



CERTIFICATION PROGRAM

Certified Electrical Safety Compliance Professional (CESCP)

Candidate Handbook

Version 9/7/21



This Certified Electrical Safety Compliance Professional (CESCP) Candidate Handbook contains important program information, along with the following documents:

- Detailed Eligibility Requirements
- Updated 2021 Examination Content Outline and Weighted Criteria (Blueprint)
- Recertification Requirements Chart

Please carefully review this handbook and retain it for future reference.



Certified Electrical Safety Compliance Professional (CESCP) Program Summary

Program Overview – The NFPA Certified Electrical Safety Compliance Professional (CESCP) program is designed to meet the needs of electrical and safety professionals who oversee electrical safety programs or who manage electricians and other personnel exposed to electrical hazards. It also serves as a valuable credential for trainers and instructors, as it proves competence in NFPA 70E. It consists of a set of eligibility requirements (completed prior to program application), a 110-question computer-based exam, and a set of recertification requirements (based on a points system) that must be completed within a three (3) year time period following initial certification.

Program Application & Duration – The CESCP program application can be completed online by going to the CMS at <http://onlinecertification.nfpa.org/nfpassa>. You have twelve (12) months after you are accepted as a CESCP applicant to take and pass the exam. The twelve (12) month timer starts on the day your CESCP program application is accepted by the NFPA Admin & Support Services.

Program Fees - \$350 USD each time the exam is taken, \$150 USD to recertify at the end of your three (3) year certification period. If you do not pass the exam and need to retest, the fee is \$175.

Payment – Payment must be received before any exam is taken. NFPA accepts credit cards and checks. Please ensure all checks are made payable to “NFPA” and are sent to the mailing address listed below.

Exam – The exam is a three (3) hour maximum, open-book, 110 multiple choice question, computer-based, proctored exam taken at an approved testing center. You may only bring an NFPA printed **2021 NFPA 70E Standard for Electrical Safety in the Workplace** book into the testing area during the exam. No photocopied or other duplicated or electronic versions of the NFPA 70E Standard are permitted in the testing area during your exam.

Exam Results – You will receive your exam results at the completion of your examination.

Retesting – If you fail your exam, you are permitted to retest two (2) additional times (**completing a retest application and paying a retest fee each time**) within twelve (12) months from the day your original CESCP application was accepted. If you fail the examination three (3) times within this period, you must wait until the twelve (12) month testing period expires before you will be allowed to restart the registration process. The cost to retest is \$175 USD.

Recertification – Once you become CESCP certified, you must recertify every three (3) years. The recertification form is available online at www.nfpa.org/cescp. You must earn a specific number of recertification points within the three (3) year recertification period. The fee for recertification is \$150 USD.

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11 Tracy Drive
Avon, MA. 02322
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(Web) www.nfpa.org/cescp

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About NFPA

Overview

The National Fire Protection Association (NFPA) is a nonprofit membership organization founded in 1896 and having today more than 75,000 members. The mission of NFPA is to reduce the worldwide burden of fire and other hazards on the quality of life.

NFPA's technical activity involves development, publication, and dissemination of more than 350 timely consensus codes and standards intended to minimize the possibility and effects of fire and electrical and other hazards. NFPA codes and standards are developed by nearly 250 technical committees, each of which represents a balance of affected interests. More than 7,000 representatives serve voluntarily on NFPA committees. NFPA codes and standards, which are developed under the approved process of the American National Standards Institute (ANSI), are widely used as a basis of legislation and regulation at all levels of government. In some way, virtually every building, process, service, design, and installation in society today is affected by codes and standards developed through NFPA's system.

NFPA Certification Mission - CESCOP Goals & Benefits

Mission of NFPA Certification Programs

The overall mission of NFPA certification programs is to enhance human and organizational performance as related to the use and application of NFPA codes and standards.

Who is this program for?

