give them between 30 and 60 days to comment before final action on the proposed occupation is taken.

It has come to our attention that the occupation under consideration for approval by the Council is Sheet Metal Worker. Our records indicate that your organization has a similar occupation.

Attached you will find the standards and accompanying appendices for the proposed occupation. The State Apprenticeship Council will welcome any comments you may have.

Thank you.

Sincerely,

Richard J. Williams



STATE APPRENTICESHIP DIRECTOR



January 10, 2020

Graviela Garcia Sheet Metal Local 88 JATC 2540 Marco Street Las Vegas, NV 89115

Dear Graviela,

The State Apprenticeship Council will be considering the approval of an additional occupation for Associated Builders and Contractors Northern Division Apprenticeship Trust at its meeting on February 13, 2020.

In accordance with NAC 610.355, when the Council considers approving a new apprenticeship occupation by an employer or association of employers, the Council must notify existing program sponsors with similar objectives for similar jobs and give them between 30 and 60 days to comment before final action on the proposed occupation is taken.

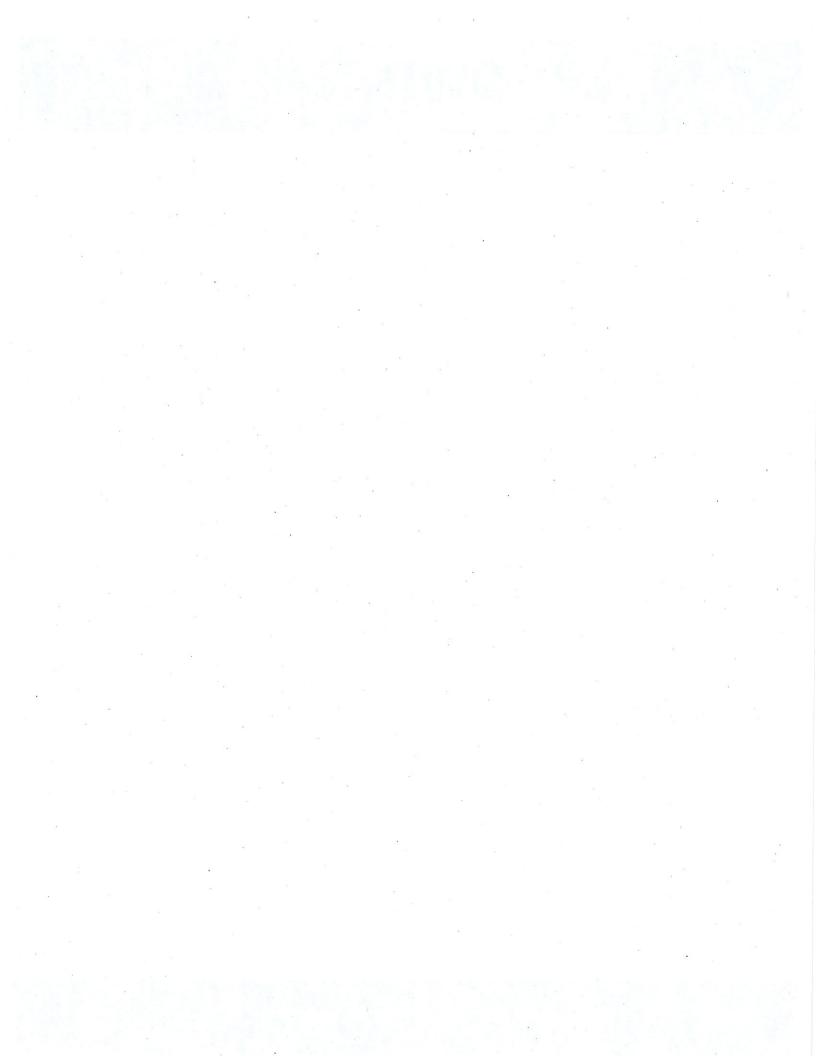
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Thank you.

Sincerely,

Richard J. Williams





STATE OF NEVADA Office of the Labor Commissioner Nevada State Apprenticeship Council

APPLICATION FOR APPROVAL ON THE JOB TRAINING & APPRENTICE

ontact Person <u>Kara Arenas</u>		Tille Vice F	President	7.	_Type of I	Program:	Construction	nSlo	Code:	, , , , , , , , , , , , , , , , , , ,	
Type of Action: (Check One) A. □ Wage Increase B. □ Revision of Standards C. 図 New Occupation	A. I Indiv B. I Indiv C. I Grou D. I Grou	ogram: (Ch oldual Union oldual Non U op Union op Non Unio on Bargaini	nlon n	A. N B. N C. N	ney Worke lo. of Fem lo. of Mino lo. JW <u>28</u> lo. of Emp	ales <u>0</u> prilies <u>6</u>	□ E □ S Pay In	Veekly 31-Weekly Semi Mon creases (i	thly	very 1,000	hour
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ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER NORTHERN DIVISION

Occupation – Sheet Metal Worker
O-NET Code: 47-2211.00 RAPIDS Code: 0510
Time-Based Apprenticeship Program

U.S. Department of Labor Apprenticeable Occupation List:

SHEET METAL WORKER	0510	47-2211.00	8000	ТВ
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Link to list: https://www.doleta.gov/oa/occupations.cfm



2019 ABC GNJ Standards of Apprenticeship Attachment Checklist Sheet Metal Worker, Time-Based

Standards Placement	29 CFR, NRS 610, and NAC 610 Required Provisions
Attachment 3	 Term: A term of apprenticeship of not less than 2,000 hours of work experience, consistent with training requirements as established by practice in the trade. NRS 610.144 3 (b)
	Type of Occupation: The term of apprenticeship, which for an individual apprentice may be measured either through the completion of the industry standard for on-the-job learning (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach). 29 CFR 29.5 (b)
Attachment 4	3) Work Processes: An outline of the processes in which the apprentice will receive supervised experience and training on the job, and the allocation of the approximate time to be spent in each major process. NRS 610.144 3 (c)
Attachment 5	4) Related Instruction: Provisions for organized, related and supplemental instruction in technical subjects (and the costs thereof) related to the trade with a minimum of 144 hours for each year of apprenticeship, given in a classroom or through trade, industrial or correspondence courses of equivalent value or other forms of study approved by the State Apprenticeship Council. NRS 610.144 3 (d); NAC 610.433
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Attachment 3	6) Ratio: A numeric ratio of apprentices to journeymen consistent with proper supervision, training, safety, continuity of employment and applicable provisions in collective bargaining agreements, in language that is specific and clear as to its application in terms of job sites, workforces, departments or plants. NRS 610.1443 (g)
	ALL DOCUMENTS HAVE BEEN CHECKED FOR SPELLING, FORMATTING, GRAMMAR, (INCLUDING TABLE OF CONTENTS), ETC.

Attachment 3 – Construction Sheet Metal Apprentice Program Description

The Construction Sheet Metal Apprentice will complete a total of 8,000 on the job training hours.

Construction Sheet Metal Apprentice will also complete a minimum of 576 hours of classroom instruction.

The probationary period for the Construction Sheet Metal Apprentice will be 2,000 on the job training hours.

To provide for a steady supply of trained persons into the construction industry and to reflect employment opportunities, apprentice to journeyperson ratios will be enacted in accordance with the following provisions. One Construction Sheet Metal Apprentice may be trained for the first Journeyperson employed, with a ratio of one Construction Sheet Metal Apprentice e for every two Journeypersons thereafter. The ratio is per job site and not to exceed the employers overall workforce.

