

EDUCATION COURSE CATALOG



2025



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Additional Resources:

NECA San Diego Education

NECA San Diego On-Demand Education Library

Electrical Training Institute San Diego - Continuing Education

NECA National Education

ETA Catalog

For more information on courses and upcoming events, please visit the Chapter's website at necasandiego.org/education.

Please note that course topics, dates, and times are subject to change.

**9350 Waxie Way, Suite 540
San Diego, CA 92123**

**P: 858-571-6322
necasandiego.org/education**



2025 Course Schedule

Insurance 106: Surety Bonds & Subcontractor Default Insurance

January 8, 2025 from 1:00pm - 2:30pm

Insurance 106 is part of 8 individual courses offered as introduction and refresher to insurance requirements for electrical contractors. This course covers the essential aspects of Surety Bonds, including their purpose, bond pricing, common forms, and how to optimize bonding capacity. We'll also discuss the implications of providing surety bonds and explore the rising trend of Subcontractor Default Insurance (SDI) and what subcontractors should consider when joining a General Contractor's SDI program.

Following this class, participants will be able to:

- Review RFPs for bonding requirements to ensure compliance
- Calculate bond premiums for accurate estimates
- Understand surety forms, including why and how they are used
- Evaluate financial metrics that impact a company's ability to obtain bonds
- Know the process and risks of enrolling in an SDI program

Continuing Education Hours: 1.5 Hours

Format: Virtual

Instructor: Oliver Craig; Cavnac

Andy Roberts; Rancho Mesa Insurance Services, Inc.

Introduction to Building Systems

January 14 - March 4, 2025 (8-week class) Tuesdays, from 12:00pm - 3:00pm

This course is intended for electrical PM/PE's that do not come from an electrical background. The course provides for a basic understanding of electrical systems in modern buildings, covering topics such as: Basic Electrical Theory, Electrical Power Systems (generation, transmission, and distribution), Protecting Electrical Power Systems (circuit breakers, fuses, and grounding), Electrical Emergency Systems (backup power, generators, UPS, emergency lighting), High-Rise Building Electrical Systems (design challenges, power distribution, automation), and Building Subsystems, including Fire & Life Safety, Security & Access Control, Solar & Energy Storage, Mechanical & HVAC Systems, and Voice, Data & Video Systems.

Continuing Education Hours: 24 Hours

Format: In-Person at ETI (4675 Viewridge Ave. San Diego, CA 92123)

Instructor: Bob Riel; Riel Consulting LLC



2025 Course Schedule

Applied Grounding and Bonding

February 6, 2025 from 7:30am - 3:30pm

Understanding grounding and bonding concepts, as outlined in the National Electrical Code (NEC), is crucial for professionals in the electrical industry. These concepts ensure safe electrical systems. This class reviews the basics of grounding and bonding, including definitions, functions, and applicable NEC rules. Topics covered will include grounding electrodes, grounding electrode conductors, equipment grounding conductors, bonding, bonding jumpers, and sizing rules. The course is based on the Applied Electrical Grounding and Bonding textbook and curriculum from the Electrical Training Alliance.

What you will learn:

- Understand grounding and bonding concepts and techniques
- Have knowledge and understanding of safety circuit elements & NEC requirements
- Grounding and bonding components
- Sizing and installation rules

Continuing Education Hours: 8 Hours

Format: In-Person at ETI (4675 Viewridge Ave. San Diego, CA 92123)

Instructor: Michael Johnston; Roadrunner Technical Services LLC

Insurance 107: Alternative Risk Financing

February 12, 2025 from 1:30pm - 3:00pm

Insurance 107 is part of a series of 8 individual courses offered as an introduction and refresher to insurance requirements for electrical contractors. Workers' compensation and liability insurance are among the largest expenses for contractors, driven by industry-specific risks, high claims costs, and fluctuating rates. Traditional solutions often fall short in addressing these challenges. This class will deep dive into Alternative Risk Financing—innovative strategies to reduce costs, enhance coverage, and take control of your risk management.

What you will learn:

- Performance-Based vs. Guaranteed Cost Insurance
- Captives: Greater control and cost savings opportunities
- Large Deductible/Self-Insured Retention Programs
- Retrospective Rating Plans: Rewarding safety and performance

Continuing Education Hours: 1.5 Hours

Format: Virtual

Instructor: Natalie Sherod; Cavignac
Nick Langer; Moody Insurance Services, Inc.



