

Electrical Engineer

Job Titles

- Electrical Engineer I
- Electrical Engineer II
- Electrical Engineer III

Reports to

- Vice President of Electrical Engineering.

Position Overview

- Under the direction of the Project Manager, the electrical engineer applies electrical theory to design and specify lighting and power systems, performs lighting calculations and circuit loading calculations, completes energy code compliance documentation, participates in coordination meetings with design team members and clients, corresponds with vendors and contractors, performs site surveys, observes construction projects, edits specifications, and reviews submittals.

Duties and Responsibilities

- Coordinate with electrical and communications utility companies.
- Calculate short-circuit currents, perform coordination and arc-flash studies.
- Perform voltage drop calculations.
- Conduct site surveys and prepare reports and studies.
- Prepare construction cost estimates.
- Design electrical distribution system and equipment.
 - Service entrance and equipment.
 - Distribution equipment.
 - Engine-generators and transfer switches.
 - Uninterruptible power supplies and central battery inverters.
- Design electrical utilization system.
 - Layout receptacles and circuits.
 - Layout mechanical and plumbing equipment and circuits.
 - Layout architecturally specified equipment and circuits (electrically operated roller shades, door operators, toilet accessories, etc.)
- Design lighting systems.
 - Interior and exterior lighting and controls.
 - Emergency lighting systems and exit signs.
 - Occupancy sensing systems.
 - Networked lighting control systems.
 - Daylighting control systems.
 - Athletic lighting systems.
- Design communications systems.
 - Outside plant cables and pathways
 - Equipment rooms
 - Backbone cables and pathways.
 - Horizontal cables and pathways.
 - Intercommunications systems.

- Audio-visual systems.
- Design electronic safety and security systems.
 - Card access
 - Video surveillance
 - Intrusion detection
 - Fire alarm
- Complete continuing education requirements to maintain licensure.
- Proficient using Codes and Standards (National Electrical Code, Illuminating Engineering Society, National Fire Alarm Code, and Telecommunications Distribution and Methods Manual.)

Qualifications

- Electrical Engineer I:
 - Graduate of an ABET accredited engineering program, or
 - Engineer Intern license.
- Electrical Engineer II: Professional Engineer license.
- Electrical Engineer III
 - Professional Engineer license, and
 - 10 years verifiable work experience.

Working Conditions

- Generally, work is in a typical office environment.
- Travel to client meetings is required.
- Travel to project sites and the ability to document existing conditions is required.
- Travel to construction sites and the ability to observe and document construction progress is required.
- Compliance with client and job site superintendent safety protocol is required.
 - Hard hats, safety toe shoes, hi-visibility vest, ear and eye protection are sometimes required to be used.
- Some evening and weekend work is required.
- Occasional overnight travel is required.

Direct Reports

- Electrical Designers
- Electrical BIM Technicians