

BUILDING OFFICIALS ASSOCIATION OF FLORIDA
CROSS TRAINING PROGRAM
SYLLABUS

PROGRAM NAME: Electrical Plans Examiner Training Program
COURSE NUMBER: 5007984

PROVIDER: #0001001
Building Officials Association of Florida, Inc.
528 West Lake Mary Boulevard
Sanford, Florida 32773

PROGRAM TIMETABLE:

| | |
|--|------------------|
| Section 1 Coursework - (Online self-paced, instructor monitored) | 18 Hours |
| Section 2 Coursework - (Online self-paced, instructor monitored) | 28 Hours |
| OJT (ride along with qualified field inspector) | <u>154 Hours</u> |
| Total Program Hours | 200 Hours |

Note: See expanded timeline in the course outline section

ACHIEVEMENT BENCHMARKS:

Section 1 (18 Hours) self-paced study is presented in a series of modules designed to familiarize the student with terms, definitions, and organization of the code volume being studied. Associated laws and rules and ethics may also be studied in this phase. This phase of the program includes online courses that lead the student through the code volume and may include relevant video clips. Research assignments must be completed and submitted for review by the program instructor. Participation in this phase is recorded in our online campus software database. The instructor is available during this phase via messaging or telephone to answer any questions that the student may have. Traditional classroom hours may be substituted for some or all online hours on a one-for-one basis upon approval of the instructor.

Section 2 (28 Hours) studies are presented as a series of subject matter modules using a traditional classroom multi-media instruction method. Each module presented will include a review of the relevant code provisions and provide explanations of the principles and concepts behind the code. Students must complete all of the modules in this phase of the program, as evidenced by an attendance sheet maintained by the instructor. Participation in this phase may be by in-person attendance or distance attendance using our online virtual classroom.

OJT (154 - Hours) studies will be accomplished by the student working alongside a qualified plans examiner reviewing plans. It will be the instructors' responsibility to explain each plan review to the student, sharing plan review techniques as well as mandatory code compliance plan review requirements. A log of inspections completed each day shall be kept by the student on a form provided by BOAF. Each form shall include the date of the training, number of hours spent working alongside the plans examiner, and the subject matter reviewed. A list of code topics to be include in this phase shall be provided. At least seventy five percent of the topics on the list must be included in the OJT phase. Each daily log must be completed and signed by the student and the OJT instructor.

INSTRUCTOR QUALIFICATIONS:

Classroom and OJT instructors shall meet the following qualifications:

1. A plans examiner or inspector may teach a course within the scope of his/her license.
2. A four-year college degree or graduate degree in their area of study.
3. A state certified contractor with at least five (5) years of experience in their technical area of licensure.
4. A substantially qualified authority may teach courses within his/her area of expertise.

Potential instructors must submit a resume containing a summary of their qualifications and Florida certification numbers issued by a state agency.

PURPOSE:

This program is offered by Building Officials Association of Florida (BOAF) as an alternative eligibility path to certification in an additional category for participants that qualify per **61G19-7.001(1)** through a comprehensive training program designed to familiarize the student with the provisions of the Florida Building Code relevant to this category, associated laws and rules, inspection techniques and ethical conduct.

PROGRAM PARTICIPANTS:

Participants in this program must meet the requirements of 61G19-7.001(1)

PARTICIPANT EVALUATION:

Participants shall be evaluated throughout the program as follows:

1. Assignment submittals will be evaluated by the instructor for completeness, effort and accuracy.
2. Quizzes will be administered periodically during the online and classroom phases of the program.
3. Instructors shall complete an evaluation of the students participation in the classroom or OJT phases of the program.

PROGRAM REQUIREMENTS:

The program has two distinct components:

1. 46 Hours of structured instruction in a Blended Learning Program that includes Monitored Online Training, Research Assignments, and Instructor Led Classroom Training
2. 154 Hours of structured "On-the-Job" training

Reference materials shall include:

1. FBC-Electrical (2011 NEC)
2. FBC-Residential Volume
3. FBC-Existing Building Volume
4. FBC-Accessibility Code Volume
5. FBC-Energy Code Volume
6. Florida Laws and Rules (112, 469, 471, 481, 489, 553, 713)

DOCUMENTATION

The following documents are required to be submitted to BOAF upon completion of training:

1. Application for Admission to the Program (Submitted by the student prior to beginning training)
2. Classroom Instructor Qualification Forms (Completed by BOAF)
3. OJT Instructor Qualifications Forms (Submitted by the student with the application for potential OJT instructors)
4. Instructors Evaluation and Certification (Completed and submitted by the student's satisfactory completion of requirements)
5. OJT Daily Inspection Log (Completed for each day of training during the OJT Phase)
6. Student's Affidavit of Program Completion (Submitted with OJT documents when all training is complete)
7. Post Application

PROGRAM COMPLETION CERTIFICATE:

A Program Completion Certificate will be issued to the participant by BOAF upon determination that all of the training requirements have been met and documented.

