The electrical training ALLIANCE’s Core Curriculum and Hybrid Programs

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electrical training ALLIANCE

In 1941

Charged with:

- Developing National Apprenticeship Training Standards
- Developing a Standardized National Curriculum

From the beginning until 2011 there was 1 Nationally Recognized Curriculum.
Completion of that Curriculum, along with 8,000 Hours of OJT was the standard requirement for becoming an Inside Journeyman Wireman.

Too Much Training

- A the electrical construction industry advanced, training requirements increased
- New Courses were required to keep up with changes and new technologies
  - Programmable Logic Controllers
  - Building Automation
  - Solar Photovoltaics
  - Advanced (Solid-State) Motor Controls
  - New Distributed Energy Technologies
  - Advanced Wiring and Energy Distribution Systems
The Emergence of Core Curriculum

Â After many discussions with industry leaders, we realized

ï The apprenticeship syllabus was overloaded
ï It was impossible to teach apprentices everything, as a result, apprentices were receiving introductory and not complete courses

Â But most important

ï Not all jurisdictions (and NECA Contractors) needed JWs with ALL of the advanced technology training

Core Curriculum Development

Â It was determined that the NECA-IBEW Apprenticeship Curriculum needed revision
Â A Core Curriculum Committee was recruited

ï NECA Chapter Managers
ï NECA Contractors
ï IBEW Business Managers
ï NECA-IBEW Training Directors
ï NJATC Training Partners
ï NTI Professional Educators
ï NJATC Staff
ï NECA National and IBEW IO Representatives
Core Curriculum Development

Â The Committee determined that every apprentice needed:
- Basic courses to allow them to work anywhere in the electrical construction industry
- Additional advanced courses which focused on work being done in their own jurisdictions to help contractors be more competitive

Â The new model would be similar to a college model where everyone completes basic and also completes required major courses.

Core Curriculum Development

Â The Committee analyzed the current courses available in the program for both apprentices and journeymen wiremen
Â After several meetings and much research, courses were identified which were essential to everyone working in the electrical construction industry
Â These new courses were called CORE Courses
Core Curriculum Development

The Committee also determined that the Core Courses only provided the basic knowledge necessary to work in the industry. Additional training would be required from what would be called "Advanced Courses." Advanced Courses would prepare an apprentice to work as a journeyman in the types of work predominant in his/her home area.

Core Curriculum Development

All apprentices would be required to complete all CORE Courses. All apprentices would be required to complete some number of ADVANCED Courses. ADVANCED Courses would be selected by the apprentices' JATC. ADVANCED Courses could lead to certifications and credentialing.
Core Courses

CORE Courses were included in every year of apprenticeship

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Core Courses - Applications

- Realizing the much training for apprentices included informal training on-the-job a new type of lessons was created
- These lessons were called "APPLICATIONS" and were hands-on exercises
- Each Application would take about 2 hours to complete and would be completed in a lab-type environment
- Applications would be used in the 1st and 2nd Years of apprenticeship
Core Courses - Applications

Â Each apprentice must complete a minimum of eight applications
Â All Applications are selected by the Local JATC
Â There are currently 25 applications available to JATCs
Â Applications include the following (more are under development)

1. Splicing Conductors
2. Installing a Duplex Receptacle
3. Installing a Single Pole Switch
4. Installing a Switched Duplex Receptacle
5. Proper Device Installation Techniques - GFCI Rough-In
6. Using Anchors to Install a Metal Enclosure
7. Installing a Retrofit Old Work Electrical Box
8. Using a Hacksaw
9. Lifting and Carrying Conduit
10. Erecting an Extension Ladder
11. Hand Bending a 90-Degree Stub-up
12. Hand Bending a Box Offset
13. Cutting a Hole in a Metal Enclosure for an EMT Connector
14. Installing a Raceway Support System (Trapeze)
15. Threading Conduit (Tapered Thread)
16. Installing Flexible Metallic Conduit
17. Installing Armor Clad and Metal Clad Cables
18. Installing a Luminaire (Recessed Can Fixture)
19. Installing a Luminaire (2-foot x 4-foot Fluorescent)
20. Wire Pulling Techniques
21. Terminating a Category 5e or 6/6A Work Area Outlet
22. Labeling and Marking
23. Trimming Out an Electrical Panel
24. Exothermic Welding of Copper Conductors
25. Connecting a Dual-Voltage - Wye-Wound Motor
Advanced Courses

- Any course which was not a CORE Course became an ADVANCED Course
- Each apprentice would be required to complete some number of Advanced Courses
- In order to determine how many Advanced Courses, a Credit Process was created
- The credit process is unique to our courses

Core Curriculum Credits

- 32 Core Courses include 88 Course Credits
- 8 Applications include 2 Course Credits
- All Advanced Courses must total 40+ Course Credits
- Each Apprentice must earn a minimum of 130 Credits
**Core Curriculum (130+ Credits)**

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**Core Curriculum**

- Just like Applications, **all Advanced Courses are selected by the Local JATC**
- There are many more Advanced Courses than are required or which can be completed by each apprentice
- This is partially true because the Core Curriculum process has allowed the development of many additional advanced courses which could not be covered in the previous apprenticeship model

