

BULLETIN 98 -02**Date: January 9, 1998**

U.S. Department of Labor Employment and Training Administration Office of Apprenticeship Training, Employer and Labor Services, (OATELS) Washington, D.C. 20210	<u>Distribution:</u> A-539 Headquarters A-544 All Field Tech A-547 SD+RD+SAC+ Lab. Com	<u>Subject:</u> New Apprenticeable Occupation FENCE ERECTOR <u>Code</u> :200
Symbols: DNIP:PHI	VIA GROUPWISE	Action: Immediate

PURPOSE: To inform Office of Apprenticeship Training, Employer and Labor Services, (OATELS), Bureau of Apprenticeship and Training BAT staff of a new apprenticeable occupation:

Fence Erector
Code: 47-4031.00
AIMS Symbol: 0711
Training Term: 3 years (6000 hours)
Type of Training: Time – based

BACKGROUND: This occupation was submitted by ATR Colleen P. Henry, on behalf of the Architectural and Ornamental Iron Workers, Union Local #63, Broadview, IL. The description for this occupation exceeds the description in the *Dictionary of Occupational Titles (DOT)*. This job is concerned with installing chain-link, wrought iron, snow and security fences at prisons and airports. Erects highway guard rails, playground equipment, guard cables, drum barriers, gates and automatic operators for gates.

A suggested work process schedule and outline of related instruction are attached for your information.

Attachment

NOTE: State Directors, please share this information with our SAC partners where appropriate.

**WORK PROCESS SCHEDULE
FENCE ERECTOR**

O*NET CODE: 47-4031.00 AIMS CODE: 0711

TERM: 3 Years (6000 Hours)

COMPETENCIES LIST: (Functions in which apprentices must demonstrate proficiency)

1. Surveying
2. Blue Print Reading and Layout
3. Guard Rail Installation specifications
4. Use of Hand and power Tools
5. Use of Cranes and Lifting Equipment
6. Welding
7. Fence Erection

OCCUPATIONAL DESCRIPTION:

1. Installs chain-link, and wrought iron fences.
2. Erects security fences at prison installations and airports, including barbed wire and razor wire.
3. Erects highway guard rails, snow fences, guard cables, drum barriers,
4. Installs playground equipment, gates and automatic operators for gates.

ON-THE-JOB TRAINING

APPROXIMATE HOURS

I.	NOMENCLATURE	25 Hours
	1. Fittings	
	2. Types of ties and hog rings	
	3. Barbed wire	
	4. Tension wire	
	5. Types of pipe, posts, top-rail	
II.	INSTALLATION TECHNIQUESSTRETCHING WIRE ARRANGEMENT OF FITTING	2225 Hours
	1. Top Rail	
	2. Braces and Trusses	
	3. Tension wire	
	4. Laying out, spinning out wire	
	5. Wire splicing	
	6. Wire stretching	
	▪ Long Stretch	
	▪ Short Stretch	
	▪ Bias	
	▪ Upper tiers	
	▪ Racking wire	
	7. Barbed wire	
	8. Barbed tape	

III.	SETTING POSTS	2225 Hours
	<ol style="list-style-type: none"> 1. Blue print reading 2. Staking out to dig post 3. Setting up string lines 4. Marking holes to line 5. Adjusting for various hole sizes 6. Hole depth and diameter 7. Post spacing 8. Post heights: ends, terminals, line posts, etc. 9. Type of concrete: different mixes, "slump" etc. 10. Using concrete truck 11. Filling bollards with cement 12. Capping post 13. Setting post to string line 14. Sighting in posts 15. Government or IDOT specs for fittings, ties, (spacing) 16. Hole size and depth and concrete specs 	
IV.	GATES	330 Hours
	<ol style="list-style-type: none"> 1. Swing gates posts and installation 2. Cantilever gates posts and installation 3. Overhead rolling gates 4. Post setting 5. Hanging beam/track 6. Hanging gates 7. Rolling away gates 	
V.	OPERATORS AND DETECTOR LOOPS FOR GATES	330 Hours
	<ol style="list-style-type: none"> 1. Concrete pad or post type installation for operators 2. Mounted to gate type operators 3. Attaching operators to gates 4. Layout and cutting out of detector loops 5. Installing wires and epoxy 6. Key-pads, cameras, swing areas, etc. 	
VI.	GUARD RAIL	12 Hours
	<ol style="list-style-type: none"> 1. Nomenclature of guard rail <ul style="list-style-type: none"> ▪ Types of rail ▪ Plate types ▪ Nuts and bolts ▪ Various parts ▪ Ends, cables 	
	<ol style="list-style-type: none"> 2. Layout <ul style="list-style-type: none"> ▪ Setting up string lines ▪ Post spacing ▪ Post heights ▪ Terminal and bridge connections ▪ Hanging and bolting guard rails ▪ Using pounders 	330 Hours

VII.	EQUIPMENT	60 Hours	
	1.	Types of diggers	
		<ul style="list-style-type: none"> ▪ Two man auger ▪ Handy digger and bar ▪ Digging through bar ▪ Frost cutting bits ▪ Digging through asphalt ▪ Concrete ▪ Rough ground 	
	2.	Breakers and corers	30 Hours
		<ul style="list-style-type: none"> ▪ Jack-hammer ▪ Rock drill ▪ Core drill ▪ Wet core drill ▪ Removing core ▪ Hammer drills ▪ Using anchors ▪ Epoxy ▪ Leveling flange posts 	
	3.	Pounders	25 Hours
	4.	Booms and Cranes	25 Hours
		<ul style="list-style-type: none"> ▪ Lifting loads ▪ Hand signals ▪ Safety 	
VIII.	WELDING		110 Hours
	1.	Acetylene	
	2.	Electric Arc	
	3.	Cutting and burning	
	4.	Safety	
IX.	SECURITY FENCE ERECTION		80 Hours
	1.	Rail line installation	
		<ul style="list-style-type: none"> ▪ High voltage ▪ Signaling ▪ Federal, State and Local laws (i.e. DOT) 	
	2.	Prison installation	100 Hours
		<ul style="list-style-type: none"> ▪ Federal, State and Local laws ▪ Barbed wire installation ▪ razor wire installation 	
	3.	Airport installation	30 Hours
		<ul style="list-style-type: none"> ▪ Federal, State and Local laws (i.e. FAA) 	

4. Highway installation 63 Hours
- Federal, State and Local laws (i.e. DOT)
 - Snow fence
 - Overpass

RELATED INSTRUCTION: 144 HOURS PER YEAR RECOMMENDED

SUBJECT	HOURS
Safety	21
OSHA	10
Hazmat	40
Blue Print Reading	40
Math	26
Layout & Alignment	40
Survey	32
Welding	42
Correct installation	9
Cutting	20
Chain link	65
Overhead slide gate systems	6
Cantilever gates	9
Highway guard rail	9
Barb wire	3
Power operator for gate system	6
Hand tools (use and care)	3
Small gasoline engines	3
Wrought iron	12
Scaffolding	6
Crane signals	6
Knots	9
Rigging	9
Open Review	6