PROGRAM OVERSIGHT

Administration of this program is the responsibility of BOAF staff, with oversight by the BOAF Certification Committee.

BUILDING OFFICIALS ASSOCIATION OF FLORIDA CROSS TRAINING PROGRAM

Electrical Inspector Cross Training Program Course List

This program is offered online in three sections: Section One is eighteen hours of credit online. Section Two is twenty-eight hours of credit online. Section Three is On-The-Job Training for one hundred and fifty-four hours.

To complete the online sections of the Electrical Inspector Cross Training Program, the student must complete both Section One and Section Two. Courses are specified as follows:

SECTION ONE – 18 Hours

This section provides basic information important to inspectors, including inspector skills, ethics, law, and other pertinent topics.

Developing Inspector Skills Course: 7 hours - *(This course is a required course for all Cross Training Programs)*

Course Description: This course addresses the soft skills that are essential for construction inspectors to excel in their mission to ensure safe, code-compliant buildings for the public. After completing this course, participants will be able to exhibit non-technical traits, positive behaviors, and problem-solving skills to enhance their ability to interact with others and carry out effective communication, diplomacy, customer service and public relations skills.

Ethics in Construction Course: 1 hour - *(This course is a required course for all Cross Training Programs)*

In this course, students will review ethics and how to deal with the public, the business concerns and the government in a proper and ethical manner.

Laws and Rules for the Building Officials Course: 2 hours - *(This course is a required course for all Cross Training Programs)*

In this course, the student will not only review the existing laws and rules concerning building officials and the building inspector vocation, but also look at new laws and rules.

Communication Skill, 1 hour - *(This course is a required course for the Plumbing, Mechanical and Electrical Inspector and Plans Examiner Cross Training Programs)*

In this course, the student will learn and practice both written and communication skills necessary for an inspector.

Inspection and Plan Review Techniques, 2 hours - *(This course is a required course for the Plumbing, Mechanical and Electrical Inspector and Plans Examiner Cross Training Programs)*

In this course, students learn the tricks and techniques for reviewing plans as well as specific techniques for successfully completing inspections.

Specific Electrical Items and Electrical Safety, 2 hours - *(This course is a required course for the Electrical Inspector and Plans Examiner Cross Training Programs)*

Introduction to Article 90, 1 hour - *(This course is a required course for the Electrical Inspector and Plans Examiner Cross Training Programs)*

This course will familiarize the student with the National Electrical Code and provide information that will allow the student to effectively use it in inspections.

Solar Photovoltaic Systems and Alternative Energy Systems, 1 hour - *(This course is a required course for the Electrical Inspector and Plans Examiner Cross Training Programs)*

This course will introduce solar photovoltaic systems and other alternative energy systems that inspectors may find.

Tables in Chapter 9, 1 hour - *(This course is a required course for the Electrical Inspector and Plans Examiner Cross Training Programs)*

This course will familiarize the student with the tables found in Chapter Nine of the National Electrical Code regarding conduits, conductor dimensions and properties, and power source limitations. Students will also familiarize themselves with Metric / Standard measurements and conversions related to the tables.

SECTION TWO – 28 Hours

Section Two provides specific information from the International Code.

Introduction to Section Two, 1 hour

Requirements for the Electrical Installations, 1 hour

Chapter One, Article 110

Wiring, Protection and Grounding, 7 hours

Chapter Two, Articles 200, 210, 215, 220, 230, 240 and 250

Wiring Methods and Materials, 8 hours

Chapter Three, Articles 300, 310, 312, 314, 320, 342, 344, 348, 352, 356, 358, 376, and 392

Equipment for General Use, 3 hours

Chapter Four, Articles 400, 404, 406, 408, 440, 450 and 480.

