Teri Gardner 3-6-23

For L&I Staff Use Only	
GF 3/6/23 L&I Apprenticeship Consultant	Teri Gardner 3-6-23 L&I Admin

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Request for Approval of Proposed Standards

TO: Washington State Apprenticeship & Training Council

FROM: Express Electric Apprenticeship Academy

Check the appropriate box:

☒ Committee ☐ Plant ☐ OJT

Occupation(s)	SOC Code	Hours
General Electrician (01)	47-2111.00	8000

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☒ Chair ☐ Authorized Signer	Date 3/1/2023	☒ Secretary	Date 3/1/2023
Print Name: Gary Mellema		Print Name: Lori Zylstra	
Signature: Gary L Mellema		Signature: Lori Zylstra	

Approved By: **Washington State Apprenticeship & Training Council**
Signature of the WSATC:
Date:

JF 3/6/23

Teri Gardner 3-6-23

JF 3/13/23

Teri Gardner 3-13-23

APPRENTICESHIP PROGRAM STANDARDS
adopted by

EXPRESS ELECTRIC APPRENTICESHIP ACADEMY
(sponsor name)

Occupational Objective(s):	SOC#	Term [WAC 296-05-015]
GENERAL ELECTRICIAN (01)	**47-2111.00**	**8000 HOURS**

APPROVED BY
Washington State Apprenticeship and Training Council
REGISTERED WITH
Apprenticeship Section of Fraud Prevention and Labor Standards
Washington State Department Labor and Industries
Post Office Box 44530
Olympia, Washington 98504-4530

APPROVAL:

Provisional Registration

Standards Last Amended

Permanent Registration

By: Chair of Council

By: Secretary of Council

EXPRESS ELECTRIC APPRENTICESHIP ACADEMY

INTRODUCTION

This document is an apprenticeship program standard. Apprenticeship program standards govern how an apprenticeship works and have specific requirements. This document will explain the requirements.

The director of the Department of Labor and Industries (L&I) appoints the Washington State Apprenticeship and Training Council (WSATC) to regulate apprenticeship program standards. The director appoints and deputizes an assistant director to be known as the supervisor of apprenticeship who oversees administrative functions through the apprenticeship section at the department.

The WSATC is the sole regulatory body for apprenticeship standards in Washington. It approves, administers, and enforces apprenticeship standards, and recognizes apprentices when either registered with L&I's apprenticeship section, or under the terms and conditions of a reciprocal agreement. WSATC also must approve any changes to apprenticeship program standards.

Apprenticeship programs have sponsors. A sponsor operates an apprenticeship program and declares their purpose and policy herein to establish an organized system of registered apprenticeship education and training. The sponsor recognizes WSATC authority to regulate and will submit a revision request to the WSATC when making changes to an apprenticeship program standard.

Apprenticeships are governed by federal law (29 U.S.C 50), federal regulations (29 CFR Part 29 & 30), state law (49.04 RCW) and administrative rules (WAC 296-05). These standards conform to all of the above and are read together with federal and state laws and rules

Standards are changed with WSATC approval. Changes are binding on apprentices, sponsors, training agents, and anyone else working under an agreement governed by the standards. Sponsors may have to maintain additional information as supplemental to these standards. When a standard is changed, sponsors are required to notify apprentices and training agents. If changes in federal or state law make any part of these standards illegal, the remaining parts are still valid and remain in force. Only the part made illegal by changes in law is invalid. L&I and the WSATC may cooperate to make corrections to the standards if necessary to administer the standards.

Sections of these standards identified as bold "**insert text**" fields are specific to the individual program standards and may be modified by a sponsor submitting a revised standard for approval by the WSATC. All other sections of these standards are boilerplate and may only be modified by the WSATC. See WAC 296-05-003 for the definitions necessary for use with these standards.

*All sponsor inserted language must meet or exceed minimum requirements as established by the appropriate occupations outlined in these standards for each occupation. Minimum Guideline requirements have been ***emboldened***, ***italicized*** and captured in bordering and may not be revised.

Sponsor Introductory Statement (Required):

The science of electricity is constantly changing and expanding. From its inception, the Electrical Industry has kept pace with new technologies and is now one of the largest industries in the United States. This rapid expansion means that the electrical apprentice must be given sound basic training in the knowledge of the trade, supplemented by sufficient instruction in the theories of electrical science.

The electrical trade is unique in that it is mechanical, technical, and professional. In order to meet industry demands in an ever-evolving technical environment, the electrical industry must select individuals who have the aptitude to learn and develop the knowledge, skills and abilities to proficiently perform the individual job tasks associated with the work processes of the trade. The industry must select and train individuals who will diligently work and study to stay abreast of current and future emerging technologies.

The Electrical Industry, by its very nature, places a high degree of personal responsibility on each individual. While supervision is most often provided on the job, the electrical worker is constantly called upon to make decisions concerning proper performance methodology.

Electrical installations are very complex and highly sophisticated. Faulty installations often prove to be extremely expensive and hazardous. Much of the complex wiring involved in the work is hidden from view when the job is completed; any defect in this hidden work can cause serious damage and prove to be extremely costly. The well-trained electrical worker takes pride in the appearance of their work, and in its technical correctness and structural soundness.

The Express Electric Apprenticeship Academy (EEAA) has dedicated its time to develop an efficient training program so the apprentice can, through a systematic program of schooling and on-the-job training, become a well-qualified electrical worker.

The EEAA will adopt and promote nationally developed Apprenticeship Standards and Curricula to ensure quality apprenticeship and training for the industry in the best interest of the apprentice, management, the customer and the public.

POLICY

The local apprenticeship and training program shall be administered by the Express Electric Apprenticeship Academy (EEAA). Express Electric and all apprentices shall conform to these Standards.

These Standards, after proper registration with the Apprenticeship Section of the Washington State Department of Labor and Industries, herein after referred to as the "Registration Agency", shall be adhered to.

All entities and/or individuals cooperating in these Standards shall refer all matters involving any apprentice or pertaining to apprenticeship and training to the EEAA. The EEAA shall take action and dispose of all apprenticeship matters before action is reported to, or acted upon by, the sponsoring organization.