The NFPA Certified Electrical Safety Compliance Professional (CESCP) program is designed to meet the needs of electrical and safety professionals who oversee electrical safety programs or who manage electricians and other personnel exposed to electrical hazards. It is also a useful credential for trainers and instructors, as it proves knowledge and competence in NFPA 70E.

Goals of the CESCOP certification program are to:

- Showcase an individual's knowledge and proficiency with the practices and concepts found in NFPA 70E, *Standard for Electrical Safety in the Workplace*.
- Promote electrical safety awareness in workplace environments through the use of published NFPA standards
- Enhance professional development by ensuring a uniform, fair process for certification that is accessible to everyone who is eligible
- Promote professional development through continuous learning

Benefits of the CESCOP certification include:

- Certification by NFPA, the foremost authority for NEC and electrical safety codes and standards
- Printed CESCOP certificate suitable for framing

Important Note Regarding Designation as a Qualified Person:

Per NFPA 70E Section 110.2(A)(1), designation as a Qualified Person involves factors such as training on equipment and work methods that can be specific to a work site, job function, or employer. Therefore, earning the CESCOP credential alone does not make the certificant a Qualified Person. It is the responsibility of an employer or governmental agency having jurisdiction to outline the specific requirements necessary to become a Qualified Person for any given job or site. Employers and others may include this certification as one part of the requirements to become a Qualified Person.

Obtaining the CESP Certification

Entry Requirements

This section describes the eligibility requirements for entry into the CESP certification program. Because the CESP certification is designed to be obtained by people with varied job roles/functions, your individual entry requirements will depend on several factors that may include your educational/training background and work experience.

Please note the following:

- All candidates must meet the requirements found in Table 1

In addition to meeting the requirements found in Table 1:

- Electricians must meet the requirements found in Table 2
- Electrical Engineers must meet the requirements found in Table 3
- All other candidates must meet the requirements found in Table 4

Note: Regarding Acceptable Documentation – Self-employed personnel with no direct supervisor should contact the NFPA Admin & Support Services by emailing us at adminsvcs@nfpa.org. The certification administrators will work with you to gather the proper acceptable documentation.

Table 1: All Candidates

All CESP candidates (regardless of job function) must meet the following minimum requirements:	Acceptable Documentation
Must hold a high school diploma or equivalent	No Documentation Required
AND	
<p>Must have completed a minimum of 40 hours of electrical safety training (online or classroom) from one or more of the following sources within the last 3 years:</p> <ul style="list-style-type: none"> • NFPA 70E or other Electrical Safety Training from professional organizations such as NFPA, IBEW, NECA, IEC, etc. • Other approved electrical safety training (contact the NFPA Admin & Support Services if you wish to register another electrical safety program at adminsvcs@nfpa.org) • Teaching approved electrical safety classes will also satisfy this requirement, but only up to 20 hours (you must still receive some training regardless of the amount you teach). <p>NOTE: Training on NFPA 70, National Electrical Code is not considered electrical safety training for this requirement but is recognized as an important foundation. Therefore, such training counts on a ½ basis (i.e. 10 hours of NEC training counts as 5 hours toward this 40 hour requirement) and can only be counted toward a maximum of 5 of the required 40 hours.</p>	Certificate or proof of attendance/completion (must list the number of hours/CEUs for each training attended)

Table 2: Electricians

In addition to the minimum requirements found in Table 1, all Electricians applying for entry into the CЕСP program must meet ONE of the following:	Acceptable Documentation
Licensed electrician with 8,000 hrs (4 years) of verifiable work experience with electrical power systems	<ul style="list-style-type: none"> • Proof of Licensure AND • Letter from supervisor (showing number of hours worked)
OR	
In lieu of licensure, must show proof of electrician job role and 8,000 hrs (4 years) of verifiable work experience with electrical power systems	<ul style="list-style-type: none"> • Copy of job description (signed by supervisor) AND • Letter from supervisor (showing number of hours worked)