Our registered apprentices will graduate our program with the fundamental skills and knowledge needed to complete as a skilled Sheet Metal Worker.

Attachment 4- Construction Sheet Metal Apprentice Work Processes

Use of Hand Tools 350 OJT Hours Use of machine tools and processes 1000 OJT Hours Flux, rivets and fastening devices **500 OJT Hours** Measurements and layouts 650 OJT Hours Benchwork 1100 OJT Hours Welding 750 OJT Hours Installing duct work and equipment 2050 OJT Hours General sheet fabrication and installation of skylights and ventilators 1000 OJT Hours **Safety Practices 500 OJT Hours** Installation of duct work (lining etc.) **100 OJT Hours**

TOTAL HOURS: 8,000 OJT Hours

Attachment 5- Construction Sheet Metal Apprentice Related Classroom Instruction

Year 1: 144 Minimum CRI

Introduction to the Sheet Metal Trade
Tools of the Trade
Introduction to Sheet Metal Layout and Processes
Trade Math One
Fabrication One
Installation of Ductwork
Installation of Air Distribution Accessories
Insulation

Architectural Sheet Metal Year 2: 144 Minimum CRI

Trade Math Two
Plans and Specifications

Fabrication Two — Radial Line Development
Sheet Metal Duct Fabrication Standards
Air Properties and Distribution
Bend Allowances
Soldering
Basic Piping Practices
Fiberglass Duct

Year 3: 144 Minimum CRI
Trade Math Three – Field Measuring and Fitting
Air Systems

Principles of Airflow
Louvers, Dampers, and Access Doors
Comprehensive Plan and Specification Reading
Fabrication Three – Triangulation
Advanced Architectural Sheet Metal

Year 4: 144 Minimum CRI
Shop Production and Organization
Air Testing and Balancing
Introduction to Welding, Brazing and Cutting
Fume and Exhaust System Design
Fabrication Four – Comprehensive Review
Introductory Supervisory Skills



ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER NORTHERN DIVISION

Occupation: Telecommunications Technician O-NET Code: 49-2022.00 RAPIDS Code: 0618
Time-Based Apprenticeship Program

- √ Similar Program Notice Letters
- ✓ Form 5910 Application for Approval On-the-Job Training & Apprenticeship
- ✓ U.S. Department of Labor Apprenticeable Occupation List ONET Code Confirmation
- ✓ U.S. Department of Labor Guidelines for Competency-based,
 Hybrid and Time-based Apprenticeships
- √ Attachment 3, 4, 5 Checklist
- √ Attachment 3 Program Description
- √ Attachment 4 Work Process Schedule
- √ Attachment 5 Related Technical Instruction

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Madison Burnett Electrical JATC of Southern Nevada Local 357 620 Leigon Way Las Vegas, NV 89110

Dear Madison,

The State Apprenticeship Council will be considering the approval of an additional occupation for Associated Builders and Contractors Northern and Southern Division Apprenticeship Trust at its meeting on February 13, 2020.

In accordance with NAC 610.355, when the Council considers approving a new apprenticeship occupation by an employer or association of employers, the Council must notify existing program sponsors with similar objectives for similar jobs and give them between 30 and 60 days to comment before final action on the proposed occupation is taken.

It has come to our attention that the occupation under consideration for approval by the Council is Telecommunications Technician. Our records indicate that your organization has a similar occupation.

Attached you will find the standards and accompanying appendices for the proposed occupation. The State Apprenticeship Council will welcome any comments you may have.

Thank you.

Sincerely,

Richard J. Williams



Alan Darney Electrical Local 401 4635 Longley Avenue, Suite 108 Reno, NV 89502

Dear Alan,

The State Apprenticeship Council will be considering the approval of an additional occupation for Associated Builders and Contractors Northern and Southern Division Apprenticeship Trust at its meeting on February 13, 2020.

In accordance with NAC 610.355, when the Council considers approving a new apprenticeship occupation by an employer or association of employers, the Council must notify existing program sponsors with similar objectives for similar jobs and give them between 30 and 60 days to comment before final action on the proposed occupation is taken.

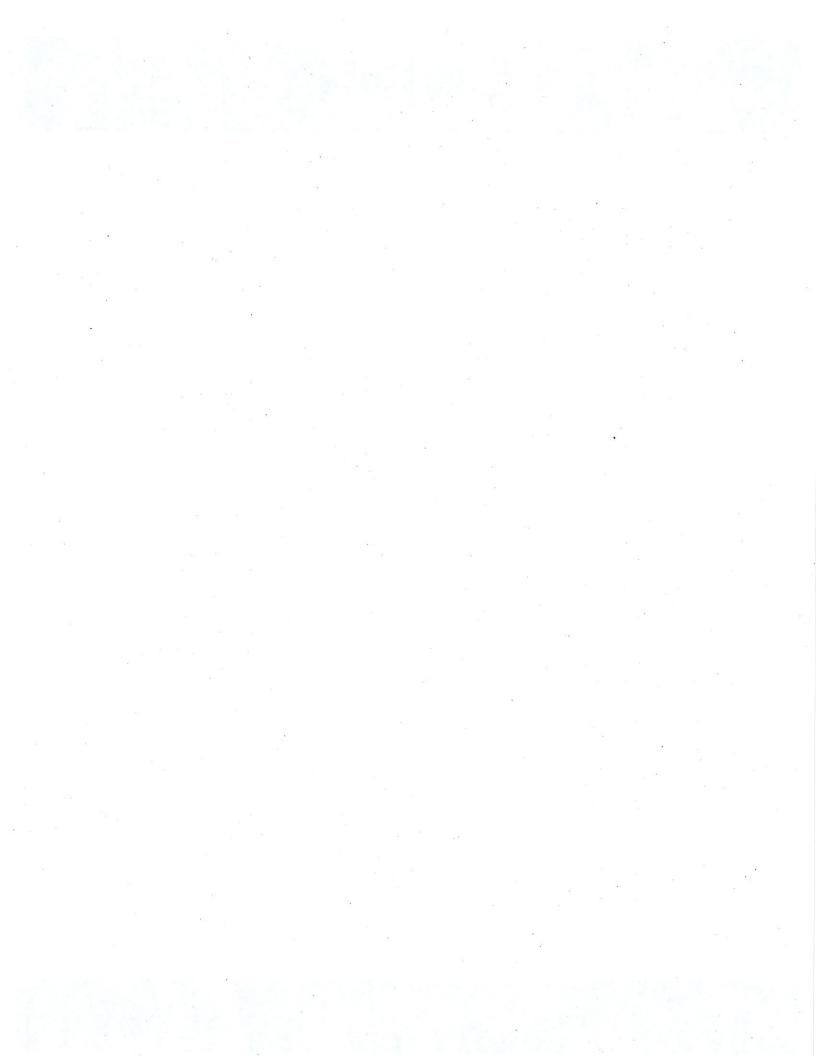
It has come to our attention that the occupation under consideration for approval by the Council is Telecommunications Technician. Our records indicate that your organization has a similar occupation.

Attached you will find the standards and accompanying appendices for the proposed occupation. The State Apprenticeship Council will welcome any comments you may have.

Thank you.

Sincerely,

Richard J. Williams



Ryan Bellows Sierra Pacific Power 6100 Neil Road Reno, NV 89511

Dear Ryan,

The State Apprenticeship Council will be considering the approval of an additional occupation for Associated Builders and Contractors Northern Division Apprenticeship Trust at its meeting on February 13, 2020.