Special Occupancies, 3 hours

Chapter Five, Articles 500, 501, 503, 517, 518, 545-590

Special Equipment and Conditions, 3 hours

Chapter Six, Article 680; Chapter Seven, Articles 700 and 705

Florida Energy Conservation, 2 hours

Commercial and Residential Requirements and Efficiency

SECTION THREE – 154 Hours

Section Three provides documented on-the-job training for the student candidate. On-the-job training is verified by the BOAF Certification Committee prior to awarding credit.

WORK EXPERIENCE

This section must be completed fire marshal, or building code administrator, who has personal knowledge of the applicant's experience for the period of time listed below.

Instructions:

Provide employment verification for the years of experience required for qualification for entrance in the BOAF Cross Training Program. Attach additional copies of this page as necessary.

Applicant Name:

Employing Agency/Company Name:

Agency/Company Address:

| | | |
|---------------------------------------|--------------------|------------------|
| Dates of employment by Agency/Company | Date (From) / / | Date (To) / / |
|---------------------------------------|--------------------|------------------|

Agency/Company Phone Number:

Position of Applicant:

Describe in detail the applicant's duties, including hands-on, supervisory or management responsibilities. Please be specific when explaining the applicant's duties and hands-on experience.

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I attest that the applicant named above has been employed by the agency/company in a: **(Check One)**
supervisory managerial trade position for _____ years

Print name of fire marshal, or building code administrator
 verifying employment and experience: _____

License Number of person verifying employment and experience: _____

Signature of person verifying employment and experience: _____

Date: _____

CROSS TRAINING
ELECTRICAL PLAN REVIEW OJT CHECKLIST
BCAIB Provider# 0001001 Training Program # 5007984

Applicant Name: _____

ONLY THE CURRENT EDITION OF THE BOAF OJT CHECKLIST WILL BEACCEPTED

Please check the website at www.boaf.net to be sure you are submitting the most current edition of the applicable form. Each form becomes effective on the revision date contained on the form. Training completed prior to that date may be submitted on the previous form.

This training program requires 46 hours (minimum) of classroom training as approved by BOAF.

This training program also requires 154 hours (minimum) of properly documented On the Job Training (OJT) with a **Florida Standard Licensed Electrical Plans Examiner** Trainer as evidenced by this and other required forms, including the notarized trainers affidavit.

A. Extensive training on all aspects of electrical systems should include both residential and commercial sections of the code as scripted by the following:

- | | |
|------------------------------------|--------------------------------------|
| 1. Building Service | 8. Analysis of Electrical Layout |
| 2. Electrical Layout | 9. Panel Schedule and Specifications |
| 3. Panel Schedule & Specifications | 10. Analysis of Emergency Systems |
| 4. Emergency Power | 11. Analysis of Motor Circuits |
| 5. Motor Appliances | 12. Communications Systems |
| 6. Special Wiring & Equipment | |
| 7. Plan Analysis of Service | |

B. Trainees must mark each item trained on, and initial in the spaces provided on the OJT checklist, when each training segment has been completed.

C. Trainees must also include the number of specific areas and the total hours spent during OJT.

CROSS TRAINING
ELECTRICAL PLAN REVIEW OJT CHECKLIST
BCAIB Provider # 0001001 Training Program # 5007984

ELECTRICAL PLAN REVIEW OJT CHECKLIST

My specific On the Job Training (OJT) has included instruction on the following items as indicated by "X"