Table 3: Electrical Engineers

In addition to the minimum requirements found in Table 1, all Electrical Engineers applying for entry into the CЕСP program must meet ONE of the following:	Acceptable Documentation
Associate degree in electrical engineering from an accredited college or university with 8,000 hrs (4 years) of verifiable work experience with electrical power systems (field work)	<ul style="list-style-type: none"> • Proof of degree AND • Letter from supervisor (showing number of hours worked)
OR	
Bachelor’s degree (or higher) in electrical engineering from an accredited college or university with 4,000 hrs (2 years) of verifiable work experience with electrical power systems (field work)	<ul style="list-style-type: none"> • Proof of degree AND • Letter from supervisor (showing number of hours worked)
OR	
Licensed Registered Professional Electrical Engineer	<ul style="list-style-type: none"> • Proof of licensure

Table 4: Non-Electrician/Electrical Engineer (Other) Candidates

In addition to the minimum requirements found in Table 1, all other candidates applying for entry into the CЕСCP program must meet ONE of the following:	Acceptable Documentation
Certified Safety Professional (CSP) with 6,000 hrs (3 years) of verifiable work experience with electrical power systems	<ul style="list-style-type: none"> • Proof of CSP AND • Letter from supervisor (showing number of hours worked)
OR	
Bachelor’s degree (or higher) in engineering, technology, or other related technical discipline from an accredited college or university with 6,000 hrs (3 years) of verifiable work experience with electrical power systems	<ul style="list-style-type: none"> • Proof of degree AND • Letter from supervisor (showing number of hours worked)
OR	
Facilities/Plant/Factory safety professional with 20,000 hrs (10 years) of verifiable work experience with electrical power systems	<ul style="list-style-type: none"> • Copy of job description (signed by supervisor) AND • Letter from supervisor (showing number of hours worked)

Note: Please feel free to contact the NFPA Admin & Support Services with any questions regarding your entry into this certification program by emailing us at adminsvcs@nfpa.org.

Non-Discrimination Policy

NFPA evaluates all CЕСCP candidates without regard to race, color, religion, sex, sexual orientation, national origin, ancestry, age, or disability.

Program Fees & Payments

The CЕССР program fees are as follows:

- \$350 USD on initial program application (includes initial examination fee)
- \$175 USD retest examination fee (each time the exam is retested)
- \$150 USD to recertify at the end of your three (3) year certification period

Note: Other fees may be assessed and you may forfeit your examination fee if you do not appear for an exam or if you reschedule your testing date (see the **Rescheduling Exams** paragraph later in this section).

All payments must be received before any exam is taken or, in the case of recertification, before your three (3) year certification period ends. The NFPA accepts credit cards and checks. Please ensure all checks are payable to NFPA and are sent to the mailing address listed here:

NFPA Admin & Support Services
11 Tracy Drive
Avon, MA. 02322

APPLICATIONS & FORMS

For CЕССР candidates applying after 5/18/22, the initial program application and retest application are found in the Certification Management System (CMS) at <http://onlinecertification.nfpa.org/nfpassa>. *Please ensure that you are logged in to your NFPA.org profile before you go to the CMS.*

For individuals certified prior to 5/18/22, the retest application is available for download at

Application Acceptance

An application is accepted only when both of the following requirements are met:

- All required application information is provided to NFPA, including...
 - a completed application submitted in the CMS.
 - all acceptable documentation for your entry requirements
- The examination fee is processed by NFPA

Following the receipt of your CЕССР application form and examination fee, the NFPA will send you an authorization email with instructions on how to schedule the computer-based exam. A list of test centers is located at the test administrator's website at

<https://proscheduler.prometric.com/scheduling/searchAvailability>

Program Duration

You have twelve (12) months after you are accepted as a CESCO applicant to take and pass the exam. The twelve (12) month timer starts on the day your CESCO program application is accepted by the NFPA Admin & Support Services. If you do not pass the exam before the twelve (12) month period expires, you will be required to submit a new application and payment of \$350 USD.