In accordance with NAC 610.355, when the Council considers approving a new apprenticeship occupation by an employer or association of employers, the Council must notify existing program sponsors with similar objectives for similar jobs and give them between 30 and 60 days to comment before final action on the proposed occupation is taken.

It has come to our attention that the occupation under consideration for approval by the Council is Telecommunication Technician. Our records indicate that your organization has a similar occupation.

Attached you will find the standards and accompanying appendices for the proposed occupation. The State Apprenticeship Council will welcome any comments you may have.

Thank you.

Sincerely,

Richard J. Williams

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STATE OF NEVADA Office of the Labor Commissioner Nevada State Apprenticeship Council

APPLICATION FOR APPROVAL ON THE JOB TRAINING & APPRENTICE

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ddress 240 South Rock Blvd. 1/12	21 '		City	Re	no	State	- 1-	NVTele	phone <u>702.227.05</u>	36	
ontact Person <u>Kara Arenas</u>	till	e <u>Vice Pr</u>	esident		Type of	Program	Cor	struction	Sic Code:	4	
Type of Action: (Check One) A. □ Wage Increase B. □ Revision of Standards C. ☒ New Occupation	Type of Progra A. □ Individua B. □ Individua C. □ Group U D. ⋈ Group N E. □If Union B	al Union al Non Un nion lon Union	lon	A. I B. C.	rney Work No. of Fem No. of Mino No. JW <u>35</u> No. of Emp	ales <u>0</u> crilles <u>10</u>		Pay Period EX Weekly BI-Wee Semi M Pay Increase 3 16 1	kly Ionihly	ery 1,000 h	: nours
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ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER NORTHERN DIVISION

Occupation – Telecommunications Technician O-NET Code: 49-2022.00 RAPIDS Code: 0618 Time-Based Apprenticeship Program

U.S. Department of Labor Apprenticeable Occupation List:

TELECOMMUNICATIONS TECHNICIAN (Alternate Title: Broadband Technician)	0618	49-2022.00	8000	ТВ	
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Link to list: https://www.doleta.gov/oa/occupations.cfm

U.S. Department of Labor Employment and Training Administration, Office of Apprenticeship Washington, D.C. 20210	Distribution: A-541 Headquarters A-544 All Field Tech A-547 SD+RD+SAA+; Lab.Com	Subject: Guidelines for Competency-based, Hybrid and Time-based Apprenticeship Training Approaches
		Code: 400.3
Symbols: DSNIP/FDK	Apprenticeship USA	Action: Immediate

PURPOSE: To inform the staff of OA and the State Apprenticeship Agencies (SAA), Registered Apprenticeship program sponsors (Sponsor) and other Registered Apprenticeship partners of the replacement of Circulars 95-05 and 2005-03. The purpose of this Circular is to establish compliance and practical design policy for the time-based, competency-based and hybrid approaches for completion of an apprentice's term of apprenticeship. These policies are intended to facilitate Sponsors' efforts to develop and implement program standards that fully integrate apprentices' on-the-job learning and related instruction into the term of apprenticeship, and to assist with the transition from time-based to hybrid and competency-based training approaches.

BACKGROUND: An apprenticeable occupation must meet the requirements of Title 29 Code of Federal Regulations (CFR) part 29, Section 29.4, Criteria for apprenticeable occupation.

§ 29.4 Criteria for apprenticeable occupations

An apprenticeable occupation is one which is specified by industry and which must:

- (a) Involve skills that are customarily learned in a practical way through a structured, systematic program of on-the-job supervised learning;
- (b) Be clearly identified and commonly recognized throughout an industry;
- (c) Involve the progressive attainment of manual, mechanical or technical skills and knowledge which, in accordance with the industry standard for the occupation, would require the completion of at least 2,000 hours of on-the-job learning to attain; and
- (d) Require related instruction to supplement the on-the-job learning.

Section 29.5(b)(2) permits sponsors to select one of three methods for measuring the completion of the "term of apprenticeship."

- "Competency-based approach" [Section 29.5(b)(2)(ii)] provides for the apprentice's progression through apprenticeship through the acquisition of identified and measured competencies.
- "Time-based approach" [Section 29.5(b)(2)(i)] provides for skill acquisition through the apprentice's completion of at least 2,000 hours of on-the-job learning as described in the work process schedule.

• "Hybrid approach" [Section 29.5(b)(2)(iii)] provides for the measurement of the apprentice's skill acquisition through a combination of specified minimum hours of on-the-job learning and the successful demonstration of identified and measured competencies.

Per Section 29.5(b)(2)(iv), the program sponsor makes the determination of the appropriate approach, subject to approval by the Registration Agency of the determination as appropriate to the apprenticeable occupation for which the programs standards are registered.

COMPLIANCE AND DESIGN GUIDLINES:

Competency means the attainment of manual, mechanical or technical skills and knowledge, as specified by an occupational standard and demonstrated by an appropriate written and hands-on proficiency measurement.

All training approaches for completion of a term of Registered Apprenticeship have the following characteristics:

- Competencies should be identified and defined through a valid occupational/job task analysis method and directly related to the occupation and the on-the-job learning. Occupations need to be a minimum of 2,000 hours of on-the-job learning, as required by Section 29.4, Criteria for an apprenticeable occupation, and supplemented with the required related technical instruction.
- Time allocations for the workplace activities listed in the work process schedule reflect the training approach utilized.
 - A competency-based approach <u>does not</u> require time/hours to be assigned.
 - A hybrid approach requires a minimum and maximum range of time/hours assigned.
 - $\circ\quad A \ time\mbox{-based}$ approach requires the approximate time/hours.
- Measures or tests of competency attainment and demonstrated skills performance are the responsibility of the sponsor and should be observable, repeatable and agreed to in advance.
 - The methods used to measure or test competency attainment will be defined in the standards of apprenticeship.
 - o Assessments should directly link workplace performance requirements with the foundational knowledge and skills (competence) of the apprentice.
 - Assessments on-the-job and off-the-job should be carried out on a structured on-going basis, and include course work, practical assessments and theoretical assessments. Written and practical end-testing may also

be utilized.

- o The sponsor should consider utilizing in-house or third-party industry experts as assessors and evaluators of the apprentice's accomplishments.
- Related instruction coursework provides apprentices with the technical, workplace, and knowledge competencies that apply to the job.
 - Theory and task knowledge enable the apprentice to understand the work performed on the job. An analysis is conducted to determine if the skills required in the workplace match the theory and course work that is taught.
 - o Related instruction may be front-loaded, segmented, or delivered concurrently with the on-the-job learning. The sequence of related instruction courses should align with the sequence of learning and training required on the job.
 - o A minimum of 144 hours for each year of apprenticeship is recommended.
 - o Related Instruction may be delivered in a classroom, through academic, vocational, career and technical education courses, and/or via web-based/online courses of equivalent value as approved by the Registration Agency.

(See Attached Dental Assistant DACUM Job Task Analysis and Competency-based Example)

- Dental Assistant Work Process Schedule Competency-based Approach
- DACUM Research Chart for Dental Assistant

Competency-based Approach:

The competency-based approach measures skill acquisition through the individual apprentice's successful demonstration of acquired skills and knowledge, as verified by the sponsor. Programs utilizing this approach must still require apprentices to complete an on-the-job learning component of Registered Apprenticeship. The program standards must address how on-the-job learning will be integrated into the program, describe competencies, and identify an appropriate means of testing and evaluation for such competencies.