The provisions of these Standards shall not be construed as permitting violation of any applicable local, State or Federal law or regulation having the effect of law.

I. GEOGRAPHIC AREA COVERED:

The sponsor must train inside the area covered by these standards. If the sponsor wants to train outside the area covered by these standards, the sponsor must enter a portability agreement with a sponsor outside the area, and provide evidence of such an agreement for compliance purposes. Portability agreements permit training agents to use apprentices outside the area covered by the standards. Portability agreements are governed by WAC 296-05-009.

These standards cover the following counties in Washington State:

Whatcom, Island, Skagit, Snohomish & King Counties.

II. MINIMUM QUALIFICATIONS:

Minimum qualifications must be clearly stated and applied in a nondiscriminatory manner [WAC 296-05-015(17)].

Age:	***18 Years Old***

Education:	***General Electrician (01)*** ***Must be a high school graduate from a school accredited by a State Education Agency; or have a GED; or have completed a High School Equivalency; or have completed an Associate degree or higher from a school accredited by a State Education Agency; and*** ***Show evidence of successful completion of: 1 full year of high school Algebra with a passing grade of "C" or better.*** ***Applicants who have not completed one full year of high school algebra with a passing grade of "C" or better, may qualify under one of the following:*** ***1. Equivalent post high school algebra course(s) with a grade of "C" or better.*** ***2. Current math placement results from a community college facility***

indicating a placement level beyond high school level algebra. ***3. Provide certificate of completion from a committee approved online tech math course.***

Physical:	***Physically and mentally able to safely perform or learn to safely perform essential functions of the job with or without reasonable accommodations.***

Testing: **None**

Other: **Must be an employee of Express Electric, LLC.**

III. CONDUCT OF PROGRAM UNDER WASHINGTON EQUAL EMPLOYMENT OPPORTUNITY PLAN:

Sponsors with five (5) or more apprentices must adopt an Equal Employment Opportunity (EEO) Plan and Selection Procedure (chapter 296-05 WAC and 29 CFR Part 30).

The recruitment, selection, employment and training of apprentices during their apprenticeship shall be without discrimination because of race, sex (including pregnancy and gender identity), sexual orientation, color, religion, national origin, age, genetic information, disability or as otherwise specified by law. The sponsor shall take positive action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required by the rules of the Washington State Apprenticeship and Training Council and Title 29, Part 30 of the Code of Federal Regulations.

A. Selection Procedures:

1. **Express Electric, LLC will post through company email when there are open positions for Express Electric Apprenticeship Academy.**

2. **Applications may be picked up in person at the Express Electric, LLC. office located at 1354 Pacific Place, Ferndale, WA. 98248. Application may also be requested and returned via email to expressadmin@expresselectric.com.**

3. **Applications will be accepted for 30 days from date of posting.**

4. **Applications will be ranked based on seniority at Express Electric.**

5. **The applicants on the ranked list will remain active for a period of two (2) calendar years from the date of the ranked list inception. Applicants will remain on the ranked list for**

that duration unless they decline an offer, or request to be removed from the list.

6. **The Committee will determine the number of openings prior to holding interviews.**

7. **Interviews:**
   a. Each applicant shall be interviewed individually.

   b. All applicants must be asked the same questions.

   c. After a brief introduction, the interviewing committee will ask questions to find out as much as possible about applicants' capacity to participate in apprenticeship.

   d. Questions will be for evaluation purposes focused on work experience, mechanical/technical abilities, and motivation to complete this program.

   e. Evaluations of interviews will be based on a scale of 0-5 with 0 being unacceptable and being excellent on each topic. In the event of a tie, seniority will be used to rank those tied.

   f. Applicants' interview questions and answers will be placed in the applicants' files for record keeping purposes.

B. Equal Employment Opportunity Plan:

1. **Participation in annual workshops, if available, designed to familiarize all concerned with the apprenticeship system and current opportunities.**

2. **Cooperate with school boards, community colleges, and vocational schools to develop programs, which prepare students for entrance into apprenticeship.**

3. **Disseminate information concerning equal opportunity policies of the program's Sponsor.**

4. **Engage in any other such action to ensure that recruitment, selection, employment, and training of apprentices shall be without discrimination because of race, color, religion, national origin, or sex.**

C. Discrimination Complaints:

Any apprentice or applicant for apprenticeship who believes they have been discriminated against may file a complaint with the supervisor of apprenticeship (WAC 296-05-443).

IV. TERM OF APPRENTICESHIP:

The term of apprenticeship for an individual apprentice may be measured through the completion of the industry standard for on-the-job learning (at least two thousand hours) (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach) [WAC 296-05-015].

A. General Electrician (01)
8000 Hours of reasonably continuous employment

A. General Electrician (01)

The EEAA shall see that each apprentice completes a minimum of 8000 hours of reasonably continuous supervised employment. The EEAA will attempt to provide for participation in all of the work processes as outlined in Section VIII of these Standards. The apprentice shall participate in the number of hours of related classroom training, outside the normal work hours, per year of apprenticeship, as specified in Section IX of these Standards.

V. INITIAL PROBATIONARY PERIOD:

An initial probationary period applies to all apprentices, unless the apprentice has transferred from another program. During an initial probationary period, an apprentice can be discharged without appeal rights. An initial probationary period is stated in hours or competency steps of employment. The initial probationary period is not reduced by advanced credit or standing. During an initial probationary period, apprentices receive full credit for hours and competency steps toward completion of their apprenticeship. Transferred apprentices are not subject to additional initial probationary periods [WAC 296-05-003].

The initial probationary period is [WAC 296-05-015(22)]:

A. The period following the apprentice's registration into the program. An initial probationary period must not be longer than twenty percent of the term of the entire apprenticeship, or longer than a year from the date the apprenticeship is registered. The WSATC can grant exemptions for longer initial probationary periods if required by law.