Recertification

Once you become CESCO certified, you must recertify every three (3) years. In order to maintain currency and relevancy with electrical safety in the workplace, CESCO certification holders are required to demonstrate their continuing participation in professional development activities. This is accomplished through a points system. The detail of the process and the various means by which to earn recertification points can be found under Recertification Requirements on page 15. The fee for recertification is \$150 USD.

Exam Attributes

The exam is a three (3) hour maximum, open-book, 110 multiple choice question, computer-based, proctored exam taken at an approved testing center. Of the 100 exam questions, 100 are scored and 10 are being evaluated for future use as scored items. Examinees will not know which items are scored or un-scored.

Exam Results

The computer-based examination allows candidates to receive their results immediately upon completion. The exam results are reported as pass or fail. Your actual exam score or percentage will not be provided. You will also receive a diagnostic report that provides an infographic indicating how you performed on each content area so that you may see which topics you will need to study to prepare for a retest.

We do not reveal the number of correct questions that must be answered (known as a cut score). Your actual number (%) exam score will never be reported to you for either a passing score or a failed score.

See the **CESCO Exam Weighted Criteria Table** in the **Appendix** section of this handbook for a listing of the CESCO exam domains.

Retesting

If you fail your initial exam, you are permitted to retest two (2) additional times (**completing a retest application and paying a retest fee each time**) within twelve (12) months from the day your original CESCO application was accepted. If you fail the examination three (3) times within this period, you must wait until the twelve (12) month testing period expires before you will be allowed to restart the registration process. The cost to retest is \$175 USD.

For candidates who entered the program after 5/18/22, the retest application form is found on the CMS at <http://onlinecertification.nfpa.org/nfpassa>.

For candidates who entered the program prior to 5/18/22, a downloadable PDF is available at www.nfpa.org/cescp.

Rescheduling and Cancellation Policy

If you wish to change your exam date or time, you may do so through the Prometric scheduling portal at <https://proscheduler.prometric.com/?prg=NFPA2&path=confirm> or by contacting Prometric's contact centers listed on <https://www.prometric.com/nfpacert>.

There is no charge for reschedule or cancellation of an appointment if the change is made 30 or more days prior to your appointment date.

Between 29 and 5 calendar days prior to your appointment date, you may cancel or reschedule your appointment, but you will be required to pay a \$50 fee (to Prometric).

4 or fewer days prior to your appointment date, you may not reschedule. If you cancel your appointment during this period or fail to appear for your appointment, you will be considered a no-show, and will need to submit a retest application with NFPA and pay applicable fees prior to scheduling a new appointment.

Examination Preparation & Reference Materials

Here is a listing of recommended exam preparatory learning and reference materials:

- For candidates new to electrical safety topics, The NFPA recommends completion of the NFPA **Overview of NFPA 70E** seminar (or equivalent training).
- The NFPA recommends familiarity with the **NFPA 70E Handbook for Electrical Safety in the Workplace**® 2021 Edition (Note: This book is for optional exam preparation use only and therefore is **NOT** allowed in the testing center during the actual exam).
- Through self-study and other learning methods (see the section entitled **Entry Requirements** earlier in this handbook for details on preparatory training hour requirements), candidates must become thoroughly familiar with the **NFPA 70E Standard for Electrical Safety in the Workplace**® 2021 Edition **Note:** This (NFPA original printed book) is the **only** reference allowed in the testing center for your use as “open book” material during the actual exam.

Note: Both the **NFPA 70E Handbook for Electrical Safety in the Workplace**® 2021 Edition and the **NFPA 70E Standard for Electrical Safety in the Workplace**® 2021 Edition books are available for ordering through the NFPA printed catalog, on the Web at www.nfpa.org/catalog (in the NFPA 70E® section), or by phone at 1-800-344-3555.