Competency-based approaches have an open entry and exit design, which enables apprentices to accelerate the rate of competency achievement or extend the term of training in order to meet performance-based completion requirements.

Hybrid Training Approach:

Sponsors that choose to utilize a hybrid approach must comply with these guidelines for

the competency-based portion of the apprentice's term of apprenticeship. The hybrid approach specifies a minimum and maximum range of hours of on-the-job learning for each task or job requirement, plus the successful demonstration of acquired skills as described by the task statements listed in the work process schedule.

Under the hybrid approach, the term of the occupation cannot be less than 2,000 hours of on-the-job learning, per Section 29.4 Criteria for apprenticeable occupations. However, once a term of a hybrid occupation has been Approved the range of hours may be adjusted upward or downward by twenty-five (25) percent, but not both ways. For example: a hybrid occupation with a range of 3,000 to 4,000 hours can be increased with a range of 4,000 to 5,000 hours.

A minimum/maximum range of hours would also give the apprentice an opportunity to accelerate the completion of the apprenticeship program with the appropriate test and evaluations provided to the apprentice, by the sponsor.

(See Attached Dental Assistant Hybrid-based Example)

• Dental Assistant Work Process Schedule - Hybrid Amnroach

Time-based Approach:

A time-based occupation requires completion of a minimum of 2,000 hours, which includes an outline of the specific work processes in which the apprentice will received supervised work experience and the allocation of approximate amount of time to be spent in each task or job requirement in the work process schedule for that occupation. The term of an approved time-based occupation can be increased or decreased by 25 species. The term of a time-based occupation cannot be less than 2,000 hours.

(See Attached Dental Assistant Time-based Example)

• WORK PROCESS SCHEDULE DENTAL ASSISTANT

<u>Table 1: Training Approach Comparison:</u>

Characteristics	Time-base d	Hybrid	Competency -based
Must be an approved apprenticeable occupation as required in Section 29.4.	Yes	Yes	Yes
Occupation term requires a minimum of 2,000 hours (one-year) of on-the-job learning.	Yes	Yes	No
An apprentice must be registered in an approved competency-based occupation for twelve (12) calendar	No	No	Yes

months of on-the- job learning.		,	
Work process schedule task statements	Yes	Yes	Yes
are derived from a valid occupation/job	1	20	
task analysis method (expert workers,		7	
and subject matter experts).			
Outline of the specific work processes	Yes -	No .	No
and the approximate time requirement			E E
for each individual work process.			
Outline of the specific work processes	No	Yes	No .
and the minimum - maximum time	W V		0.1 7 20
requirement for each individual work			
process.			
Performance measures are developed	N/A	Yes	Yes
from occupation/job task analysis.	- 9/4/11	e en l	
Time-based assessment for completion	Yes	Yes	No
of workplace competencies.			
Performance assessment of workplace	No	Yes	Yes
skills and task knowledge.	*		4 2
Written assessment of theory,	Yes	Yes	Yes
knowledge, and academic			
competencies.	·		
The Related Instruction component	Yes	Yes	Yes
must comply with all of the provisions			
of Section 29.5(b)(4).	1 de 22		
Related instruction aligns with	Yes .	Yes	Yes
technical, workplace and academic			
competencies that apply to the job.			
Maximum allowable credit for prior	Yes	Yes	Yes
work experience is 50 percent of			at
training.	W 31		
The apprentices must be evaluated by	No .	No	Yes
the employer to determine the		€.	
competencies they are proficient in or			p.
have accomplished to grant them			1.7
allowable credit for prior work			
experience.		V	Voc
Certificate of Completion will be issued	Yes	Yes	Yes
upon satisfactory completion of the			
requirements of the training approach,	# # # # # # # # # # # # # # # # # # #		
as described in the approved Standards		4	
of Apprenticeship.	Yes	Yes	Yes
Sponsor maintains record of	res .	163	163
work-based training, performance assessments and related instruction.			
assessments and related first uction.			<u> </u>

Certificate of Completion of Apprenticeship - Minimum Requirements:

The Certificate of Completion of Apprenticeship will be issued by the Registration Agency to those registered apprentices certified and documented by the Sponsor as successfully completing the apprentice training requirements for the competency-based, hybrid, or time-based approach, as specified in the Standards of Apprenticeship. The apprentice is also required to have worked under the Program Sponsor as a registered apprentice, in the apprenticeable occupation for a minimum of six (6) months, *exclusive* of any prior experience granted.

The Certificate of Completion of Apprenticeship will be issued by the Registration Agency to those registered apprentices certified and documented by the Sponsor as successfully completing the apprentice training requirements for the hybrid, or time-based approach, as specified in the Standards of Apprenticeship. The apprentice is also required to have worked under the Program Sponsor as a registered apprentice, in the apprenticeable occupation for a minimum of 1,000 hours, *exclusive* of any prior experience granted.

ACTION: This policy is intended to assist OA, SAAs and Sponsors and therefore will be utilized by the OA and SAAs to determine if the use of the competency-based approach is suitable for the specific recognized apprenticeable occupation. These policies are designed to ensure that every apprentice has the opportunity to gain all of the necessary knowledge, skills and abilities no matter which approach to the completion of their term of apprenticeship is preferred by their Sponsor.

The OA and SAA staff should familiarize themselves with this Circular.

If you have any questions, please contact Franchella Kendall at (202) 693-3813.

NOTE: This circular is being sent via electronic mail.

Attachments

CURRICULUM GAP ANALYSIS TOOL



2019 ABC GNJ Standards of Apprenticeship Attachment Checklist Telecommunications Technician, Time-Based

Standards Placement	29 CFR, NRS 610, and NAC 610 Required Provisions
Attachment 3	 Term: A term of apprenticeship of not less than 2,000 hours of work experience, consistent with training requirements as established by practice in the trade. NRS 610.144 3 (b)
	Type of Occupation: The term of apprenticeship, which for an individual apprentice may be measured either through the completion of the industry standard for on-the-job learning (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach). 29 CFR 29.5 (b)
Attachment 4	3) Work Processes: An outline of the processes in which the apprentice will receive supervised experience and training on the job, and the allocation of the approximate time to be spent in each major process. NRS 610.144 3 (c)
Attachment 5	4) Related Instruction: Provisions for organized, related and supplemental instruction in technical subjects (and the costs thereof) related to the trade with a minimum of 144 hours for each year of apprenticeship, given in a classroom or through trade, industrial or correspondence courses of equivalent value or other forms of study approved by the State Apprenticeship Council. NRS 610.144 3 (d); NAC 610.433
5910 Form	5) Wages: A progressively increasing, reasonable and profitable schedule of wages to be paid to the apprentice consistent with the skills acquired, not less than that allowed by federal or state law or regulations or by a collective bargaining agreement. Employers shall pay a beginning wage for apprentices which is at least 35 percent of the rate for journeymen in the same trade, or Minimum and Reasonable and profitable wage for apprentice in construction industry. NRS 610.144 3 (e); NAC 610.480, NAC 610.485
Attachment 3	6) Ratio: A numeric ratio of apprentices to journeymen consistent with proper supervision, training, safety, continuity of employment and applicable provisions in collective bargaining agreements, in language that is specific and clear as to its application in terms of job sites, workforces, departments or plants. NRS 610.1443 (g)
	ALL DOCUMENTS HAVE BEEN CHECKED FOR SPELLING, FORMATTING, GRAMMAR, (INCLUDING TABLE OF CONTENTS), ETC.

