

**NECA**  **IBEW**  
ALASKA CHAPTER LOCAL 1547  
**APPRENTICESHIP**



# What we do

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## Apprenticeships:

- Wireman (8,000 OJT Hours)
- Telecommunications (8,000 OJT Hours)
- Power Lineman (8,000 OJT Hours)
- Tree Trimmer (4,000 OJT Hours)

Two training facilities: Anchorage and Fairbanks

325 apprentices statewide

Alternating paid on-the-job training with classroom experience

43 currently in rural communities

# Training Standards

## FIRST YEAR - 180 CORE HOURS MIN.

APPLICATIONS  
CODE AND PRACTICES 1  
CONDUIT FABRICATION 1  
DC THEORY 1  
INDUSTRY ORIENTATION 1  
JOB INFORMATION 1  
TEST INSTRUMENTS 1  
RIGGING  
OSHA/SAFETY AWARENESS

## SECOND YEAR - 180 CORE HOURS MIN.

AC THEORY 1  
APPLICATIONS  
BLUEPRINTS 1  
CODE AND PRACTICES 2  
CODE CALCULATIONS 1  
CODEOLOGY  
INDUSTRY ORIENTATION 2  
SAFETY RELATED WORK PRACTICES 1  
TRANSFORMERS 1  
TEST INSTRUMENTS 2

## THIRD YEAR - 138 CORE HOURS MIN.

AC THEORY 2  
BLUEPRINTS 2  
CODE AND PRACTICES 3  
FIRE ALARM 1  
GROUNDING AND BONDING 1  
SAFETY RELATED WORK PRACTICES 2  
TORQUING 1  
TRANSFORMERS 2  
MIN. 42 HOURS OF ADVANCED COURSES

## FOURTH YEAR - 98 CORE HOURS MIN.

BLUEPRINTS 3  
CODE AND PRACTICES 4  
CODE CALCULATIONS 2  
GROUNDING AND BONDING 2  
MOTOR CONTROL 1  
MOTORS 1  
MIN. 82 HOURS OF ADVANCED COURSES

## FIFTH YEAR - 98 CORE HOURS MIN.

CODE AND PRACTICES 5  
CODE CALCULATIONS 3  
INDUSTRY ORIENTATION 3  
MOTOR CONTROL 2  
MIN. 82 HOURS OF ADVANCED COURSES

## ADVANCED COURSES

AC THEORY 3	NURSE CALL SYSTEMS 1	FIBER OPTICS 1
DC THEORY 2	PAGING SYSTEMS 1	HAZARDOUS LOCATIONS 1
TEST INSTRUMENTS 3	POWER QUALITY 1	HEALTH CARE SYSTEMS 1
FIRE ALARM 2	SECURITY SYSTEMS 1	LIGHTING ESSENTIALS
MOTOR CONTROL 3	SOUND REINFORCEMENT SYSTEMS 1	LIGHTNING PROTECTION
PROGRAMMABLE CONTROLLERS 1	UNDERSTANDING RF SYSTEMS 1	STRUCTURED CABLING 1
PROGRAMMABLE CONTROLLERS 2	MOTORS 2	DIGITAL ELECTRONICS 1
PHOTOVOLTAICS 1	BUILDING AUTOMATION 1	DIGITAL ELECTRONICS 2
PHOTOVOLTAICS 2	BUILDING AUTOMATION 2	SEMICONDUCTORS 1
CCTV 1	INSTRUMENTATION 1	SEMICONDUCTORS 2
LOCAL AREA NETWORKS	INSTRUMENTATION 2	TELEPHONY 1

## SECTION XVI - Work Experience

A. In order to provide for the development of the necessary occupational skills in the various work processes, the AJEATT shall make every effort to provide the **Inside Wireman** apprentice with OJT in the following categories, as job training assignments permit.