2025 Course Schedule

Bluebeam Basics

March 12 & 13, 2025 from 1:00pm - 4:00pm

Whether you're new to the software or looking to refine your skills, this course offers a comprehensive introduction to Bluebeam Revu's powerful tools and features. Learn how to create, edit, mark up, and collaborate on PDF documents efficiently. From basic navigation to more advanced document management, our course will guide you step-by-step through the essentials of using Bluebeam Revu to streamline workflows, improve accuracy, and boost productivity. Ideal for professionals in construction, architecture, engineering, and other industries, this course will provide you with the foundational knowledge you need to start working smarter with Bluebeam Revu.

Key Learning Areas:

- Introduction to Bluebeam Revu interface
- Navigating and managing PDF files
- Basic markup tools for annotations, measurements, and comments
- Organizing and sharing documents for seamless collaboration
- Tips and tricks for efficient PDF handling and editing

Continuing Education Hours: 6 Hours

Format: Virtual

Instructor: April McCall; USCAD

Field Leadership Essentials

March 20, 2025 from 7:30am - 3:45pm

Field leaders are on the front line of every electrical contractor's success and the success of the industry. NECA's Field Leadership Essentials program is an intensive, one-day learning experience designed to enhance the leadership skills of new and up-and-coming field leaders by providing the "must-know" topics for field leaders in the electrical contracting industry.

Following this class, participants will be able to:

- Learn how to better support crews and increase their productivity
- Learn how ineffective tool and material management can impact your business and discover related strategies to improve your profitability
- Gain insight into a step-by-step process to make better decisions under pressure

Continuing Education Hours: 8 Hours

Format: In-Person at ETI (4675 Viewridge Ave. San Diego, CA 92123)

Instructor: David Manderson; NECA National



2025 Course Schedule

Insurance 108: Closing - Understanding Your "Other" Exposures and Respective Insurance Coverage

March 25, 2025 from 1:00pm - 2:30pm

Insurance 108 is part of a series of 8 individual courses offered as an introduction and refresher to insurance requirements for electrical contractors. In today's dynamic business world, understanding your exposures and the insurance coverage you need is critical to mitigating risk and protecting your assets. Whether you're a contractor, business owner, or part of a management team, this class will equip you with the essential knowledge of key insurance coverages that safeguard against some of the most common and complex risks your business may face.

This virtual roundtable will discuss the essential types of insurance coverage and provide clear, practical insights into how each protects your business. From professional liability to cyber risks, you'll walk away with a deep understanding of what coverage your business requires and how to effectively manage your exposures to Professional and Pollution Liability, Property Coverage, and Cyber Liability.

Continuing Education Hours: 1.5 Hours

Format: Virtual

Instructor: Roundtable of Insurance Specialists

CMMC Level 1

April 1, 2025 from 1:00pm - 3:00pm

The Cybersecurity Maturity Model Certification (CMMC) enhances cybersecurity within the Defense Industrial Base (DIB). Level 1, the foundational tier, focuses on basic cyber hygiene practices for protecting Federal Contract Information (FCI). This level ensures organizations implement key security measures critical for safeguarding sensitive information and defending against unauthorized access and cyber threats.

Key Topics:

- Basic Cyber Hygiene: Implementing essential practices to maintain security.
- Access Control (AC): Managing who can access sensitive information.
- Identification and Authentication (IA): Ensuring proper user identity verification.
- Media Protection (MP): Securing physical and digital media.
- Physical Protection (PE): Protecting physical assets and environments.
- System and Communications Protection (SC): Securing networks and communications.
- System and Information Integrity (SI): Ensuring the integrity of systems and data.

Continuing Education Hours: 2 Hours

Format: Hybrid (In-Person at NECA Office or via Zoom)

Instructor: Eric Glenn; RJE



2025 Course Schedule

Succession Planning Management and Ownership

April 15, 2025 from 10:00am - 12:00pm

This program will cover techniques and considerations for planning and executing a succession plan for management and owner(s), including common reasons for ownership transfer plans not working, and examine processes the company can implement for a successful business transition. We will also look at and address the various balance sheet, cash flow, and tax implications. **This education class is intended only for NECA Contractors/Executive Members.**

Key Learning Areas:

- Understand the importance of time needed to effectively transition
- Tax implications to consider for sellers and buyers
- Process to determine the retirement cash flow for transitioning generation and estate planning considerations

Continuing Education Hours: 2 Hours

Format: Virtual

Instructor: Lonnie Maxwell-Cook & Todd McClain; Plante Moran

Project Engineering Part 1

April 15 - June 3, 2025 (8-week class) Tuesdays, from 12:00pm - 3:00pm

Project Engineers are technical leaders responsible for ensuring site work aligns with plans and contract terms. They supervise RFIs, Daily Reports, Submittals, and manage budgets and deadlines. With a blend of technical knowledge and organizational skills, they meet industry demands, including AC and DC theory. This introduction to Project Engineer Part I course helps those advancing to Project Management or seeking a deeper understanding of Project Engineering.