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Attachment 3 – Telecommunication Technician Program Description

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The ABC Nevada Telecommunication Technician Apprenticeship Program provides the fundamental infrastructure for telecommunications, audio/video, life safety and automation systems. The on-the-job (OJT) training component is also designed to meet the growing national expectation for ITS (Information Transport Systems) as an industry standard for in education a professional workforce.

The Telecommunication Technician Apprentices will complete a total of 6,000 On The Job Training hours.

Telecommunication Technician Apprentices will also complete a minimum of 432 hours of Classroom Instruction.

The probationary period for the Telecommunication Technician Apprenticeship Program will be 1,500 on the job training hours.

To provide for a steady supply of trained persons into the construction industry and to reflect employment opportunities, apprentice to journeyperson ratios will be enacted in accordance with the following provisions. One apprentice may be trained for the first journeyperson employed, with a ratio of one apprentice for every two journeyperson's thereafter. The ratio is per job site and not to exceed the employers overall workforce.

Our registered apprentices will graduate our program with the fundamental skills and knowledge needed to operate the following types of Telecommunication tasks.

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Attachment 4- Telecommunication Technician Work Processes

WORK PROCESS (On-The-Job Training)	PROXIMATE HOURS
1. Prepare for System Installation	500
 a. Use Blueprints and Specifications to lay out components b. Perform a site survey c. Secure area – safety cones, barriers, drop cloths, etc. d. Develop overall job plan 	e sator er sj
e. Label and tag wire and cable per plans and specs f. Fabrication of sub systems	Lucia in
 g. Inventory and take off of parts, tools and equipment h. NEC, Safety specific, OSHA and local requirements and amendments 2. Wire Buildings 	1,000
a. Install cable support systems and drill wire path penetrationsb. Perform a cable pulling setup	2,000
 c. Properly pull and secure wire through: J-Hooks, Wire/Cable Tray, D-Rings, Slings, and Conduit d. Properly pull and secure fiber optic cable through: Wire/Cable Tray, Inne. 	in the second
Conduit e. Pull wire/cable in a multi-story building according to Local Codes	rduct, and
 f. Install firestop devices according to local codes g. Build Telecommunications Rooms according to plans and specs h. Build equipment racks and install equipment 	
i. Install grounding infrastructure according to local codes 3. Trim, Termination, and Splicing	1,000
a. Prepare wall mounted station locations according to applicable standards	
b. Prepare floor mounted station locations according to applicable standards	place it was
c. Prepare modular furniture and pole mount station locations according to applicable standards d. Perform pre-termination functions and "dress" cable	F F F
 d. Perform pre-termination functions and "dress" cable e. Perform copper IDC terminations f. Perform "shielded" copper IDC terminations 	
g. Perform copper Modular connector terminations h. Perform fiber optic connector terminations	

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	i.	Perform copper splicing (25 pair and above)	
	j.	Perform fiber optic splicing (fusion and mechanical)	
4.	Con	nponent Installation 100	
	a.	Properly mount and install: switches, servers, routers, uninterruptible power sources, wireless access points, wireless routers, and related equipment. figuration and Programming	
5.	Cor	ofiguration and Programming 100)
6	b. c.	Install and/or enter control programs Manage and/or install Managed Hardware Set-up system instructions and/or train end users ting and Troubleshooting 1,000	.1.
* 0	a. b. c. d. e.	Perform and demonstrate knowledge of Copper Cable Testing	니.) - :::: 작()
	f. g.	Perform and demonstrate knowledge of Optical Fiber Troubleshooting	, Si,
7	. Re	trofit Installations chambers and the state of the state	0
	b. c. d. e. f.	Identify active circuits Trace lines by hand and with a tone set Prepare for a "Cutover" Establish a "cut sheet" using old and new documentation Remove old cross connects and run new cross connects to new cabling Demo all unused cable, fasteners and support according to code Dispose of scrap properly Iministration and Documentation	10
			Ϊ,
	a. b. c.	Document as-builds and zone diagrams throughout project Complete daily reports	
	d. e.	the control of the first the control of the control	
	f.	Document and submit test results	
r	h.		

9.	Cli	ient Documentation & Information	500
	a.	Review user documentation manuals and instructions	
	b.	Identify training objectives	
	Ċ.	Confirm users and their requirements	
Ċ.	d.	Develop training and user aides	
	e.	Demonstrate system function and guide user through system	1.00
٨	f.	Ask customers to demonstrate system function	
10.	Ma	aintenance and Repair	200
	a. b.	Perform scheduled preventative maintenance	
11.		Diagnose and repair any problems monstration of Knowledge	200
	a.	Demonstrate knowledge and identify purpose of codes and standards	
	b.	Demonstrate knowledge of network topologies	
		Demonstrate knowledge of network components	
	d.	Demonstrate knowledge of low-voltage systems and certification requirements	
12.	De	monstration of Communication Skills	200
	a.	Effectively and professionally communicate with customers,	
		vendors, co-workers, supervisors, and other trades.	•
TOT	'AL	MINIMUN HOURS REQUIRED 6	,000

Attachment 5- Telecommunication Technician Related Classroom Instruction

Level 1: Minimum of 144 Hours Introduction to the Trade **Wood and Masonry Construction Methods Concrete and Steel Construction Methods Pathways and Spaces Craft-Related Mathematics Hand Bending of Conduit** Introduction to the National Electrical Code® Low-Voltage Cabling **DC Circuits AC Circuits Switching Devices and Timers Semiconductors and Integrated Circuits Level 2: Minimum of 144 Hours Test Equipment Introduction to Electrical Drawings** Introduction to Codes and Standards **Cable Selection Wire and Cable Terminations Power Quality and Grounding Buses and Networks Fiber Optics Wireless Communication** Site Survey, Project Planning, and Doc. **Fundamentals of Crew Leadership**

Level 3: Minimum of 144 Hours

Rack Assembly

System Commissioning and User Training

Maintenance and Repair

Audio Systems

Video Systems

Broadband Systems

Media Management Systems

Telecommunications Systems

Residential and Commercial Building Networks
Intrusion Detection Systems

Fire Alarm Systems

Overview of Nurse Call and Signaling Systems

CCTV Systems

Access Control Systems



ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER SOUTHERN DIVISION

Occupation: Telecommunications Technician
O-NET Code: 49-2022.00 RAPIDS Code: 0618
Time-Based Apprenticeship Program

- √ Similar Program Notice Letters
- ✓ Form 5910 Application for Approval On-the-Job Training & Apprenticeship
- ✓ U.S. Department of Labor Apprenticeable Occupation List ONET Code Confirmation
- ✓ U.S. Department of Labor Guidelines for Competency-based,
 Hybrid and Time-based Apprenticeships
- √ Attachment 3, 4, 5 Checklist
- √ Attachment 3 Program Description
- √ Attachment 4 Work Process Schedule
- ✓ Attachment 5 Related Technical Instruction

		×	

January 10, 2020

Madison Burnett Electrical JATC of Southern Nevada Local 357 620 Leigon Way Las Vegas, NV 89110

Dear Madison,

The State Apprenticeship Council will be considering the approval of an additional occupation for Associated Builders and Contractors Northern and Southern Division Apprenticeship Trust at its meeting on February 13, 2020.

In accordance with NAC 610.355, when the Council considers approving a new apprenticeship occupation by an employer or association of employers, the Council must notify existing program sponsors with similar objectives for similar jobs and give them between 30 and 60 days to comment before final action on the proposed occupation is taken.