B. The period in which the WSATC or the supervisor of apprenticeship may terminate an apprenticeship agreement at the written request by any affected party. The sponsor or the apprentice may terminate the agreement without a hearing or stated cause. An appeal process is not available to apprentices in their initial probationary period.

C.

1. General Electrician (01)
The first one thousand-six hundred (1,600) hours of employment shall constitute the initial probationary period or one year from date of registration, whichever

occurs first.

During the initial probationary period, the EEAA shall make a thorough review of the apprentice's ability and development. Advanced standing for previous training or experience does not reduce the initial probationary period.

Applicants awarded advanced standing at the time of registration shall have their demonstrated skill, knowledge and overall performance evaluated during the probationary period. Adjustments to the assigned period of apprenticeship and/or level of related classroom training may be made during the initial probationary period, following appropriate reviews and evaluation by the EEAA. Such reviews and determinations shall be properly documented and applied equally to all apprentices.

The first 1600 hours of OJT employment and satisfactory performance in related classroom training shall constitute the initial probationary period.

VI. RATIO OF APPRENTICES TO JOURNEY LEVEL WORKERS

Supervision is the necessary education, assistance, and control provided by a journey-level employee on the same job site at least seventy-five percent of each working day, unless otherwise approved by the WSATC. Sponsors ensure apprentices are supervised by competent, qualified journey-level employees. Journey level-employees are responsible for the work apprentices perform, in order to promote the safety, health, and education of the apprentice.

A. The journey-level employee must be of the same apprenticeable occupation as the apprentice they are supervising unless as noted above or otherwise allowed by the

Revised Code of Washington (RCW) or the Washington Administrative Code (WAC) and approved by the WSATC.

B. The numeric ratio of apprentices to journey-level employees may not exceed one apprentice per journey-level worker [WAC 296-05-015(5)].

C. Apprentices will work the same hours as journey-level workers, except when such hours may interfere with related/supplemental instruction.

D. Any variance to the rules and/or policies stated in this section must be approved by the WSATC.

E. The ratio must be described in a specific and clear manner, as to the application in terms of job site, work group, department or plant:

1. ***General Electrician (01)***
   The employer is allowed a ratio of one (1) apprentice to one (1) journey-level worker per job site, unless one of the following conditions is met:

   No more than two apprentices for every journey level Residential (02) or Limited Energy (06) specialty electrician when working in that electrician's specialty.

   Apprentices with a minimum of 7,000 hours of OJT will be allowed to work without the direct supervision of a journey-level person provided that they have been issued a six- month, nonrenewable, unsupervised electrical training certificate by the Washington State Labor and Industries Electrical Section. Such apprentices will not be counted for the purposes of a ratio calculation nor be allowed to supervise other apprentices.

Supervision and Ratio of apprentices registered in the above occupations shall follow requirements established under RCW 19.28.161.

(Insert Additional Occupations)

VII. APPRENTICE WAGES AND WAGE PROGRESSION:

A. Apprentices must be paid at least Washington's minimum wage, unless a local ordinance or a collective bargaining agreement require a higher wage. Apprentices must be paid according to a progressively increasing wage scale. The wage scale for apprentices is based on the specified journey-level wage for their occupation. Wage increases are based on hours worked or competencies attained. The sponsor determines wage increases. Sponsors must submit the journey-level wage at least annually or whenever changed to the department as an addendum to these standards. Journey-level wage reports may be submitted on a form provided by the department. Apprentices and others should contact the sponsor or the Department for the most recent Journey-level wage rate.

B. Sponsors can grant advanced standing, and grant a wage increase, when apprentices demonstrate abilities and mastery of their occupation. When advanced standing is granted, the sponsor notifies the employer/training agent of the wage increase the apprenticeship program standard requires.

C. Wage Progression Schedules

1. General Electrician (01)

Step	Hour Range or competency step	Percentage of journey-level wage rate
1	**0000-1000**	**45%**
2	**1001-2000**	**50%**
3	**2001-3000**	**55%**
4	**3001-4000**	**60%**
5	**4001-5000**	**65%**
6	**5001-6000**	**70%**
7	**6001-7000**	**75%**
8	**7001-8000**	**80%**

General Electrician (01) apprentices shall not be paid less than the progressive scale identified within this section regardless the scope of work being performed.

(Insert Additional Occupations)

VIII. WORK PROCESSES:

The apprentice shall receive on the job instruction and work experience as is necessary to become a qualified journey-level worker versed in the theory and practice of the occupation covered by these standards. The following is a condensed schedule of work experience, which every apprentice shall follow as closely as conditions will permit. The following work process descriptions pertain to the occupation being defined.

A. General Electrician (01)

In no case shall:

1. The term of apprenticeship be less than 8000 hours, or
2. Work hours in electrical specialty occupations, such as the residential (02) or limited energy (06) specialties, be more than 4000 cumulative hours for the term of apprenticeship, or
3. Commercial and industrial work hours be less than 4000 cumulative hours for the term of apprenticeship, or
4. Department credited work experience in electrical specialties with less than a 4000 hour experience requirement be credited toward apprenticeship completion. PerWAC296-46B-945 Table 945-1 Note 6.

General Electrician (01)	***Approximate Hours/Competency Level***
1. COMMERCIAL-wiring of public commercial, school and hospital buildings; the installation and repair of all equipment therein; and necessary pre-fabrication and preparation INDUSTRIAL-wiring of all industrial buildings and equipment; the maintenance, repair, and alteration of the same; and necessary pre-fabrication and preparation	****No less than 4000 Hours****
2. RESIDENTIAL-wiring of residences, duplexes, and small apartment buildings and necessary pre-fabrication and preparation SPECIALIZED SYSTEMS-wiring of systems which include; sound, data transmission, telephone, fire alarm, fiber optics, energy management, closed circuit television programmable controllers, and nurse call systems	****No more than 4000 Hours****
Total Hours/# of Competency Levels:	***8000***

(Insert Additional Occupations)

IX. RELATED/SUPPLEMENTAL INSTRUCTION:

The apprentice must attend related/supplemental instruction (RSI). Time spent in RSI shall not be considered as hours of work and the apprentice is not required to be paid.