### INSIDE JOURNEYWORKER WIREMAN

(Existing Title: Electrician)

O\*NET SOC Code: 47-2111.00

RAPIDS Code: 0159

Work Process	Approx. Hours OJT
Project Layout & Planning	200
Reading and interpreting blueprint and specifications	
Coordination between crafts, engineers and architects	
Layout feeders, risers and branch circuits	
Underground Installations	300
Trenching and ditch digging	
Direct Burial	
Installing PVC/Rigid Conduit	
Installing grounding electrode systems	
Thin wall Conduit Raceway Systems	1200
Fastening and supporting devices	
Conduit fabrication	
Installation of conduit, fittings and boxes	
Rigid Conduit Raceways Systems	800
Fastening and supporting devices	
Bender setup	
Conduit fabrication	
Installation of conduit, fittings and boxes	
Installing Services, Switchboards and Panels	500
Mounting devices	
Breaker installation	
Terminations	
Floor Duct Installation	200
Transit/Grade establishment	
Installing duct and fillings	
Core drilling and outlet installation	
Motor Control Center Installation	100
Rigging and mounting	
Terminating feeders, branch circuits and control wiring	
Installing and Terminating Transformers	100
Rigging and mounting	

## Work Process

## Approx. Hours OJT

### Installing, Splicing & Terminating Wires & Cables

Establishing temporary power  
Feeders and branch circuits  
Control wiring  
Splices, taps and terminations

### Cable Tray Installation

Fabrication  
Installing Support devices  
Installing cable tray covers

### Lighting System Installation

Installing outlet boxes and conductors  
Installing fixtures  
Control devices  
Street Lighting  
Traffic Signals

### Testing and Troubleshooting

Feeders, Motors, and Branch Circuits  
Checking circuit continuity  
Identifying fault current to ground  
Meggering and Hi Potting  
Certifying system operation  
Repair and maintenance  
Ground Verification

### Fire Alarm Installation

Blueprint and specification interpretation  
Layout and circuit installation  
Control panel and device installation  
Programming and testing

### Motor Installation

Rigging and setting  
Alignment  
Circuiting and Terminations  
Testing

### Control System Installation

Blueprint and specification interpretation  
Layout and circuit installation  
Distributed control

### Installing and Programming

#### Programmable Logic Controllers

Module Installation  
Control wiring and devices  
Programming

1200

150

1000

100

250

400

200

100

Work Process	Approx. Hours OJT
<b>Installing Instrumentation and Process Control Systems</b>	250
Blueprint and specification interpretation	
Layout and installation	
Calibration	
<b>Security System Installment</b>	100
Blueprint and specification interpretation	
Layout	
Box and circuit installation	
Terminations	
Testing	
<b>Installing Sound and Communication Systems</b>	150
Blueprint and specification interpretation	
Layout	
Conduit and box installation	
Installing panels and network devices	
Circuit installation	
Terminations and testing	
<b>Installing Fiber Optic Cable</b>	100
Equipment layout	
Installing cable	
Polishing and terminating	
Testing and verifying	
<b>Alternative Energy Sources</b>	100
Blueprint and specification interpretation	
Layout and installation	
Testing, verifying and troubleshooting	
<b>Welding and Brazing</b>	50
Machine setup	
Fabrication	
Welding, grinding and finishing	
<b>Service and Troubleshooting</b>	150
Testing, analysis and repair of: motors, transformers, electrical devices, electronic devices, magnetic devices, lighting and power circuits, equipment and machinery, control circuits and devices.	
<b>Material Handling and Pre-Fabrication</b>	100
Material/equipment awareness	
Fabricating for field installation	
<b>Safety Awareness &amp; Other Specialized Areas</b>	200
<b>TOTAL MINIMUM HOURS OF OJT</b>	8,000

# Certificates of Fitness - AS 18.62

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- “Plumbing and Electrical Licenses”
- Public safety statutes
- Exist because improper plumbing and electrical work causes injury/death
- Ensures that workers are competent and qualified
- Works alongside Electrical and Mechanical Administrators’ statutes and state/local inspections to protect public safety

