

# Swimming Pools – 2020 NEC

**Provider:** International Association of Electrical Inspectors (IAEI)

**Instructor:** Keith Lofland

**Course Length/CEUs:** 4 Hour

## Course Description:

This in-depth course covers the electrical requirements pertaining to the unique environment in and around swimming pools. The primary focus will be on Article 680 Part I and II of the NEC. Shock hazards in and around a swimming pool can result from faulty electrical equipment directly associated with the pool or from faulty electrical equipment not associated with but in close proximity to the pool. The installations discussed can be applied to indoor-or outdoor, permanently installed pools.

The presentation utilizes photos and illustrations that enhance attendee understanding.

This course includes 2 10-minute breaks.

## Course Outline:

- Article 680 Part I – General
  - Scope
  - Definitions – 680.2
  - Approval of Equipment – 680.3
  - Inspection after Installation – 680.4
  - GFCI Devices – 680.5
  - Bonding and Equipment Grounding – 680.6
    - Through-Wall Lighting Assembly
    - Electrical Equipment
    - Recirculating System Equipment
    - Transformer and Junction Boxes
    - GFCIs
    - Panelboards

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- Bonding Terminals – 680.7
- Cord-and-Plug Connected Equipment – 680.8
- Overhead Conductor Clearance – 680.9
  - Overhead Power Conductor Clearances
  - Communications Systems
  - NPBC Systems
- Electric Pool Heaters – 680.10
- Underground Wiring Around Swimming Pools – 680.11
- Equipment Rooms and Pits – 680.12
- Maintenance Disconnecting Means – 680.13
- Corrosive Environments – 680.14
- Article 680 Part II – Permanently Installed Swimming Pools
  - General Requirements – 680.20
  - Wiring Methods for Motors – 680.21(A)

- Double Insulated Pool Pumps – 680.21(B)
- GFCI Protection for Motors – 680.21(C)
- Pool Pump Motor Replacement – 680.21(D)
- Lighting, Receptacles, and Equipment
  - Receptacles for Swimming Pools – 680.22(A)
  - Luminaires and Ceiling Fans – 680.22(B)
  - Switching Devices – 680.22(C)
  - Other Outlets – 680.22(D)
  - Other Equipment in Close Proximity to a Pool – 680.22(E)

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- Underwater Luminaires – 680.23
  - Transformers and Power Supplies
  - Voltage Limitations
  - Mounting Requirements
  - Location of Underwater Luminaires
  - Types of Underwater Luminaires
    - Wet-Niche Luminaires
  - Branch-Circuit Wiring Methods
- Junction Boxes – 680.24
- Feeders – 680.25
- Equipotential Bonding – 680.26
  - Conductive Pool Shells
  - Perimeter Surfaces
  - Metallic Components
  - Underwater Lighting
  - Metal Fittings
  - Electrical Equipment
  - Fixed Metal Parts
  - Pool Water

**Methods of Presentation:** Pre-recorded GoToWebinar/Microsoft PowerPoint® Presentations

**Optional Materials:**

*Analysis of Changes, NEC 2020.* International Association of Electrical Inspectors (IAEI). 2019.

*National Electric Code 2020.* NFPA 70. 2019.