RSI must be provided in safe and healthy conditions as required by the Washington Industrial Safety and Health Act and applicable federal and state regulations.

Hours spent in RSI are reported to L&I each quarter. Reports must show which hours are unpaid and supervised by a competent instructor versus all other hours (paid and/or unsupervised) for industrial insurance purposes.

For purposes of coverage under the Industrial Insurance Act, the WSATC is an employer and the apprentice is an employee when an unpaid, supervised apprentice is injured while under the direction of a competent instructor and participating in RSI activities.

If apprentices do not attend required RSI, they may be subject to disciplinary action by the sponsor.

A. The methods of related/supplemental training must be indicated below (check those that apply):

(X) Supervised field trips

(X) Sponsor approved training seminars (specify) **Such as safety training, subject matter expert presentations, manufacturer and vendor demonstrations, and leadership workshops.**

Sponsor approved training seminars (specify)

( ) Sponsor approved online or distance learning courses (specify)

( ) State Community/Technical college

( ) Private Technical/Vocational college

(X) Sponsor Provided (lab/classroom)

(X) Other (specify) **Such as industry related videos and off-site contracted training as approved by the Committee.**
Other (specify)

B. **180** Minimum RSI hours per year defined per the following [see WAC 296-05-015(6)]:

( ) Twelve-month period from date of registration.*
( ) Defined twelve-month school year: **(insert month)** through **(insert month)**.
(**X**) Two-thousand hours of on the job training.

**If no selection is indicated above, the WSATC will define RSI hours per twelve-month period from date of registration.*

C. Additional Information:

1. ***General Electrician (01)***

   The 144 hours identified above shall be 144 hours/year of competent instructor led classroom instruction ("must" include lab or hands-on instruction)
   - ***This requirement includes a minimum of 720 RSI hours over the term of apprenticeship under the same conditions.***
   - ***On-line would not be excluded as a delivery method but could only be offered for hours over the 144 annual minimum/720 cumulative total.***

2. **The EEAA permits individuals with previous education and training to test out of related courses. It has developed a nondiscriminatory policy adopting uniform written and proficiency-type examinations to be used in determining whether or not to award credit and waive specific course(s), or area(s) of training.**

3. **The EEAA shall secure competent Instructors whose knowledge, experience and ability to teach shall be carefully examined and monitored. The Instructors shall be qualified in or take the teacher training courses covering teaching techniques and adult learning styles.**

4. **The EEAA shall secure the instructional aids and equipment it deems necessary to provide quality instructions.**

5. **The Instructors shall administer periodic examinations and report the results to the EEAA for proper filing.**

6. **The EEAA shall monitor the apprentice's performance in related training and take appropriate action to encourage improvement where warranted. The EEAA will require performance reports to be filed on a regular basis by the Instructor, evaluating the apprentice's related instructional training performance. Such reports shall be maintained by the EEAA as part of its official file for each apprentice - providing an accumulative record of performance in related training.**

RSI plans shall be updated by the sponsor every five years or as requested by the department to ensure compliance with these standards.

Competent Instructor qualifications shall include the following:

- ***Meets requirements of WAC 296-05-003, excluding the Journey Level Experience requirement***
- ***Meets requirements of WAC 296-46B-970, excluding the following;***
  - ***Manufacturer/Vendor representative when not accompanied by Competent Instructor***
  - ***Electrical Administrator with no Journey level trade qualification***

X. ADMINISTRATIVE/DISCIPLINARY PROCEDURES:

A. Administrative Procedures:

The sponsor may include in this section a summary and explanation of administrative actions performed at the request or on the behalf of the apprentice. Such actions may include but are not limited to:

1. Voluntary Suspension: A temporary interruption in progress of an individual's apprenticeship agreement at the request of the apprentice and granted by the sponsor. The program sponsor shall review apprentices in suspended status at least once each year to determine if the suspension is still appropriate.

2. Advanced Standing or Credit: The sponsor may provide for advanced standing or credit for demonstrated competency, acquired experience, training or education in or related to the occupation. All sponsors need to ensure a fair and equitable process is applied to all apprentices seeking advanced standing or credit per WAC 296-05-015(11).

3. Sponsor Procedures:

   a. **It is the responsibility of the Apprentices to have reliable transportation to attend work, classes, and scheduled labs.**

   b. **Apprentices are required to take the state level examination within thirty (30) days of being approved for examination by the Department and report results to the Committee. Any Apprentice who fails the exam will be required to engage in additional study as determined by the Sponsor and retake and pass exam within 120 days of completing their OJT and RSI requirements.**

   c. **Travel Policies for Apprentices:**
   The apprenticeship program will make every effort to offer its training programs outside of normal working hours. If an Apprentice is required to travel more than 120 miles for training or disciplinary procedures, they will be accommodated as follows:

1) Lodging will be arranged and paid for by the program at a local hotel. Apprentices may be required to share rooms. Maximum of two (2) apprentices per room. Occupants must be of the same gender.
2) Per Diem for meals is provided for apprentices required to travel fifty (50) miles or more for training or disciplinary procedures.
3) If an Apprentice is required to travel more than fifty (50) miles for training or disciplinary procedures mileage will be reimbursed at the current federal allowed rate.

B. Disciplinary Procedures

1. The obligations of the sponsor when taking disciplinary action are as follows:

   d. The sponsor shall be responsible for enacting reasonable policies and procedures and applying them consistently. The sponsor will inform all apprentices of their rights and responsibilities per these standards.

   e. The sponsor shall notify the apprentice of intent to take disciplinary action and reasons therefore 20 calendar days prior to taking such action. The reason(s) supporting the sponsor's proposed action(s) must be sent in writing to the apprentice.

   f. The sponsor must clearly identify the potential outcomes of disciplinary action, which may include but are not limited to discipline, suspension or cancellation of the apprenticeship agreement.

   g. The decision/action of the sponsor will become effective immediately.