Taking the Examination

The following suggestions, regulations, and procedures pertain to every applicant taking the examination:

- You must present a valid photo ID at the test center. The name on your ID must match the name you used for exam registration and scheduling. If they do not match, you may be turned away at the test center.
- Phone, pagers, smart watches, and any other personal electronic device are strictly prohibited in the test center. You will be provided a secure locker to store them in while you take the exam.
- Personal calculators are NOT permitted at the test center. A scientific calculator is available on-screen.
- You should bring only the approved, published and copyrighted NFPA references identified in this handbook into the exam room. Photocopies of the standards, additional pages with notations, and other test taking aids are not permitted. All materials taken into the exam room are subject to review by the test center proctor.
- You may highlight, tab, and make notations within your NFPA documents prior to entering the exam room. Only commercial permanent adhesive type tabs are allowed. Post-it type notes and flags or other types of easily moveable tabs are not permitted. You may not write on, mark in, or tab the pages of your NFPA documents during the examination. Doing so will be grounds for dismissal from the test site.
- Electronic versions of the reference materials are not permitted to be used at the test site.
- Visitors are not permitted at the test center.
- If you wish to leave the room during the test, you must secure the proctor's permission. You will not be allowed to make up lost time.
- Smoking is not permitted in the testing area.
- The NFPA shall have the right to revoke or invalidate any examination score with or without a finding of fault or misconduct if data forensic analysis or other credible evidence establishes a reasonable possibility that a score is not valid or the integrity or security of the exam was compromised.
- Examination Security: Failure to follow candidate instructions regarding examination security will result in your application being voided and forfeiture of your examination fee. Conduct that results in violation of examination security or disrupts the administration of the examination could result in cancellation of your examination and dismissal from the testing center. In addition, your examination will be considered void and will not be scored. Examples of misconduct include, but are not limited to, the following: writing in your NFPA 70E Standard book, looking at another candidate's examination, or talking with other candidates anytime during the entire examination period. You are particularly cautioned not to do so after you have completed the examination, as other candidates in the area might be taking a break and still not have completed the examination. You may not attend the examination only to review or audit test materials. You may not copy any

portion of the examination for any reason. No examination information may leave the test room under any circumstances. This includes memorizing questions for distribution to any other person. No unauthorized persons will be admitted into the testing area. It is very important for you to note all examination content is strictly confidential. You may only communicate about the test, or questions on the test, using the appropriate forms provided within the examination delivery system. At no other time, before, during or after the examination, may you communicate orally, electronically or in writing with any person or entity about the content of the examination or individual examination questions.

Completing the Certification Process

Once scoring of your exam is complete and other certification program requirements are met, you will receive the following items by email from NFPA:

- CЕССР certificate suitable for framing

Recertification Requirements

Recertification Process and Timing

Once you attain your CЕССР certification, you must recertify every three (3) years (36 months from the date on your certification documentation). Failure to meet all recertification requirements in a timely manner will result in you being removed from the NFPA certification list and will require you to register and retake the examination as a new CЕССР candidate. NFPA will attempt to send you a letter with an enclosed recertification form approximately three (3) months before your certification expiration date.

The recertification form may be found on the CЕССР certification web page located at www.nfpa.org/cescp.

The fee for recertification is \$150 USD

Recertification Points System

Recertification of your CЕССР is accomplished by accumulating a required amount of recertification points, as shown in Table 5, before your three (3) year certification period ends. It is important that you begin accumulating the required points as soon as possible. If college courses are declared for training hours, the same course cannot be taken twice within the 3-year period, and the candidate must convert credit hours to actual hours spent in the classroom.

A copy of the recertification submittal form and the points form are found on the CЕССР certification pages located at www.nfpa.org/cescp. It is highly recommended that you track your progress using these forms as you accumulate points over the three (3) years of your certification and before your certification expiration date.