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For Reference of NECA San Francisco Attendees Only
Core Curriculum - Tracks

Å The introduction of Core Curriculum gave Local JATCs responsibilities which they previously did not have
   1. Selecting Applications for 1st and 2nd Year
   2. Selecting Advanced Courses for 3rd thru 5th Year

Å To aid JATCs the NJATC developed recommended groups of courses which worked well together to teach specific topics

Core Curriculum - Tracks

Å Traditional Track
   1. Included all of the courses in the original curriculum

Å Commercial Track
   1. Included courses which work well in Commercial construction

Å Industrial Track
   1. Included courses which work well in Industrial construction

Å Distributed Generation Track
   1. Included courses which work for solar, wind, and other distributed generation markets

Å Health Care Track
   1. Included courses which work in the health-care industry
Core Curriculum

The Core Curriculum are Tracks are not fixed, but merely provide suggestions to JATC Committees to select courses which they will teach.

The Local JATC
- Fixed number of NECA Contractors
- Equal number of IBEW Representatives

Makes the final decision about what courses will be offered to apprentices in the Local JATC.

Core Curriculum

Allows Local JATCs (Contractors and Union Representatives) to determine what work is being completed in the area.

The JATC Committee can then decide what courses will meet the needs in the Local Jurisdiction.

The Core Curriculum Credit and Prerequisite Charts allow the JATC to teach courses when apprentices are ready, and to achieve the required number of course credits.
Core Curriculum

Hybrid Apprenticeship

- What is it?
- What is it used for?
- Who can use it?
- How can a JATC take advantage of the Hybrid Apprenticeship Program?
Hybrid Apprenticeship

Many states have laws or regulations which state that only two types of workers can work on Davis-Bacon type projects:
- Registered Apprentices
- Licensed Journeymen

OK, so what about CW/CE workers?
- CWs or Construction Wiremen are organized workers who have less than 8,000 hours experience
- CEAs or Construction Electricians are organized workers with more than 8,000 hours experience

CWs cannot work in these states
CEs can work if they have an electrical license
Hybrid Apprenticeship

Prior to 2008 the D.O.L. limited apprenticeship programs to "time based" programs:
- Electrical 900 Hours of face-to-face classroom
- Electrical 8,000 Hours of OJT

In 2008 the regulations were changed to allow:
- Time Based Programs
- Competency Based Programs
- Hybrid (Both Time and Competency) Programs

Since apprenticeship is regulated by the D.O.L., it was necessary to include a new method of completing electrical apprenticeship in the NECA/IBEW Guideline Standards. Once these were completed, each JATC must refile their Standards with the Department of Labor or State Apprenticeship Council to utilize the process.
Hybrid Apprenticeship

Â The new Standards allow:

ï Traditional (Time-Based) Apprenticeship for those apprentices registered in the traditional apprenticeship program

ï A new Hybrid (Competency and Time Based) Apprenticeship program for CWs (organized workers with less than 8,000 OJT).

Â At the time the Standards are registered the JATC must select "Hybrid" to use the Hybrid program for CWs

Hybrid Apprenticeship

Â As a "Hybrid Apprentice"

ï CWs are registered apprentices and may work on all projects, including Davis-Bacon

ï Hybrid apprentices must complete a total of 8,000 hours of OJT

ï Hybrid apprentices must demonstrate competency in 8 of 14 areas of construction by:
  ▪ Completing a minimum number of hours of OJT in that area
  ▪ Successfully passing a competency performance evaluation in that area

ï Hybrid apprentices who do not pass the competency performance evaluation must attend training to become proficient in the identified task
Hybrid Apprenticeship - Tasks

- There are 14 Hybrid Tasks:
  - Tools and Materials
  - Wiring Methods
  - Conduit Fabrication
  - Wiring Devices
  - National Electrical Code
  - OSHA Safety
  - Electrical Safety and PPE
  - Blueprint Reading
  - Transformer Applications
  - Motors and Motor Control
  - Electrical Grounding
  - Low Voltage Systems
  - Test Instruments
  - Fire Alarm

Hybrid Apprenticeship

- Hybrid apprentices (CWs) are registered through the JATC’s apprenticeship registration agency
- The JATC must dispatch CWs for OJT
- The JATC must approve and evaluate the CW
- CWs are paid a lower wage than equivalent level registered apprentices
- When a Hybrid Apprentice graduates from the apprenticeship program, they become a CE, at 80% of JW wages, and must complete the LU& approved CE advancement program
Hybrid Apprenticeship

Both Core Curriculum deliver training which can help a contractor employ apprentices who are productive on the job

All JATCs are currently using all five year of Core Curriculum

JATCs must select Hybrid in their Standards to be able to deliver Hybrid Apprenticeship to organized CWs as registered apprentices
For Reference of NECA San Francisco
Attendees Only

Questions?
For more information, please contact:
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Don’t forget:
10:15 - 11:30 am Special Session: Life on the Rock
11:30 am - 4:00 pm NECA Show Hours