2. The sponsor may include in this section requirements and expectations of the apprentices and an explanation of disciplinary actions imposed for noncompliance. The sponsor has the following disciplinary procedures to adopt:

   a. Disciplinary Probation: A time assessed when the apprentice's progress is not satisfactory. During this time the sponsor may withhold periodic wage advancements, suspend or cancel the apprenticeship agreement, or take further disciplinary action. A disciplinary probation may only be assessed after the initial probation is complete.

   b. Disciplinary Suspension: A temporary interruption in the progress of an individual's apprenticeship agreement. Conditions will include not being allowed to participate in On-the-Job Training (OJT), go to Related Supplemental Instruction (RSI) classes or take part in any activity related to the Apprenticeship Program until such time as the sponsor takes further action. The program sponsor shall review apprentices in such status at least once each year.

c. Cancellation: Refers to the termination of an apprenticeship agreement at the request of the apprentice, supervisor, or sponsor. [WAC 296-05-003].

3. Sponsor Disciplinary Procedures:

a. Failure to maintain employment with Express Electric may result in cancellation of the Apprenticeship Agreement.

b. Apprentices caught in the act of plagiarism or cheating will be called before the EEAA committee and face disciplinary action up to and including cancellation of the Apprenticeship Agreement.

c. Apprentices are required to attend their scheduled classes. Apprentices absent or tardy (unexcused) more than two (2) scheduled classes will be called before the EEAA committee and face disciplinary action up to an including cancellation of the Apprenticeship Agreement.

An excused absence must meet one of the following conditions:

(1) Military Service
(2) Medical restriction
(3) Funeral for immediate family member
(4) ER visit for self or an immediate family member
(5) Jury Duty
(6) Anything covered/protected under the WA Family Leave Act

Apprentices who miss related instruction will not advance to the next step until the deficiencies have been met at the convenience of the instructor. All courses will be caught up prior to the next term of classes or Apprentices will face disciplinary action up to and including cancellation of the Apprenticeship Agreement.

d. Apprentices shall be required to maintain a GPA of 2.0 (70%) at all times. Failure to do so will result in disciplinary action up to and including cancellation of the Apprenticeship Agreement.

e. Apprentices that receive an unsatisfactory report by the employer on their performance review may be called before the EEAA committee and face disciplinary action up to and including cancellation of the Apprenticeship Agreement.

f. The EEAA will not tolerate harassment defined as follows: unwelcome or unsolicited verbal, physical or sexual conduct which creates an intimidating, offensive, or hostile environment. The EEAA committee will promptly investigate and act upon all charges of harassment maintaining confidentiality of the report and person(s) involved.

g. Apprentices who are required to appear before the EEAA committee for possible disciplinary action will be so notified in writing at least twenty (20) days

prior to their requested appearance.

h. If an Apprentice fails to respond and/or appear before the EEAA committee after due notice, disciplinary action, up to and including cancellation of the Apprenticeship Agreement, may be invoked in the Apprentice's absence.

C. Apprentice Complaint Procedures:

1. The apprentice must complete his/her initial probationary period in order to be eligible to file a complaint (WAC 296-05-105).

2. Complaints involving matters covered by a collective bargaining agreement are not subject to the complaint procedures in this section.

3. Complaints regarding non-disciplinary matters must be filed with the program sponsor within 30 calendar days from the date of the last occurrence. Complaints must be in writing.

4. If the apprentice disagrees with the resolution of the complaint or wishes to contest the outcome of a disciplinary action by the program sponsor, the apprentice must file a written request for reconsideration with the program sponsor within 30 calendar days from the date the apprentice received written notice of action by the program sponsor.

5. The program sponsor must reply, in writing, to the request for reconsideration within 30 calendar days from the date the program sponsor receives the request. The program sponsor must send a copy of the written reply to the apprentice within the 30 calendar days.

6. If the apprentice disagrees with the program sponsor's decision, the apprentice may file an appeal with the Apprenticeship Program, (WAC 296-05-105). If the apprentice does not timely file an appeal, the decision of the program sponsor is final after 30 calendar days from the date the program sponsor mails the decision to the apprentice. See section "D" below.

D. Apprentice Complaint Review/Appeals Procedures:

1. If the apprentice disagrees with the program sponsor's decision, the apprentice must submit a written appeal to L&I's apprenticeship section within 30 calendar days from the date the decision is mailed by the program sponsor. Appeals must describe the subject matter in detail and include a copy of the program sponsor's decision.

2. The L&I apprenticeship section will complete its investigation within 30 business days from the date the appeal is received and attempt to resolve the matter.

3. If the Apprenticeship section is unable to resolve the matter within 30 business days, the Apprenticeship section issues a written decision resolving the appeal.

4. If the apprentice or sponsor is dissatisfied with L&I's decision, either party may request the WSATC review the decision. Requests for review to the WSATC must be in writing. Requests for review must be filed within 30 calendar days from the date the decision is mailed to the parties.

5. The WSATC will conduct an informal hearing to consider the request for review.

6. The WSATC will issue a written decision resolving the request for review. All parties will receive a copy of the WSATC's written decision.

XI. SPONSOR – RESPONSIBILITIES AND GOVERNING STRUCTURE

The following is an overview of the requirements associated with administering an apprenticeship program. These provisions are to be used with the corresponding RCW and/or WAC. The sponsor is the policymaking and administrative body responsible for the operation and success of this apprenticeship program. The sponsor may assign an administrator or a committee to be responsible for day-to-day operations of the apprenticeship program. Administrators and/or committee members must be knowledgeable in the process of apprenticeship and/or the application of chapter 49.04 RCW and chapter 296-05 WAC and these standards. If applicable, sponsors must develop procedures for:

A. Committee Operations (WAC 296-05-009): (Not applicable for Plant Programs)
Apprenticeship committees must be composed of an equal number of management and non-management representatives from a minimum of four to a maximum of twelve members. Committees must convene meetings at least three times per year attended by a quorum of committee members as defined in these approved standards.