Key Learning Areas:

- Intro to Bidding/Estimating
- Scope Letter
- Intro to Bluebeam
- Blueprint Reading
- Specification
- Change Orders
- Project Management
- RFI
- Submittals
- Electrical Blueprint Reading
- Electrical/low Voltage Equipment
- Contract Review

Prerequisites: Basic computer skills, ability to open and save files in Excel, Word, and Bluebeam. Laptop with Windows 10 / Microsoft Office. Must be able to download BlueBeam Extreme before the course start. (A link will be provided)

Continuing Education Hours: 24 Hours

Format: In-Person at ETI (4675 Viewridge Ave. San Diego, CA 92123)

Instructor: Bob Riel; Riel Consulting LLC



2025 Course Schedule

Retirement Matters

April 17, 2025 from 1:30pm - 2:30pm

Preparing for retirement can be complex. This interactive class will cover the risks facing current and future retirees while opening up conversations about all aspects of retirement plans. The discussion will address the importance of financial balance and the importance of saving now. We will navigate complex and important issues such as relationships, housing, lifestyles, health care, and finances—preparing them for all facets of their future lives. This class will touch on different savings vehicles that have different tax implications.

Key Learning Areas:

- Understanding the importance of time needed to effectively transition
- Tax implications to consider for sellers and buyers
- The process to determine the retirement cash flow for transitioning generation and estate planning considerations

Continuing Education Hours: 2 Hours

Format: Virtual

Instructor: Nichole Mayer; WestPac Wealth Partners

Bluebeam Tips & Tricks

May 7, 2025 from 1:00pm - 3:00pm

Take your Revu Markup activities to the next level with Tips & Tricks on customizing standard Revu markups, sharing several ways you can change and organize markups in your project documents, and did you know that you can leave a reply on a Markup and even design your own custom line styles? Learn how to create and edit markups of various shapes, add control points and leaders, reorder and group markups, snapshot regular and non-rectangular markups, label them, create custom line styles, and apply markups to various pages.

New features to include: Multiply Markups, Customize Captions with Markup List Data, and Expanded Markups for Guest Collaborators.

Continuing Education Hours: 2 Hours

Format: Virtual

Instructor: April McCall; USCAD



2025 Course Schedule

Significant Changes to the NEC 2020 Code

May 14 & 15, 2025 from 8:00am - 12:00pm

Stay up to date with the latest updates to the National Electrical Code (NEC), the world's most recognized electrical code. This course provides a thorough review of the key changes in the 2020 NEC, including new articles and revised rules essential for contractors and installers. As technology advances, the NEC evolves to ensure compliance with modern electrical installations in both new and renovated buildings.

This interactive program equips electrical contractors and inspectors with the knowledge to meet the latest requirements, ensuring ongoing success in installations and compliance.

Continuing Education Hours: 8 Hours

Format: Virtual

Instructor: Michael Johnston; Roadrunner Technical Services LLC

Understanding Artificial Intelligence (AI) and Its Place In Your Business

May 28, 2025 from 10:00am - 12:00pm

As the construction industry embraces the digital revolution, Artificial Intelligence (AI) is revolutionizing how electrical contractors plan, execute, and optimize their work. From enhancing operational efficiency and improving job site safety to driving innovation in design and project management, AI offers powerful tools to meet the evolving demands of the electrical construction sector. This session will explore the transformative impact of AI, with a focus on practical applications that empower contractors to achieve greater accuracy, productivity, and cost-effectiveness.

Key Takeaways:

- **Streamlining Operations:** Learn how AI enhances efficiency across construction workflows, from planning and design to execution and maintenance.
- **Improving Safety:** Explore AI-driven safety solutions that mitigate risks and protect workers on job sites.
- **Driving Innovation:** Discover how advancements in AI are shaping the future of construction, enabling smarter decision-making and unlocking new opportunities.

Continuing Education Hours: 2 Hours

Format: Virtual

Instructor: Sumana Rao; Trimble



2025 Course Schedule

Education Summit

June 11, 2025 from 7:30am - 9:30am

NECA San Diego holds this annual meeting to gather valuable feedback from members regarding the chapter's educational programs. During this meeting, we provide updates on class surveys, instructor evaluations, and attendance data. Our goal is to continuously improve our educational offerings, and we want to hear directly from you—whether you are an attendee or a representative of a contractor company.