## Why it matters

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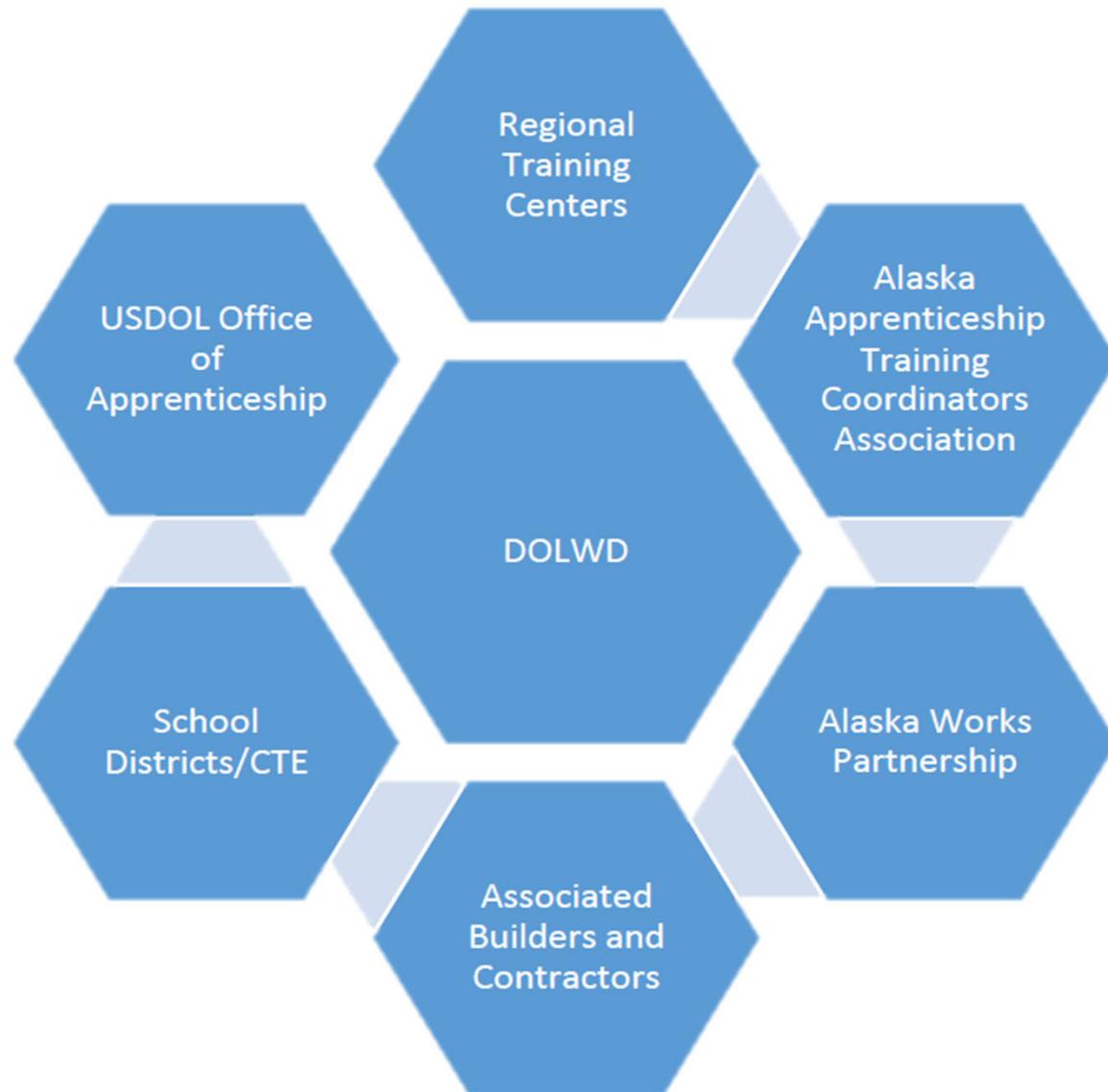
Home electrical fires account for an estimated 51,000 fires each year, nearly than 500 deaths, more than 1,400 injuries, and \$1.3 billion in property damage.

Each year, more than 400 Americans die from unintentional CO poisoning not linked to fires, more than 20,000 visit the emergency room, and more than 4,000 are hospitalized.

# Why the department's proposal matters

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- The proposal results in *no* training standard - period
- This proposal will allow 2 low-wage trainees to each journey-level worker
  - Registered apprenticeships are allowed a maximum of 1 apprentice to each journey-level worker
- The proposal would allow cheap out of state labor used in place of Alaskans



# Lack of Engagement

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- Department proposed to allow 10 student trainees to each journey-level worker “on the job site”
- Department proposed to eliminate testing for linemen and plumber PU licenses
  - Department statements: “individual would be required to pass the same extensive four-hour exam in order to obtain a journeyman certificate of fitness license.”