B. Program Operations
The sponsor will record and maintain records pertaining to the administration of the apprenticeship program and make them available to the WSATC or Department upon request. Records required by WAC 296-05-100 will be maintained for five (5) years; all other records will be maintained for three (3) years. Apprenticeship sponsors will submit required forms/reports to the Department of Labor and Industries through one of the two prescribed methods below:

Sponsors shall submit required reports through assigned state apprenticeship consultant.

Sponsors shall submit required forms/reports through the Apprentice Registration and Tracking System (ARTS).

1. The following is a listing of forms/reports for the administration of apprenticeship programs and the time-frames in which they must be submitted:

a. Apprenticeship Agreements – within first 30 days of employment
b. Authorization of Signature forms - as necessary
c. Approved Training Agent Agreements– within 30 days of sponsor action
d. Minutes of Apprenticeship Committee Meetings – within 30 days of sponsor approval (not required for Plant program)
h. Request for Change of Status - Apprenticeship/Training Agreement and Training Agents forms – within 30 days of action by sponsor.
i. Journey Level Wage Rate – annually, or whenever changed as an addendum to section VII. Apprentice Wages and Wage Progression.
j. Related Supplemental Instruction (RSI) Hours Reports (Quarterly):
   1st quarter: January through March, due by April 10
   2nd quarter: April through June, due by July 10
   3rd quarter: July through September, due by October 10
   4th quarter: October through December, due by January 10
k. On-the-Job Work Hours Reports (bi-annual)
   1st half: January through June, by July 30
   2nd half: July through December, by January 31

2. The program sponsor will adopt, as necessary, local program rules or policies to administer the apprenticeship program in compliance with these standards. Requests for revision to these standards of apprenticeship must be submitted 45 calendar days prior to a quarterly WSATC meeting. The Department of Labor and Industries, Apprenticeship Section's manager may administratively approve requests for revisions in the following areas of the standards:

   a. Program name
   b. Sponsor's introductory statement
   c. Section III: Conduct of Program Under Washington Equal Employment Opportunity Plan
   d. Section VII: Apprentice Wages and Wage Progression
   e. Section IX: Related/Supplemental Instruction
   f. Section XI: Sponsor – Responsibilities and Governing Structure
   g. Section XII: Subcommittees
   h. Section XIII: Training Director/Coordinator

3. The sponsor will utilize competent instructors as defined in WAC 296-05-003 for RSI. Furthermore, the sponsor will ensure each instructor has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide instruction.

C. Management of Apprentices:

1. Each apprentice (and, if under 18 years of age, the parent or guardian) will sign an apprenticeship agreement with the sponsor, who will then register the agreement with the Department before the apprentice attends RSI classes, or within the first 30 days of employment as an apprentice. For the purposes of industrial insurance coverage

and prevailing wage exemption under RCW 39.12.021, the effective date of registration will be the date the agreement is received by the Department.

2. The sponsor must notify the Department within 30 days of all requests for disposition or modification to apprentice agreements, which may include:

   a) Certificate of completion
   b) Additional credit
   c) Suspension (i.e. military service or other)
   d) Reinstatement
   e) Cancellation
   f) Corrections
   g) Step Upgrades
   h) Probation Completion date
   i) Other (i.e., name changes, address)
   j) Training Agent Cancellation

3. The sponsor commits to rotate apprentices in the various processes of the skilled occupation to ensure the apprentice is trained to be a competent journey-level worker.

4. The sponsor shall periodically review and evaluate apprentices before advancement to the apprentice's next wage progression period. The evidence of such advancement will be the record of the apprentice's progress on the job and during related/supplemental instruction.

5. The sponsor has the obligation and responsibility to provide, insofar as possible, reasonably continuous employment for all apprentices in the program. The sponsor may arrange to transfer an apprentice from one training agent to another or to another program when the sponsor is unable to provide reasonably continuous employment, or they are unable to provide apprentices the diversity of experience necessary for training and experience in the various work processes as stated in these standards. The new training agent will assume all the terms and conditions of these standards. If, for any reason, a layoff of an apprentice occurs, the apprenticeship agreement will remain in effect unless canceled by the sponsor.

6. An apprentice who is unable to perform the on-the-job portion of apprenticeship training may, if the apprentice so requests and the sponsor approves, participate in related/supplemental instruction, subject to the apprentice obtaining and providing to the sponsor written requested document/s for such participation. However, time spent will not be applied toward the on-the-job portion of apprenticeship training.

7. The sponsor shall hear and decide all complaints of violations of apprenticeship agreements.

8. Upon successful completion of apprenticeship, as provided in these standards, and passing the examination that the sponsor may require, the sponsor will recommend

the WSATC award a Certificate of Completion of Apprenticeship. The sponsor will make an official presentation to the apprentice who has successfully completed his/her term of apprenticeship.

D. Training Agent Management:

1. The sponsor shall offer training opportunities for apprentices by ensuring reasonable and equal working and training conditions are applied uniformly to all apprentices. The sponsor shall provide training at an equivalent cost to that paid by other employers and apprentices participating in the program. The sponsor shall not require an employer to sign a collective bargaining agreement as a condition of participation.

2. The sponsor must determine whether an employer can adequately furnish proper on the job training to an apprentice in accordance with these standards. The sponsor must also require any employer requesting approved training status to complete an approved training agent agreement and to comply with all federal and state apprenticeship laws, and these standards.

3. The sponsor will submit training agent agreements to the Department with a copy of the agreement and/or the list of approved training agents within thirty calendar days from the effective date. Additionally, the sponsor must submit rescinded training agent agreements to the Department within thirty calendar days of said action.