Table 5: Recertification Requirements Point System

CЕСP Recertification Requirements					
In order to maintain currency and relevancy in the CЕСP field of practice, certification holders are required to submit a minimum of fifty (50) points of documented professional development for recertification. The 50 points must be submitted during the 3-year recertification cycle and must be related to the electrical safety profession.					
Training and Professional Education	Allotted Points		Minimum Points	Maximum Points	Required Documentation
Electrical Safety Training: Classroom or online training in electrical safety*	1 point	per contact hour	20	50	Certificate or letter of completion from presenter
NFPA 70: National Electrical Code (NEC) training	0.5 point	per contact hour	0	16	Certificate or letter of completion from presenter
Other Professional Development	Allotted Points		Minimum Points	Maximum Points	Required Documentation
Attendance at an electrical safety conference (such as the NFPA Conference & Exposition or others)	10 points	per conference	0	10	Proof of registration
Instructing or lecturing by the certification holder	2 pts	per hour of delivered training	0	40	Letter from supervisor or organizational training record
Membership on the NFPA 70E Technical Committee	10 pts	Per recertification period (3 years)	0	10	Official listing as technical committee member.
Publication by the certification holder	5 points 10 points 30 points	per blog / self-published per article in a periodical per book	0	30	Copy of article Copy of title page identifying author

Note: NFPA reserves the right to alter any recertification requirements as deemed necessary

* Training for this section can be on NFPA 70E, NFPA 70B, NESC, OSHA electrical safety training, arc flash, or any other course that is genuinely about electrical safety (such as electrical thermography), subject to approval by the NFPA Admin & Support Services.

CEU/Point Conversion: 1 CEU = 10 contact hours = 10 points

Recertification Audit

Certification holders will be subject to a random audit of their CЕССР recertification documentation for a period of up to six months after their recertification date. Accordingly, certification holders are expected to retain recertification documentation in their possession for six months beyond their recertification date. Recertification Points Forms are available at www.nfpa.org/cescp. Back up documentation is not required when submitting the Summary of Recertification Points Form.

Documentation

Reasonable proof of attendance/participation in the described categories will be accepted. Reasonable proof includes copies of agendas, rosters, or other descriptive program materials which have been signed and dated by the presenter/sponsor indicating the certification holder's attendance, course certificates, letters of attestation from course sponsors, college transcripts, and letters from employers. The certification holder is required to sign the descriptive materials as an attestation of their attendance.

RENEWAL

If NFPA does not receive the necessary recertification materials within the three-year period, the certification holder will no longer be considered a Certified Electrical Safety Compliance Professional (CESCP), and will no longer be entitled to use the CESCP credential in professional communications. To regain certification, the candidate must successfully complete the entire CESCP certification program (subject to the applicable application fees).

REPLACEMENT CERTIFICATES

For certificate holders who entered the program after 5/18/22, replacement certificates are available at <http://onlinecertification.nfpa.org/nfpassa>.

For certificate holders who entered the program prior to 5/18/22, please contact the certification department at adminsvcs@nfpa.org.

For more information please contact:

Mail: NFPA Admin & Support Services
11 Tracy Drive
Avon, MA. 02322

Email: adminsvcs@nfpa.org

Web: www.nfpa.org/certification

CESCP Exam Content Blueprint and Weighted Criteria Table

The following table indicates the approximate percentage (%) of exam content (exam items) for the five (5) major domain areas and the sub-components of those domain areas:

I. Electrical Safety Programs

30%

A. Scope and Purpose

- i. Understand the scope and purpose of NFPA 70E
- ii. Identify principles and components of an electrical safety program
- iii. Understand risk assessment procedures
- iv. Apply the hierarchy of risk control methods

B. Documentation Requirements

- i. Understand general documentation requirements for electrical safety programs
- ii. Understand training documentation requirements
- iii. Understand audit documentation requirements
- iv. Understand Lockout/Tagout documentation requirements

C. Maintenance Requirements

- i. Understand safety-related maintenance requirements for electrical equipment and installations
- ii. Identify maintenance impacts on safety-related work practices

D. Employer Responsibilities

- Articulate electrical safety program audit requirements
- i. Understand requirements and responsibilities related to Job Safety Planning and Job Briefings
- ii. Understand the requirements related to the use of test instruments and equipment
- iii. Understand requirements for qualified persons
- iv. Identify requirements and limitations of qualified vs. unqualified persons
- Understand other and additional training requirements
- vi. requirements