This is your opportunity to suggest new classes, hear what is planned for the remainder of the year, and ensure that your voice is heard in shaping the future of our education program.

Continuing Education Hours: N/A

Format: In-Person at ETI (4675 Viewridge Ave. San Diego, CA 92123)

Instructor: NECA Staff-Led Conversation

Managing the Lifeblood of Contracting - Cash Flow

June 17, 2025 from 8:00am - 11:00am

Cash flow is one of the most important issues facing contractors today. As the market continues to stay strong, companies are faced with starting new projects, hiring staff, and investing in assets to support the business. More companies go bankrupt due to cash flow issues than due to profitability. Many things can and should be done to improve cash management practices. We will explore a range of tools and techniques, from simple to complex, that allow firms to manage and control cash flow. Examples include contractual negotiation strategies, pricing and bidding practices, development of cost and resource-loaded schedules that tie to billing activities in the schedule of values, use of 12-week cash flow forecasts, project closeout procedures, and managing the billings and collection cycle. An interactive cash flow simulation provides hands-on experience that enhances the learning outcomes.

Following this course, participants will be able to:

- Discuss the importance of cash management practices
- Describe how to increase profits with billings and collections
- Identify tools and techniques that optimize cash flow
- Discuss how to maximize cash flow with process standardization
- Describe how to create transparency and accountability with measurement

Continuing Education Hours: 3 Hours

Format: Virtual

Instructor: Stephane McShane; Maxim Consulting Group



2025 Course Schedule

Best Practices for Contract Administration and Documentation – The Devil Is In The Details

June 25, 2025 from 1:00pm - 4:00pm

This course emphasizes the importance of properly organized and detailed paperwork, often overlooked in construction projects. While many view documentation as burdensome, "the devil is in the details." By focusing on both contract administration and proper documentation, participants will gain critical insights into key contract procedures and best practices for managing paperwork. This knowledge is essential for navigating the complexities of contract management and project documentation, ensuring successful project execution and compliance.

Following this course, participants will be able to:

- Understand contract terms and create field-useable documents for team compliance
- Handle notices for changes, payment issues, and other provisions
- Effectively communicate to ensure compliance and address chain of command issues
- Manage schedule changes, punch lists, substantial completion, and default provisions
- Organize project files, protecting interests with release types, and documenting RFIs / Submittals and more!

Continuing Education Hours: 3 Hours

Format: Virtual

Instructor: Pam Scholefield; Onsite Pro Development

Basic Estimating of Electrical Construction

July 14-16, 2025 from 7:30am - 3:30pm

Small mistakes in an estimate can have a huge impact on your bid's bottom line and this course provides the tools needed to be both comprehensive and competitive. This course will discuss the process for assembling an estimate including: developing material lists, applying labor unit data, material takeoff, and application of direct job costs, overhead, and profit.

Following this class, participants will be able to:

- List types of mistakes when estimating electrical construction projects and how to avoid them
- Describe the parts of an estimate
- Explain the importance of establishing the true cost of a project
- Develop an estimate to provide job management information

Continuing Education Hours: 24 Hours

Format: In-Person at ETI (4675 Viewridge Ave. San Diego, CA 92123)

Instructor: Matthew Firestone; Firestone Consulting Group



2025 Course Schedule

Bluebeam Takeoffs and Estimations

July 23 & 24, 2025 from 1:00pm - 4:00pm

Master Bluebeam Takeoffs and Estimations with this comprehensive course to boost your workflow efficiency and accuracy. Learn to use the Quantity Takeoff Profile in Revu, calibrate documents for precise measurements, and utilize advanced measurement tools. Discover how to track data in the Markups List, create custom columns for material and labor costs, and export data for analysis. Use visual search for counting and organize Summary Reports effectively. Apply industry-specific techniques to optimize your workflows and enhance project management.

Continuing Education Hours: 6 Hours

Format: Virtual

Instructor: April McCall; USCAD

Advanced Estimating

August 11 & 12, 2025 from 7:30am - 3:30pm

Building upon the principles taught in NECA's Basic Estimating course, this course focuses on the strategy and business decisions made during the estimating and bidding processes. The course will assist estimators and managers in thinking strategically about how they find, evaluate, and bid on electrical construction projects.

Following this course, participants will be able to:

- Explain the estimator's role and responsibilities throughout the bidding process
- Define estimating terminology
- Evaluate bidding opportunities for the most desirable projects
- Analyze factors that have effects on cost and labor productivity
- Evaluate the potential risk factors of a project
- Discuss the risks and responsibilities identified in the project specifications, labor agreements, scope letters, and standard contracts
- Describe the difference between overhead and profit and how they are applied to estimates.