E. Committee governance (if applicable): (see WAC 296-05-009)

1. Apprenticeship committees shall elect a chairperson and a secretary who shall be from opposite interest groups, i.e., chairperson-employers; secretary-employees, or vice versa. If the committee does not indicate its definition of quorum, the interpretation will be "50% plus 1" of the approved committee members. The sponsor must also provide the following information:

   a. Quorum: **A quorum shall consist of four (4) members minimum with equal representation from employer and employee representatives.**

   b. Program type administered by the committee: **Individual Non-Joint**

   c. The employer representatives shall be:

April Zylstra - Secretary
1354 Pacific Place
Ferndale, WA. 98248

Brent Shields
1354 Pacific Place
Ferndale, WA. 98248

Hale Hardt
1354 Pacific Place
Ferndale, WA. 98248

d. The employee representatives shall be:

Gary Mellema - Chair
1354 Pacific Place
Ferndale, WA. 98248

Ryan Duffy
1354 Pacific Place
Ferndale, WA. 98248

Andrew Crabtree
1354 Pacific Place
Ferndale, WA. 98248

F. Plant programs

For plant programs the WSATC or the Department designee will act as the apprentice representative. Plant programs shall designate an administrator(s) knowledgeable in the process of apprenticeship and/or the application of chapter 49.04 RCW and chapter 296-05 WAC and these standards.

The designated administrator(s) for this program is/are as follows:

(Plant Program Administrator) **(Plant Program Administrator)**

XII. SUBCOMMITTEE:

Subcommittee(s) approved by the Department, represented equally from management and non-management, may also be established under these standards, and are subject to the main committee. All actions of the subcommittee(s) must be reviewed by the main committee. Subcommittees authorized to upgrade apprentices and/or conduct disciplinary actions must be structured according to the same requirements for main committees.

(insert subcommittee/s)

(sub-committee member info) **(sub-committee member info)**

XIII. TRAINING DIRECTOR/COORDINATOR:

The sponsor may employ a person(s) as a full or part-time training coordinator(s)/ training director(s). This person(s) will assume responsibilities and authority for the operation of the program as are delegated by the sponsor.

Roger Anderson, Training Director

EXPRESS ELECTRIC APPRENTICESHIP ACADEMY

1354 Pacific Place
Ferndale, WA. 98248

Must be designated by the sponsor for electrical training programs

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Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Journey Level Wage Rate

From which apprentices' wage rates are computed

TO: Washington State Apprenticeship & Training Council

FROM: Express Electric Apprenticeship Academy

Occupation:	County(ies):	Journey Level Wage Rate:	Effective Date:
General Electrician (01)	Whatcom, Skagit, Island, Snohomish, King	$40.00	4/1/2023
		$	
		$	
		$	

Sponsors must submit the journey-level wage at least annually or whenever changed to the Department.

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☒ Chair ☐ Authorized Signer	Date 3/2/2023	☒ Secretary	Date 3/2/2023
Print Name: Gary Mellema		Print Name: April Zylstra	
Signature: Gary L Mellema		Signature: April R Zylstra	

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Department of Labor and Industries
Apprenticeship Section
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		$	

Sponsors must submit the journey-level wage at least annually or whenever changed to the Department.

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☒ Chair ☐ Authorized Signer	Date 3/2/2023	☒ Secretary	Date 3/2/2023
Print Name: Gary Mellema		Print Name: April Zylstra	
Signature: Gary L Mellema		Signature: April R Zylstra	

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L&I Apprenticeship Consultant	L&I Admin

Department of Labor and Industries
Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Apprenticeship Committee Representative Qualifications

The Apprenticeship Committee is responsible for the day-to-day operations of the apprenticeship and training program and operating the program consistent with the standards of apprenticeship. Pursuant to WAC 296-05-009, the Representative listed below shall be familiar with the applicable apprenticeship standards.

Name of Program
Express Electric Apprenticeship Academy

Committee Representative Name	Committee Representative Signature
Andrew Crabtree	

☐ Employer Representative ☒ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
01 Foreman	Express Electric	09/05	Present
02 & Apprentice	Express Electric	05/04	09/05
02 & Apprentice	Dale's Electric	09/03	05/04
02 & Apprentice	Al's Electric	11/99	09/03

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Independant Electrical Contractors - I.E.C.	05/04	Electrical	N/A
Meridan High School	06/98	Core Curriculum	Diploma

Other Technical Certifications or Licenses Held

01 Administrator - 12/08
01 Journeyman - 09/05
02 Journeyman - 04/05

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L&I Apprenticeship Consultant	L&I Admin

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Apprenticeship Committee Representative Qualifications

The Apprenticeship Committee is responsible for the day-to-day operations of the apprenticeship and training program and operating the program consistent with the standards of apprenticeship. Pursuant to WAC 296-05-009, the Representative listed below shall be familiar with the applicable apprenticeship standards.

Name of Program
Express Electric Apprenticeship Academy

Committee Representative Name	Committee Representative Signature
Ryan Duffy	

☐ Employer Representative ☒ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
Electrician	Express Electric	10/07	02/23
Electrician	Dale's Electric	06/02	01/07

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Independant Electrical Contractors - I.E.C.	12/06	WA. State Council Certification	Electrician
South Puget Sound College	08/99	AA Degree	AA Degree
Centrailia High School	05/91	Core Studies	Diploma

Other Technical Certifications or Licenses Held

01 Journeyman - 12/06

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Apprenticeship Committee Representative Qualifications

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Name of Program
Express Electric Apprenticeship Academy

Committee Representative Name	Committee Representative Signature
Hale Hardt	Hale Hardt

☒ Employer Representative ☐ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
PM / OM	Express Electric	08/2008	2/28/23
Owner	Blue Heron Electric	07/1993	08/2008
Trainee	Alta Electric	10/1991	07/1993

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Blaine High School	06/85		

Other Technical Certifications or Licenses Held

02 electrician

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Apprenticeship Committee Representative Qualifications

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Name of Program
Express Electric Apprenticeship Academy

Committee Representative Name	Committee Representative Signature
Gary Mellema	Gary L Mellema

☐ Employer Representative ☒ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
Electrician	Express Electric	03/10	Present
Electrician	Excel Electric	06/94	03/10

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Bellingham Technical College	06/94	Electrican Program	Degree
Lynden Christian High School	06/92	high School Courses	Diploma

Other Technical Certifications or Licenses Held

Washington State 01 General Journeyman since July of 2000

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Apprenticeship Section
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Olympia WA 98504-4530

Apprenticeship Committee Representative Qualifications

The Apprenticeship Committee is responsible for the day-to-day operations of the apprenticeship and training program and operating the program consistent with the standards of apprenticeship. Pursuant to WAC 296-05-009, the Representative listed below shall be familiar with the applicable apprenticeship standards.

