Electrical Safety (NFPA 70E 2024) Part 1 Timed Outline

Section	Title	Questions	Minutes*
1	**NFPA 70E-2024 Sections 90.1, 90.2, 90.3** Introduce workers to the NFPA 70E Standard for Electrical Safety in the Workplace. Discuss the purpose of the 70E Standard, and who and what is covered by the Standard.	2	6
2	**NFPA 70E-2024 Sections 90.4, 90.5, 90.6** Review the arrangement of the NFPA 70E Standard and the purpose of the informative annexes. Examine mandatory versus permissive rules, explanatory materials, and the standards for formally interpreting the NFPA 70E Standard.	2	6
3	**NFPA 70E-2024 Article 100** Introduce workers to NFPA 70E terms and definitions to establish consistency across 70E Articles. Article 100 definitions allow for the uniform application of requirements from the 70E Standard.	2	4
4	**NFPA 70E-2024 Section 105.3** Examining the employer and employee responsibilities for maintaining a safe job site. Learning how to apply safety-related work practices and procedures, and who is considered a qualified person on the job.	2	5
5	**NFPA 70E-2024 Section 110.1, 110.2** Review general requirements as they apply to electrical safety-related work practices and introduce workers to the requirements for establishing an electrically safe work condition.	2	5
6	**NFPA 70E-2024 Sections 110.3** Outline the employer's responsibility to implement an electrical safety program (ESP) for the protection of employees. The ESP includes procedures for risk assessment and directs employees to work safely around electrical hazards on the job. The ESP promotes understanding of the NFPA Hierarchy of Risk Control Methods—always preferring to eliminate risk over safeguarding against it.	2	8
7	**NFPA 70E-2024 Section 110.4** Understanding NFPA 70E training requirements for employees on a job site. Looking at training requirements that apply to all employees exposed to electrical hazards on the job when the risk hazard cannot be effectively reduced to a safe level. Types of training including lockout/tagout training and emergency response training.	2	7
8	**NFPA 70E-2024 Section 110.5** Addressing host employer and contract employer responsibilities for safety on the jobsite: Host employers must notify contract employers of all hazards on the job when they are covered in the NFPA 70E Standard and relate to the contract employer's work.	2	5
9	**NFPA 70E-2024 Section 110.6** Learning testing and troubleshooting procedures performed by qualified persons. Instruments and equipment used for testing and troubleshooting electrical equipment. Visual inspections and repair of testing tools and equipment.	2	4
10	**NFPA 70E-2024 Section 110.7(A), 110.7(B)** Addressing proper handling, storage, and grounding of portable cord-and-plug connected electric equipment, cord-and-plug connected test instruments, and electric cord sets (extension cords).	2	7

11	**NFPA 70E-2024 Section 110.7 (C) — (F)** Learning visual inspection and wet location safe-usage requirements for portable cord-and-plug connected electric equipment, cord-and-plug connected test instruments, and electric cord sets (extension cords). Understanding requirements for following manufacturers instructions.	**2**	**5**
12	**NFPA 70E-2024 Section 110.8** What is Ground-Fault Circuit-Interruptor (GFCI) protection? Does GFCI protection differ from overcurrent protection and arc-fault protection? Discuss the operating principles of these protection devices.	**2**	**7**
13	**NFPA 70E-2024 Section 110.8, 110.9, 110.10** Learning the proper application of Ground-Fault Circuit-Interrupter (GFCI) protection for employees. Rules against modifying overcurrent protection of circuits and conductors, including on a temporary basis. Using all equipment according to manufacturer's instructions.	**2**	**7**
14	**NFPA 70E-2024 Article 120** Learning what it means to establish an electrically safe work condition and the danger of working on energized circuit conductors and parts? What are some measures that can be taken to be safe?	**2**	**5**
15	**NFPA 70E-2024 Section 120.2** Learning requirements for in-house lockout/tagout programs applicable to employees on the job site. Learning employer responsibilities for establishing the lockout/tagout program, documenting the lockout/tagout program, and implementing the lockout/tagout program.	**2**	**2**
16	**NFPA 70E-2024 Section 120.3** Understanding lockout/tagout principles, including: Employee involvement, proper procedures, control of energy, circuit interlocks, control devices, identification of locks and tags, and coordination of application.	**2**	**6**
17	**NFPA 70E-2024 Section 120.4** Reviewing lockout/tagout equipment and requirements, such as equipment having to accept an isolation lockout/tagout device. A look at additional general requirements for lockout and tagout devices.	**2**	**6**
18	**NFPA 70E-2024 Section 120.5(A)(1)—(4) (Simple Procedure)** Understanding lockout/tagout procedural planning, locating energy sources, identifying persons exposed to electrical hazards, identifying persons in charge, identifying when a simple lockout/tagout procedure can be applied, identifying control locations, de-energizing equipment (equipment shutdown), and releasing stored energy. Introduction to simple lockout/tagout procedure.	**2**	**4**
19	**NFPA 70E-2024 Section 120.5(A)(5) (Complex Procedure)** Introduction to complex lockout/tagout procedure. Identifying when to apply complex lockout/tagout procedure. Complex procedure review, including fourteen elements of control, such as load shutdown, releasing stored energy, verifying and testing circuitry, grounding for safety, etc.	**2**	**9**
20	**NFPA 70E-2024 Section 120.6** Learning the eight steps prescribed by NFPA 70E for establishing an electrically safe work condition. The NFPA requires these steps to be performed in order.	**2**	**5**
21	**NFPA 70E-2024 Article 130** Reinforcing special 70E requirements concerning all work performed involving electrical hazards. Obtaining energized electrical work permits for electricians and maintenance personnel who must work on energized parts or equipment. Understanding electric shock risk assessment procedures for hazardous electrical work.	**2**	**6**

22	**NFPA 70E-2024 Sections 130.5** Learning about arc-flash hazards and performing arc-flash risk assessment. What is PPE? Arc-flash equipment warning labeling requirements for equipment that is likely to be serviced while energized.	**2**	**4**
23	**NFPA 70E-2024 Section 130.7(C)(1)—(8)** Understanding PPE (Personal Protective Equipment) as an effective part of NFPA 70E Hierarchy of Risk Control Methods. Learning PPE general rules and care of equipment. Reviewing PPE components, including: Head area protection, eye protection, hearing protection, body protection, and hand, arm, and foot protection.	**2**	**6**
24	**NFPA 70E-2024 Section 130.7(C)(9)—(15)** PPE (Personal Protective Equipment) such as arc-rated suits, hoods, face shields, and gloves. Understanding clothing material characteristics and types of clothing not permitted where PPE is required.	**2**	**9**
25	**NFPA 70E-2024 Section 130.7(C) Tables** Table 130.7(C)(7)(a) for identifying glove and sleeve protection as PPE by its class designation. Table 130.7(C)(7)(b) for understanding maximum allowed testing intervals for rubber insulating equipment.	**2**	**6**
	Totals:	**50**	**240**
	Time Required to Complete Course:		**240**

*Just over one minute of time per question is included in the total to answer the questions.