Continuing Education Hours: 16 Hours

Format: In-Person at ETI (4675 Viewridge Ave. San Diego, CA 92123)

Instructor: Matthew Firestone; Firestone Consulting Group



2025 Course Schedule

Change Orders & Claims

August 20, 2025 from 8:00am - 12:00pm

This session leads participants through conventional change order and claims processes. Students will be encouraged to think through ways to manage their own change order systems better while considering common sense dispute resolution strategies. The workshop will focus on three important principles:

- Identifying, processing, and getting paid for change orders
- Avoiding disputes before they start
- Resolving disputes before they escalate

Continuing Education Hours: 4 Hours

Format: Virtual

Instructor: Paul Stout; Power Summit

Enabling Success - Creating Alignment Between Field and Office

August 26, 2025 from 8:00am - 11:00am

For construction firms to thrive, synergy, teamwork, and trust must exist between the office and the field. The proper deployment of defined processes and tools will facilitate this critical alignment. This collaboration must begin before mobilization and continue through project closeout. During this session, we will discuss the workflow that must exist in order to mitigate risk and maximize productivity. During this session, we will discuss why the processes of preconstruction planning, short interval planning, production tracking, daily project reports, exit strategy, and lessons learned are critical to the organization. We will also discuss what the benefits are for each member of the team, and how these processes can be properly implemented.

Learning Objectives:

- Describe the information needed to effectively navigate preconstruction planning
- Learn the critical communication required in short-interval planning
- Discuss the importance of accurate production tracking
- Identify the needed data transfer of a daily project report
- Outline the data collection required of the project team during closeout and lessons learned

Continuing Education Hours: 3 Hours

Format: Virtual

Instructor: Stephane McShane; Maxim Consulting Group



2025 Course Schedule

NFPA 70E Essentials - Electrical Safety in the Workplace

September 3 & 4, 2025 from 8:00am - 12:00pm

This course covers electrical safety in the workplace as outlined in the 2024 NFPA 70E Standard. It emphasizes the shared responsibility of employers and employees for compliance, focusing on recent revisions that prioritize hazard elimination. Topics include the hierarchy of risk controls, risk assessments, human performance factors, and determining when energized work is justified. The course also covers lockout/tagout procedures, Arc Flash PPE selection, and required training and documentation. Attendees will gain essential knowledge and confidence in applying NFPA 70E standards to ensure workplace safety.

Continuing Education Hours: 8 Hours

Format: Virtual

Instructor: Michael Johnston; Roadrunner Technical Services LLC

Construction Correspondence and Effective Business Writing

September 25, 2025 from 8:00am - 12:00pm

This workshop will guide participants through the basic pieces of correspondence used in the construction industry. It approaches everything from the basic rules of grammar to industry-specific documentation requirements. Participants will engage in improving their comprehension and writing through fun, fast-paced exercises designed to demonstrate both the why and how for each piece of correspondence being considered.

Specific correspondence considered includes:

- Notice of Delay and Delay Impact
- Notice of Differing Site Conditions or Other Changes
- Notice of Unresolved Issues - Potential Claim
- Notice of Substantial Completion
- Requests for Information - RFIs
- Meetings – reports and advanced
- communication of meeting agenda
- Responses to incoming communication
- Work Authorizations / Work Directives
- Style, form, format, and industry-specific requirements will be discussed all along the way

Continuing Education Hours: 4 Hours

Format: Virtual

Instructor: Paul Stout; Power Summit



2025 Course Schedule

2023 NEC Changes that Impact Electrical Contractors

October 30, 2025 from 7:30am - 3:30pm

The National Electrical Code is the most widely recognized electrical code in the world. Every three years it is updated to reflect the newest installation practices used by the electrical industry.

This course provides an authoritative, thorough review of the most significant changes in the 2023 NEC, including new articles and revisions that contractors and installers alike must understand and apply in their daily operations. Electrical installations, both in new construction and renovations are subject to compliance with NEC requirements. As jurisdictions adopt and enforce each new edition of the NEC, it is very important that electrical contractors, electrical workers, and electrical inspectors are in tune with the latest minimum requirements.

This high-energy, interactive program provides electrical contractors and inspectors with information that helps them with continued success in installation and compliance.

Continuing Education Hours: 8 Hours

Format: In-Person at ETI (4675 Viewridge Ave. San Diego, CA 92123)

Instructor: Michael Johnston; Roadrunner Technical Services LLC