It has come to our attention that the occupation under consideration for approval by the Council is Telecommunications Technician. Our records indicate that your organization has a similar occupation.

Attached you will find the standards and accompanying appendices for the proposed occupation. The State Apprenticeship Council will welcome any comments you may have.

Thank you.

Sincerely,

Richard J. Williams

State Apprenticeship Director

January 10, 2020

Alan Darney Electrical Local 401 4635 Longley Avenue, Suite 108 Reno, NV 89502

Dear Alan,

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Thank you.

Sincerely,

Richard J. Williams

State Apprenticeship Director



January 10, 2020

Ryan Bellows Sierra Pacific Power 6100 Neil Road Reno, NV 89511

Dear Ryan,

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Thank you.

Sincerely,

Richard J. Williams

State Apprenticeship Director





STATE OF NEVADA Office of the Labor Commissioner Nevada State Apprenticeship Council

APPLICATION FOR APPROVAL ON THE JOB TRAINING & APPRENTICE

ddress 5070 Arville St. #4		4	CI	ly <u>Las V</u>	agas		State	NV	Telepho	one <u>702,227,0536</u>	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
ontact Person <u>Kara Arenas</u>		Tille_	Vice Pro	esident .	¥.	_Туре of f	rogram	: Cor	struction	Slc Code:	
Type of Action: (Check One) A. □ Wage Increase B. □ Revision of Standards C. 図 New Occupation	A. C B. C C. C D. C	e of Program □ Individual □ Individual □ Group Unl ☑ Group No □ If Union Ba	Union Non Un on n Union	ion	A, I B, I C, I	rney Worke No. of Fem No. of Mino No. JW <u>99</u> No. of Emp	ales <u>2</u> rilles <u>45</u>		Pay Increas	ekly Monthly	ery 1,000 hour
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Occupation		Term (OJT h	ours)	RTI (Classre hours)	oom	# Of Jou workers		# C App Tra	of prentices in lining	Journey worker Hourly Rate	Days per Week
Telecommunication Technicia	n	6,000		433	2	91	9	1	0	\$ 30.00	
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ASSOCIATED BUILDERS AND CONTRACTORS NEVADA CHAPTER SOUTHERN DIVISION

Occupation – Telecommunications Technician O-NET Code: 49-2022.00 RAPIDS Code: 0618 Time-Based Apprenticeship Program

U.S. Department of Labor Apprenticeable Occupation List:

TELECOMMUNICATIONS TECHNICIAN (Alternate Title: Broadband Technician)	0618	49-2022.00	8000	ТВ	
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Link to list: https://www.doleta.gov/oa/occupations.cfm

CIRCULAR 2016-01

U.S. Department of Labor Employment and Training Administration, Office of Apprenticeship Washington, D.C. 20210	Distribution: A-541 Headquarters A-544 All Field Tech A-547 SD+RD+SAA+; Lab.Com	Subject: Guidelines for Competency-based, Hybrid and Time-based Apprenticeship Training Approaches Code: 400.3
Symbols: DSNIP/FDK	Apprenticeship USA	Action: Immediate

PURPOSE: To inform the staff of OA and the State Apprenticeship Agencies (SAA), Registered Apprenticeship program sponsors (Sponsor) and other Registered Apprenticeship partners of the replacement of Circulars 95-05 and 2005-03. The purpose of this Circular is to establish compliance and practical design policy for the time-based, competency-based and hybrid approaches for completion of an apprentice's term of apprenticeship. These policies are intended to facilitate Sponsors' efforts to develop and implement program standards that fully integrate apprentices' on-the-job learning and related instruction into the term of apprenticeship, and to assist with the transition from time-based to hybrid and competency-based training approaches.

BACKGROUND: An apprenticeable occupation must meet the requirements of Title 29 Code of Federal Regulations (CFR) part 29, Section 29.4, Criteria for apprenticeable occupation.

§ 29.4 Criteria for apprenticeable occupations

An apprenticeable occupation is one which is specified by industry and which must:

(a) Involve skills that are customarily learned in a practical way through a structured, systematic program of on-the-job supervised learning;

(b) Be clearly identified and commonly recognized throughout an industry;

(c) Involve the progressive attainment of manual, mechanical or technical skills and knowledge which, in accordance with the industry standard for the occupation, would require the completion of at least 2,000 hours of on-the-job learning to attain; and

(d) Require related instruction to supplement the on-the-job learning.

Section 29.5(b)(2) permits sponsors to select one of three methods for measuring the completion of the "term of apprenticeship."

• "Competency-based approach" [Section 29.5(b)(2)(ii)] provides for the apprentice's progression through apprenticeship through the acquisition of identified and measured competencies.

"Time-based approach" [Section 29.5(b)(2)(i)] provides for skill acquisition through the apprentice's completion of at least 2,000 hours of on-the-job learning as described in the work process schedule.

• "Hybrid approach" [Section 29.5(b)(2)(iii)] provides for the measurement of the apprentice's skill acquisition through a combination of specified minimum hours of on-the-job learning and the successful demonstration of identified and measured competencies.

Per Section 29.5(b)(2)(iv), the program sponsor makes the determination of the appropriate approach, subject to approval by the Registration Agency of the determination as appropriate to the apprenticeable occupation for which the programs standards are registered.

COMPLIANCE AND DESIGN GUIDLINES:

Competency means the attainment of manual, mechanical or technical skills and knowledge, as specified by an occupational standard and demonstrated by an appropriate written and hands-on proficiency measurement.

All training approaches for completion of a term of Registered Apprenticeship have the following characteristics:

- Competencies should be identified and defined through a valid occupational/job task analysis method and directly related to the occupation and the on-the-job learning. Occupations need to be a minimum of 2,000 hours of on-the-job learning, as required by Section 29.4, Criteria for an apprenticeable occupation, and supplemented with the required related technical instruction.
- Time allocations for the workplace activities listed in the work process schedule reflect the training approach utilized.
 - A competency-based approach <u>does not</u> require time/hours to be assigned.
 - A hybrid approach requires a minimum and maximum range of time/hours assigned.
 - o A time-based approach requires the approximate time/hours.
- Measures or tests of competency attainment and demonstrated skills performance are the responsibility of the sponsor and should be observable, repeatable and agreed to in advance.
 - The methods used to measure or test competency attainment will be defined in the standards of apprenticeship.
 - Assessments should directly link workplace performance requirements with the foundational knowledge and skills (competence) of the apprentice.
 - Assessments on-the-job and off-the-job should be carried out on a structured on-going basis, and include course work, practical assessments and theoretical assessments. Written and practical end-testing may also

be utilized.

- The sponsor should consider utilizing in-house or third-party industry experts as assessors and evaluators of the apprentice's accomplishments.
- Related instruction coursework provides apprentices with the technical, workplace, and knowledge competencies that apply to the job.
 - Theory and task knowledge enable the apprentice to understand the work performed on the job. An analysis is conducted to determine if the skills required in the workplace match the theory and course work that is taught.
 - o Related instruction may be front-loaded, segmented, or delivered concurrently with the on-the-job learning. The sequence of related instruction courses should align with the sequence of learning and training required on the job.
 - o A minimum of 144 hours for each year of apprenticeship is recommended.
 - Related Instruction may be delivered in a classroom, through academic, vocational, career and technical education courses, and/or via web-based/online courses of equivalent value as approved by the Registration Agency.