E. Other Party Responsibilities

- Identify and understand Employee Responsibilities
- i. Responsibilities
- ii. Identify and understand Host Responsibilities
- Identify and understand Contract Employer Responsibilities
- iii. Responsibilities

II. Electrical Safety-Related Work Practices

30%

A. Definitions

- i. Define electrical safety-related terminology
- ii. Distinguish correct vs. incorrect definitions

B. Emergency procedures for assisting victims of electrical incidents

- i. Identify methods of release from contact
- ii. Understand emergency response requirements

C. Risk Assessment and Hazard Analysis

- i. Understand the requirements and components of an electrical hazard risk assessment
- ii. Demonstrate understanding of how to perform a shock risk assessment
- iii. Demonstrate understanding of how to perform an arc flash risk assessment
- Explain the different approach boundaries and their use
- iv. their use
- v. Describe incident energy

- vi. Understand the effect of clearing time, short circuit current, and working distance on incident energy
- vii. Identify hazard information required on equipment labels
- viii. Understand the use and limitations of the PPE Category Classification Method
- ix. Distinguish between normal and abnormal equipment conditions
Understand the required use of alerting techniques
- x. techniques
- xi. Explain how to identify look-alike equipment

D. Personal Protective Equipment (PPE)

- i. Understand PPE ratings
Understand the PPE requirements for electrical hazards
- ii. hazards
- iii. Recognize differences between arc flash PPE and electrical shock PPE
- iv. Understand the requirements for the care and maintenance of PPE
- v. Understand limitations of PPE
- vi. Understand the various methods of determining appropriate PPE
Recognize requirements for other protective equipment (e.g., insulated tools, ladders, shields)
- vii. shields)

E. Electrical Hazards

- i. Identify the hazards associated with energized electrical conductors and circuit parts
- ii. Explain the relationship between electrical hazards and potential injuries

F. Other equipment

- i. Understand the proper use of and requirements for portable electric equipment
- ii. Understand the operation and requirements for GFCI protection devices
- iii. Understand the operation and limitations of overcurrent protective devices (OCPD)

III. Electrically Safe Work Conditions

25%

A Establishing an Electrically Safe Work Condition

- Understand the proper sequence of steps to establish and verify an electrically safe work condition
- i. work condition
- ii. Understand the purpose and application of single-line diagrams
- iii. Recognize the requirements for temporary protective grounding equipment
- iv. Understand the requirements related to the use of test instruments

B Lockout/ Tagout (LOTO)

- i. Understand LOTO principles and procedures
- ii. Understand forms of control
Understand the requirements for LOTO
- iii. Equipment

IV. Work Involving Electrical Hazards

5%

A. Energized Electrical Work

- i. Identify criteria for justification of energized work
Recognize exceptions to energized work requirements
- ii. requirements
- iii. Identify the elements of energized electrical work permits
- iv. Understand when an energized electrical work permit is and is not required

V. Safety Requirements for Special Equipment

10%

A. Electrolytic Cells

- i. Understand Safety-Related work practices for Electrolytic Cells
- ii. Identify electrical safety requirements related to Electrolytic Cells

B. Batteries and Battery Rooms

- i. Identify electrical safety requirements related to batteries and battery rooms

C. Lasers

Understand Safety-Related work practices for

- i. lasers
Identify electrical safety requirements related to
- ii. lasers

D. Power Electronic Equipment

- i. Understand Safety-Related work practices for Power Electronic Equipment
- ii. Identify electrical safety requirements related to Power Electronic Equipment

E. Research and Development Laboratories

- i. Understand Safety-Related work practices for Research and Development Laboratories
Identify electrical safety requirements related to Research and Development
- ii. Laboratories

F. Capacitors

Understand Safety-Related work practices for

- i. Capacitors
- ii. Identify electrical safety requirements related to Capacitors