- Apprenticeship requirement began in 2003, not 2006
- Department uses 3 electrical industry fatalities to justify its position that safety will not be affected
- Department states there were no electrical industry fatalities in 10 years prior to 2006

<b>Inspection Information - Office: Alaska</b>		
Nr: 301266607	Report ID: 1050210	Open Date: 05/06/1999
Whitewater Engineering/Alaska Power Telephone/J V 628 Mission Wrangell, AK 99929		Union Status: NonUnion
SIC: 1623/Water, Sewer, Pipeline, and Communications and Power Line Construction		
Mailing: P.O. Box 820, Wrangell, AK 99929		

- Apprenticeship requirement began in 2003, not 2006
- Department uses 3 electrical industry fatalities to justify its position that safety will not be affected
- Department states there were no electrical industry fatalities in 10 years prior to 2006

**Accident: 201680402 - Electric Shock - Direct Contact With Energized Parts**

**Accident: 201680402 -- Report ID: 1050210 -- Event Date: 05/10/2000**

<b>Inspection</b>	<b>Open Date</b>	<b>SIC</b>	<b>Establishment Name</b>
301271342	05/11/2000	1731	Redi Electric Incorporate

- Apprenticeship requirement began in 2003, not 2006
- Department uses 3 electrical industry fatalities to justify its position that safety will not be affected
- Department states there were no electrical industry fatalities in 10 years prior to 2006

## **Alaska FACE: Fatality Assessment and Control Evaluation**

**Apprentice lineman killed when caught in trencher**

**FACE 98-AK-023**

**Release Date: January 11, 1999**

would put me and my coworkers in harms way **A DEFINITE HAZARD TO THE PUBLIC AT LARGE**

**HIGHLY RECOMMEND STATE WITHDRAW** Please reconsider this change

**DO NOT IMPOSE THESE CHARGES**  
**THIS ISN'T A PROPER DIRECTION FOR THE STATE OF ALASKA** I **STRONGLY DISAGREE WITH THE NEW PROPOSED CHANGES**

**WILL PUT ME AND MY CO-WORKERS IN HARM'S WAY**  
**ALL OF THESE PROPOSED CHARGES WILL BE ABUSED**

THE ALASKA DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT WILL NOT ADOPT THESE CHARGES

**this is a Huge public health and safety issue** I **OPPOSE THE PROPOSED CHANGE TO APPRENTICESHIP STANDARDS**  
**would be harmful for not only the public but also the workers**

**THESE CHARGES ARE UNACCEPTABLE**  
**DO NOT IMPOSE THESE CHARGES**  
**THIS IS A PROPER DIRECTION FOR THE STATE OF ALASKA** I **STRONGLY DISAGREE WITH THE NEW PROPOSED CHANGES**

**WILL LEAD TO AN UNSKILLED AND UNSAFE WORKFORCE**  
**ENDANGERS LIVES OF WORKERS AND THE PUBLIC**

**THIS IS A DANGEROUS MOVE THAT WILL IMPACT ALL WORKERS IN THE SKILLED TRADES**

**ALLOWING SOMEONE WHO IS NOT TESTED TO ENTER INTO THIS WORKFORCE TO ME ASKING**

**WILL BE DEDIMENTIAL TO A WELL**

**I STRONGLY OPPOSE THIS DANGEROUS AND JOB KILL LAW**

**THIS JUST A BAD IDEA**

**THIS PROPOSAL IS A SERIOUS MISTAKE**

**THESE CHARGES ARE UNACCEPTABLE**

THEY DON'T ACTUALLY CHALLENGE TO PROPOSED CHANGES TO APPRENTICESHIP STANDARDS

**TRAINED ALASKAN WORKFORCE**

**THIS IS A DANGEROUS MOVE THAT WILL IMPACT ALL WORKERS IN THE SKILLED TRADES**

**WILL BE DEDIMENTIAL TO A WELL**

**I STRONGLY OPPOSE THIS DANGEROUS AND JOB KILL LAW**

**THIS JUST A BAD IDEA**

**THIS PROPOSAL IS A SERIOUS MISTAKE**

**THIS JUST A BAD IDEA**

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# Heavy Equipment operation

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Alaska Statute 18.60.660:

(3) “electrical wiring” means the entire electrical system, including all conducting and shielding material, all regulatory and safety apparatus, and all **devices and techniques** used in the process of installation

# Heavy Equipment operation

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Department's proposed definition:

(10) “electrical wiring” does not include operating tree trimming equipment to trim brush or remove trees around electrical lines or operating a helicopter or heavy power equipment, such as cranes, loaders, excavators, piledriving equipment, and other construction heavy equipment used in connection with electrical code work;

# 1984 AG Opinion

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“A certificate of fitness is required wherever and whenever electrical work is done”

“A certificate of fitness is required when electrical wiring, as defined by AS 18.60.660, is performed subject to the standards of the NESC”





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