(See Attached Dental Assistant DACUM Job Task Analysis and Competency-based Example)

- Dental Assistant Work Process Schedule Competency-based Approach
- DACUM Research Chart for Dental Assistant

Competency-based Approach:

The competency-based approach measures skill acquisition through the individual apprentice's successful demonstration of acquired skills and knowledge, as verified by the sponsor. Programs utilizing this approach must still require apprentices to complete an on-the-job learning component of Registered Apprenticeship. The program standards must address how on-the-job learning will be integrated into the program, describe competencies, and identify an appropriate means of testing and evaluation for such competencies.

Competency-based approaches have an open entry and exit design, which enables apprentices to accelerate the rate of competency achievement or extend the term of training in order to meet performance-based completion requirements.

Hybrid Training Approach:

Sponsors that choose to utilize a hybrid approach must comply with these guidelines for

the competency-based portion of the apprentice's term of apprenticeship. The hybrid approach specifies a minimum and maximum range of hours of on-the-job learning for each task or job requirement, plus the successful demonstration of acquired skills as described by the task statements listed in the work process schedule.

Under the hybrid approach, the term of the occupation cannot be less than 2,000 hours of on-the-job learning, per Section 29.4 Criteria for apprenticeable occupations. However, once a term of a hybrid occupation has been Approved the range of hours may be adjusted upward or downward by twenty-five (25) percent, but not both ways. For example: a hybrid occupation with a range of 3,000 to 4,000 hours can be increased with a range of 4,000 to 5,000 hours.

A minimum/maximum range of hours would also give the apprentice an opportunity to accelerate the completion of the apprenticeship program with the appropriate test and evaluations provided to the apprentice, by the sponsor.

(See Attached Dental Assistant Hybrid-based Example)

Dental Assistant Work Process Schedule - Hybrid Approach

Time-based Approach:

A time-based occupation requires completion of a minimum of 2,000 hours, which processes in which the apprentice will received supervised work experience and the allocation of approximate amount of time to be spent in each task or job requirement in the work process schedule for that occupation. The term of an approved time-based occupation can be increased or decreased by 25 percent. The term of a time-based occupation cannot be less than 2,000 hours.

(See Attached Dental Assistant Time-based Example)

WORK PROCESS SCHEDULE DENTAL ASSISTANT

Table 1: Training Approach Comparison:

Characteristics	Time-base d	Hybrid	Competency -based
Must be an approved apprenticeable occupation as required in Section 29.4.	1 1 2 2	Yes	Yes
Occupation term requires a minimum of 2,000 hours (one-year) of on-the-job learning.	Yes	Yes	No
An apprentice must be registered in an approved competency-based occupation for twelve (12) calendar	No	No	Yes

months of on-the- job learning.		*	
Work process schedule task statements	Yes	Yes	Yes
are derived from a valid occupation/job	Jane 11 Section	A pala story	
task analysis method (expert workers,		,	
and subject matter experts).	y jijer – jeu fir 💆	committee of the	
Outline of the specific work processes	Yes	No	No
and the approximate time requirement			Harry Cold Asset,
or each individual work process.	Francisco Wa	ede right " is	adagger in til
Outline of the specific work processes	No	Yes	No
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equirement for each individual work		and and the	to pro tradition
process.			9 9 5
Performance measures are developed	N/A	Yes	Yes
rom occupation/job task analysis.	ilm zaskus	per constant	r waard Outle
Time-based assessment for completion	Yes	Yes	No
of workplace competencies.	graniti dalam d	at thought as its	Control of the Stade
Performance assessment of workplace	No	Yes	Yes
skills and task knowledge.		a statement	префию (Пр
Written assessment of theory,	Yes	Yes	Yes
knowledge, and academic			
competencies.	All Bury	r angida di ga	ind and again
The Related Instruction component	Yes	Yes	Yes
must comply with all of the provisions		de en ingrael	2 2 H W 14
of Section 29.5(b)(4).	i mid officers	in a town in b	Miller C. Dage
Related instruction aligns with	Yes	Yes	Yes
technical, workplace and academic		for the second of	r dia da saal
competencies that apply to the job.			Marine Control of the
Maximum allowable credit for prior	Yes	Yes	Yes
work experience is 50 percent of			
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competencies they are proficient in or	= 8		a the sale of
have accomplished to grant them	. The way fitting	Provident Const	a movement
allowable credit for prior work	discharge at the	200 30 30	a supply as
experience.		-	***
Certificate of Completion will be issued	Yes	Yes	Yes
upon satisfactory completion of the			2 2
requirements of the training approach,			1
as described in the approved Standards	21 4	1 1	
of Apprenticeship.			X7
Sponsor maintains record of	Yes	Yes	Yes
work-based training, performance	2 3	<u> </u>	2 0 22
assessments and related instruction.		A TO B	

<u>Certificate of Completion of Apprenticeship - Minimum Requirements:</u>

The Certificate of Completion of Apprenticeship will be issued by the Registration Agency to those registered apprentices certified and documented by the Sponsor as successfully completing the apprentice training requirements for the competency-based, hybrid, or time-based approach, as specified in the Standards of Apprenticeship. The apprentice is also required to have worked under the Program Sponsor as a registered apprentice, in the apprenticeable occupation for a minimum of six (6) months, *exclusive* of any prior experience granted.

The Certificate of Completion of Apprenticeship will be issued by the Registration Agency to those registered apprentices certified and documented by the Sponsor as successfully completing the apprentice training requirements for the hybrid, or time-based approach, as specified in the Standards of Apprenticeship. The apprentice is also required to have worked under the Program Sponsor as a registered apprentice, in the apprenticeable occupation for a minimum of 1,000 hours, *exclusive* of any prior experience granted.

ACTION: This policy is intended to assist OA, SAAs and Sponsors and therefore will be utilized by the OA and SAAs to determine if the use of the competency-based approach is suitable for the specific recognized apprenticeable occupation. These policies are designed to ensure that every apprentice has the opportunity to gain all of the necessary knowledge, skills and abilities no matter which approach to the completion of their term of apprenticeship is preferred by their Sponsor.

The OA and SAA staff should familiarize themselves with this Circular.

If you have any questions, please contact Franchella Kendall at (202) 693-3813.

NOTE: This circular is being sent via electronic mail.

Attachments

CURRICULUM GAP ANALYSIS TOOL



2019 ABC GNJ Standards of Apprenticeship Attachment Checklist Telecommunications Technician, Time-Based

Standards Placement	29 CFR, NRS 610, and NAC 610 Required Provisions
Attachment 3	 Term: A term of apprenticeship of not less than 2,000 hours of work experience, consistent with training requirements as established by practice in the trade. NRS 610.144 3 (b)
	Type of Occupation: The term of apprenticeship, which for an individual apprentice may be measured either through the completion of the industry standard for on-the-job learning (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach). 29 CFR 29.5 (b)
Attachment 4	3) Work Processes: An outline of the processes in which the apprentice will receive supervised experience and training on the job, and the allocation of the approximate time to be spent in each major process. NRS 610.144 3 (c)
Attachment 5	4) Related Instruction: Provisions for organized, related and supplemental instruction in technical subjects (and the costs thereof) related to the trade with a minimum of 144 hours for each year of apprenticeship, given in a classroom or through trade, industrial or correspondence courses of equivalent value or other forms of study approved by the State Apprenticeship Council. NRS 610.144 3 (d); NAC 610.433
5910 Form	5) Wages: A progressively increasing, reasonable and profitable schedule of wages to be paid to the apprentice consistent with the skills acquired, not less than that allowed by federal or state law or regulations or by a collective bargaining agreement. Employers shall pay a beginning wage for apprentices which is at least 35 percent of the rate for journeymen in the same trade, or Minimum and Reasonable and profitable wage for apprentice in construction industry. NRS 610.144 3 (e); NAC 610.480, NAC 610.485
Attachment 3	6) Ratio: A numeric ratio of apprentices to journeymen consistent with proper supervision, training, safety, continuity of employment and applicable provisions in collective bargaining agreements, in language that is specific and clear as to its application in terms of job sites, workforces, departments or plants. NRS 610.1443 (g)
	ALL DOCUMENTS HAVE BEEN CHECKED FOR SPELLING, FORMATTING, GRAMMAR, (INCLUDING TABLE OF CONTENTS), ETC.