Electrical Trade Plan Review

- | | |
|---|--|
| <input type="checkbox"/> Working Clearance | <input type="checkbox"/> Grounded Conductor |
| <input type="checkbox"/> Branch Circuits | <input type="checkbox"/> Branch Circuit Calculations |
| <input type="checkbox"/> Household Cook Equipment | <input type="checkbox"/> Services |
| <input type="checkbox"/> Over-Current | <input type="checkbox"/> Grounding |
| <input type="checkbox"/> Grounded Electrode Conductor | <input type="checkbox"/> Bonding |
| <input type="checkbox"/> Equipment Grounding Conductor | <input type="checkbox"/> Wiring Methods |
| <input type="checkbox"/> Conductor Ampacity | <input type="checkbox"/> Cable Trays |
| <input type="checkbox"/> Nonmetal Tubing | <input type="checkbox"/> Type NM Cable |
| <input type="checkbox"/> Service Cable | <input type="checkbox"/> Rigid Metallic Conduit |
| <input type="checkbox"/> Electrical Metallic Tubing | <input type="checkbox"/> Flexible Metal Conduit |
| <input type="checkbox"/> Wire-ways | <input type="checkbox"/> Box Fill |
| <input type="checkbox"/> Switch/Panel Boards | <input type="checkbox"/> Cords |
| <input type="checkbox"/> Light Fixtures | <input type="checkbox"/> Appliances |
| <input type="checkbox"/> Electric Space Heating Equipment | <input type="checkbox"/> Motors |
| <input type="checkbox"/> Motor Full-Load Currents | <input type="checkbox"/> Air Conditioning & Ref. Equipment |
| <input type="checkbox"/> Transformers | <input type="checkbox"/> Over 600 Volts Equipment |
| <input type="checkbox"/> Hazardous Locations | <input type="checkbox"/> Health Care |
| <input type="checkbox"/> Mobile Homes | <input type="checkbox"/> Signs |
| <input type="checkbox"/> Elevators | <input type="checkbox"/> Information Technology Equipment |
| <input type="checkbox"/> Emergency Systems | <input type="checkbox"/> Signal Circuits |
| <input type="checkbox"/> Fire Alarm Systems | <input type="checkbox"/> Communications |

Total Hours OJT Training Received _____ hours

**CROSS TRAINING
ELECTRICAL PLAN REVIEW OJT CHECKLIST**
BCAIB Provider # 0001001 Training Program # 5007984

Trainee and Trainer(s) should sign this form after all of OJT Training has been completed.
Include all Trainers that have trained on the hours shown on the Checklist.

By affixing our signatures and BCAIB (PX) numbers below, we affirm and attest the above specific areas and hours of Electric Plan Review Training have been successfully completed.

| | | |
|---------|--------|----------------|
| Trainee | BCAIB# | / / |
| | | Date Completed |

| | | |
|--------------------------------|--------|----------------|
| Electrical Plan Review Trainer | BCAIB# | / / |
| | | Date Completed |

| | | |
|--------------------------------|--------|----------------|
| Electrical Plan Review Trainer | BCAIB# | / / |
| | | Date Completed |

| | | |
|--------------------------------|--------|----------------|
| Electrical Plan Review Trainer | BCAIB# | / / |
| | | Date Completed |

| | | |
|--------------------------------|--------|----------------|
| Electrical Plan Review Trainer | BCAIB# | / / |
| | | Date Completed |

BOAF Trainer's Affidavit

This form must be included in the foundation/cross training application package. Every Building and Fire Official overseeing training must sign and have notarized an individual affidavit with their name and the name of the trainee for each trainee under their supervision.

I, _____,
(Printed or Typed Name of Trainer)

certify that I personally and professionally trained

I, _____,
(Printed or Typed Name of Trainee)

to the best of my ability and believe him / her to be competent and knowledgeable in the areas that I have instructed him / her in as indicated on the associated OJT Training Report(s) and OJT Checklist. To the best of my knowledge, the training I provided under the direction of my Building Official meets or exceeds the requirements of the BOAF Cross Training Program as indicated on the associated training forms, checklists and logs in the area of

_____ inspector / plan review
(fill in technical area and circle the appropriate category)

Additionally, I state the training provided to the Trainee supports the BOAF Mission Statement and the training was provided in compliance with the BOAF Code of Ethics as adopted by the Building Officials Association of Florida.

Trainer Signature _____ BCAIB # _____

Printed Name _____ Date ____/____/____

Total hours trained _____

SIGNATURE MUST BE NOTARIZED: Place notary information in this area as required by law:

ON JOB TRAINING (OJT) REPORT

Applicant Name & BN/PX # (Print) _____ Signature _____

| | | Trainer Name & BN/PX # (Print) | | | Signature | |
|--------------------|--------------------------------|--------------------------------|---|----------------------------------|--|--|
| Date of Inspection | Occupancy Classification (FBC) | Permit # or Address | Inspection/Review - Be Specific Provide description from Checklist, Not Just Codes! Use as many rows as necessary | Time (Nearest 1/4 of an hour) | Trainer Approval (must be signed for each training) | |
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Dates: From ___/___/___ To ___/___/___

Sheet Total _____ Page ___ of ___
 Accumulative Total _____