

“Preparing for the North Carolina SP-FA/LV Electrical Examination”

2021-2022 Edition

NCBEEC Approved CE Course #CEC.03912

Course Instructor:

Kile Unterzuber

NC License #10173-SP-FA/LV

Course Format: Eight (8) hours direct classroom contact.

Course Description: This course reviews subject areas of the National Electrical Code (NFPA 70-2020) applicable to the North Carolina SP-FA/LV (Special Fire Alarm/Low-Voltage) license classification examination, as well as the administrative requirements of the NCBEEC and the use of the National Fire Alarm and Signaling Code (NFPA 72-2013). The course emphasizes Code requirements that may not be familiar to the typical installer of low-voltage and power-limited circuits for security and fire alarm systems, but that are important for successfully taking the qualifying examination. These topic areas include:

- Review of basic requirements of Title 21 NCAC 18B;
- General requirements for all electrical work;
- Grounding and bonding for power-limited and associated branch circuits;
- Calculating conductor ampacity;
- Calculating box fill;
- Identifying conductors for specific applications;
- Identifying and providing overcurrent protection for power-limited circuits; and
- Calculating resistance in simple circuits; and
- Requirements of National Fire Alarm and Signaling Code (NFPA 72-2013)

Effective in 2010, the North Carolina SP-LV license classification was changed to the SP-FA/LV classification. The current examination includes at least 15 questions about fire alarm systems. This course includes presentation and study materials intended to help students with less fire alarm experience to learn more about the design, installation, and service requirements for fire alarm systems.

Effective March 1, 2022, the electrical examination is based upon the 2020 edition of the National Electrical Code (NFPA 70-2020) and the 2013 edition of the National Fire Alarm and Signaling Code (NFPA 72-2013). All classes presented after March 1, 2022, must use these editions as their references.

The course includes several classroom exercises to increase familiarity with important tables and concepts. Active class participation in these exercises is encouraged.

Students completing the course will have a better understanding of installation and wiring methods for these systems, including requirements from other important NEC Articles. It will help those planning to take the examination, as well as those who simply need a general review course. This course covers the relevant sections of the NEC in detail and is very fast-paced.

References: NFPA 70, National Electrical Code (2020)
NFPA 72, National Fire Alarm and Signaling Code (2013)
Title 21 NCAC 18B
Business and Project Management for Contractors (NC Edition for Electrical)

Presentation Method: Instructor using MS PowerPoint presentation.

Handouts: Each student will receive a bound copy of handouts that includes a course outline and copies of all presentation material; a copy of Title 21 NCAC 18B; and an extensive set of practice examination questions, along with a practice questions answer key with references.

Requirements: Some previous familiarity with the NEC. It is strongly recommended that students bring a copy of the 2020 National Electrical Code and the 2013 National Fire Alarm and Signaling Code to class in order to participate in exercises and discussion. These books are not included in the class fee. (Course references are subject to change dependent upon any changes to the examination references or NC State Building Code that may be made during the fiscal year.)

Continuing Education: *This course, when offered during fiscal year 2021-2022, meets the requirements of the North Carolina Board of Examiners of Electrical Contractors for 8 contact hours of continuing education credit. This course is not sponsored by the Board. (CE credit is only available for current licensees or qualified individuals in the SP-FA/LV license classification. Students must already be licensed or qualified at the time they take the course to earn CE credits.)*