Attachment 3 – Telecommunication Technician Program Description

The ABC Nevada Telecommunication Technician Apprenticeship Program provides the fundamental infrastructure for telecommunications, audio/video, life safety and automation systems. The on-the-job (OJT) training component is also designed to meet the growing national expectation for ITS (Information Transport Systems) as an industry standard for in education a professional workforce.

The Telecommunication Technician Apprentices will complete a total of 6,000 On The Job Training hours.

Telecommunication Technician Apprentices will also complete a minimum of 432 hours of Classroom Instruction.

The probationary period for the Telecommunication Technician Apprenticeship Program will be 1,500 on the job training hours.

To provide for a steady supply of trained persons into the construction industry and to reflect employment opportunities, apprentice to journeyperson ratios will be enacted in accordance with the following provisions. One apprentice may be trained for the first journeyperson employed, with a ratio of one apprentice for every two journeyperson's thereafter. The ratio is per job site and not to exceed the employers overall workforce.

Our registered apprentices will graduate our program with the fundamental skills and knowledge needed to operate the following types of Telecommunication tasks.

regions will mounted station forethers according to applicable

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Patients "shielded" temper II team accord

Attachment 4- Telecommunication Technician Work Processes

WORK (On-Ti	APPROXIMATE HOURS		
1. Pr	epare for System Installation	500	
а.	Use Blueprints and Specifications to lay out components		
b.	Perform a site survey		
C.	Secure area – safety cones, barriers, drop cloths, etc.		
d.	Develop overall job plan	ov folimet e.	
e.	Label and tag wire and cable per plans and specs		
f.	Fabrication of sub systems	No. 21	
g.	Inventory and take off of parts, tools and equipment		
h.	NEC, Safety specific, OSHA and local requirements and amendments		
2. Wi	re Buildings	1,000	
a.	Install cable support systems and drill wire path penetrations		
b.	Perform a cable pulling setup		
c.	Properly pull and secure wire through: J-Hooks, Wire/Cable Tray,		
1.0	D-Rings, Slings, and Conduit		
d.	Properly pull and secure fiber optic cable through: Wire/Cable Tray, In Conduit	nnerduct, and	
e.	Pull wire/cable in a multi-story building according to Local Codes		
f.	Install firestop devices according to local codes		
g.	Build Telecommunications Rooms according to plans and specs		
h.	Build equipment racks and install equipment	n laray - y	
i.	Install grounding infrastructure according to local codes		
	m, Termination, and Splicing	1,000	
	Prepare wall mounted station locations according to applicable standards		
b.	Prepare floor mounted station locations according to applicable		
	standards	2	
c.	Prepare modular furniture and pole mount station locations		
	according to applicable standards		
	Perform pre-termination functions and "dress" cable		
	Perform copper IDC terminations		
	Perform "shielded" copper IDC terminations		
	Perform copper Modular connector terminations	e: , , , , , , , , , , , , , , , , , , ,	
	Perform fiber optic connector terminations	· ·	

i. Perform copper splicing (25 pair and above)	
j. Perform fiber optic splicing (fusion and mechanical)	
4. Component Installation	100
a. Properly mount and install: switches, servers, routers,	depart on a list of god elitario
uninterruptible power sources, wireless access points,	ogicio implementativimo desa qui
wireless routers, and related equipment.	ni Bulin de Perdinada ya
5. Configuration and Programming	100
	gogatika adalahir
a. Install and/or enter control programs	pendella a (Sanical y etv.) (S
b. Manage and/or install Managed Hardware	tar diagonal statistics to a constant
c. Set-up system instructions and/or train end users	Real A. P. Hander B. C
6. Testing and Troubleshooting	1,000
a. Perform and demonstrate knowledge of Copper Cable	Testing declarated of briefly about
b. Demonstrate knowledge of and perform Copper Cable	en besing during and den effe
Troubleshooting	an in sphales in attitudame
the state of the s	
\$256 FEMILES AND	ctometer Testing
g. Perform and demonstrate knowledge of Optical Fiber 7	700 700
7. Retrofit Installations	(Annual September 1997)
a. Identify active circuits	
b. Trace lines by hand and with a tone set	
c. Prepare for a "Cutover"	
d. Establish a "cut sheet" using old and new documentati	on
e. Remove old cross connects and run new cross connect	
f. Demo all unused cable, fasteners and support according	
g. Dispose of scrap properly	
8. Administration and Documentation	500
a. Order and inventory materials and supplies	.i.a.t
b. Document as-builds and zone diagrams throughout pro	bject
c. Complete daily reports	
d. Calculate employee performance data	
e. Complete safety logs and inspections	
f. Document and submit test results	
g. Prepare user Operations and Maintenance instruction	S
h. Submit warranty paperwork	

9	. Cl	ient Documentation & Information	500
	a. b. c.	Review user documentation manuals and instructions Identify training objectives Confirm users and their requirements Develop training and user aides Demonstrate system function and guide user through system	300
•	f.	Ask customers to demonstrate system function	
10	. Ma	aintenance and Repair	200
11.	b.	Perform scheduled preventative maintenance Diagnose and repair any problems monstration of Knowledge	200
12.	c، d.	Demonstrate knowledge and identify purpose of codes and standards Demonstrate knowledge of network topologies Demonstrate knowledge of network components Demonstrate knowledge of low-voltage systems and certification requirements monstration of Communication Skills	200
13 T	a.	Effectively and professionally communicate with customers, vendors, co-workers, supervisors, and other trades.	
TO	ΓAL	MINIMUN HOURS REQUIRED	6,000

Attachment 5- Telecommunication Technician Related Classroom Instruction

Level 1: Minimum of 144 Hours Introduction to the Trade **Wood and Masonry Construction Methods Concrete and Steel Construction Methods Pathways and Spaces Craft-Related Mathematics** Hand Bending of Conduit Introduction to the National Electrical Code® Low-Voltage Cabling **DC Circuits AC Circuits Switching Devices and Timers** Semiconductors and Integrated Circuits Level 2: Minimum of 144 Hours **Test Equipment** Introduction to Electrical Drawings Introduction to Codes and Standards **Cable Selection** Wire and Cable Terminations **Power Quality and Grounding Buses and Networks Fiber Optics Wireless Communication** Site Survey, Project Planning, and Doc. **Fundamentals of Crew Leadership**

Level 3: Minimum of 144 Hours
Rack Assembly
System Commissioning and User Training
Maintenance and Repair
Audio Systems
Video Systems
Broadband Systems
Media Management Systems
Telecommunications Systems
Residential and Commercial Building Networks
Intrusion Detection Systems
Fire Alarm Systems
Overview of Nurse Call and Signaling Systems
CCTV Systems
Access Control Systems