Name of Program
Express Electric Apprenticeship Academy

Committee Representative Name	Committee Representative Signature
Brent Shields	

☒ Employer Representative ☐ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
Project Manager	Express Electric	10/14	Present
Electrician	Express Electric	05/02	10/14
Electrician	DM Shields Electric	10/99	05/02

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification
Virgina Electrical Apprenticeship School	2000-2002	2 yr Electricial Apprenticeship	
Western Washington University	1999	Economics/Math	
Peninsula Community College	1995	General	AA
Sequim High School	1993		Diploma

Other Technical Certifications or Licenses Held

Washington State - Master Electrician
ME01 - General

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Apprenticeship Committee Representative Qualifications

The Apprenticeship Committee is responsible for the day-to-day operations of the apprenticeship and training program and operating the program consistent with the standards of apprenticeship. Pursuant to WAC 296-05-009, the Representative listed below shall be familiar with the applicable apprenticeship standards.

Name of Program
Express Electric Apprenticeship Academy

Committee Representative Name	Committee Representative Signature
April Zylstra	

☒ Employer Representative ☐ Employee Representative (*Does not have the authority to hire or fire*)

Work Experience

Position (most recent first)	Employer / Organization	From (mm/yy)	To (mm/yy)
HR Office Manag	Express Electric	04/16	Present
HR - Admin	Cascade Connections	01/12	04/16
Administrator	Cascade Connections	03/93	01/12

Education History

Name of Training and/or School (most recent first)	Completed Date (mm/yy)	Program of Study	Degree or Certification

Other Technical Certifications or Licenses Held

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Apprenticeship Section
PO Box 44530
Olympia WA 98504-4530

Apprenticeship Related/Supplemental Instruction (RSI) Plan Review

Program Name Express Electric Apprenticeship Academy	
Occupation General Electrician (01)	
Term/OJT Hours 8000	Total RSI Hours 720 total
Training Provider Express Electric Apprenticeship Academy	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprentice and assures that:

1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliances with WISHA and applicable federal and state regulations.
4. The RSI Plan is maintained, updated and submitted to the Department a minimum of once every 5 years (WSATC Policy 2015-01; rev, 10-21-21).
5. The RSI will be conducted by instructors who meet the qualification of the “competent instructor” as described in WAC 296-05-003:
    a. Has demonstrated a satisfactory employment performance in her/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
    b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
    c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
6. If using alternative forms of instruction, such as correspondence, electronic media, or other self-study, instruction shall be clearly defined.

Signatures on next page

Form must be signed by Committee Chair *and* Secretary *or* Program's Authorized Signer

☒ Chair ☐ Authorized Signer	Date 3/2/2023	☒ Secretary	Date 3/2/2023
Print Name: Gary Mellema		Print Name: April Zylstra	
Signature: Gary L Mellema		Signature:	

Training Provider Signature

Approved By (Print Name): Gary Mellema	Title: Chair
Signature of the Training Provider:	
Date: 3/2/2023	

If additional training providers are needed, go to page 4.

SBCTC

Print Name: Genevieve Howard	Title: Policy Associate
Signature of the Program Administrator:	
Date: 4/7/2023	
☑ SBCTC recommends approval	☐ SBCTC recommends return to sponsor

Program Sponsor:	Skilled Occupational Objective:
Express Electric Apprenticeship Academy	General Electrician (01)

Note: The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the "Description of element/course" field.

Describe minimum hours of study per year in terms of (check one):

☐ 12-month period from date of registration.

☐ Defined 12-month school year.

☒ 2,000 hours of on-the-job training.

Element/Course: Introduction/Orientation/Tools/Safety – Electrical Hazards & Safe Work Practices – PPE-Year 1	Planned Hours: 5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Complete paperwork and distribute books & tools. Cover electrical hazards & safe electrical practices. Cover the importance of PPE as your last line of defense.	

Element/Course: OSHA Construction Safety – Falls/Ladders & Stairs/Scaffolds -Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Cover and understand fall protection systems. Cover and understand ladder & stairway safety.	

Element/Course: Electrical Fundamentals – Unit 1 – Matter-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy		
Description of element/course: Study Matter, Atomic Theory, and the Law of Charges. Study the process of how atoms become ionized, both positive & negative. Study static charge and discuss examples.		

Element/Course: Electrical Fundamentals – Unit 2 – Electron Theory-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy		
Description of element/course: Understanding orbits and the role electrons play in electricity. Understand the significance of valence electrons. Relate the number of valence electrons of an atom to identify it as a conductor, semi-conductor, or insulator.		

Element/Course: Electrical Fundamentals – Unit 3 – Magnetism-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy		
Description of element/course:		

Study how magnetism plays a role in much of the electrical equipment used today. Study the history and early uses of magnetism. Understand the concepts of magnetism. Understand the laws of attraction of magnetic poles. Study the process in which materials become magnetized.	

Element/Course: Electrical Fundamentals – Unit 4 – Electricity-year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Understand the importance of a strong knowledge of electrical theory. List methods of creating electromotive force. Identify uses of each source of electrical energy. Be able to give examples of each source of electrical energy, uses and common applications.	

Element/Course: Digital Multimeter Principles – Chapters 1-4-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Demonstrate the safe handling, storage, and use of a digital multimeter. Define and explain the various displays, abbreviations, symbols, and terminology associated with a digital multimeter. Define and explain the application of the extended features of a typical digital multimeter.	

Element/Course: Digital Multimeter Principles – Chapters 5-9-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric	
Description of element/course: Demonstrate the proper settings and technique for measuring AC and DC voltages. Demonstrate the proper settings and technique for determining continuity, resistance, and AC & DC current. Apply Ohm's Law and power formulas to determine the missing variable when 2 of the formula values are known.	

Element/Course: Digital Multimeter Principles – Chapter 10-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Explain how changes in frequency affect the operation of electrical equipment and demonstrate how to determine frequency and duty cycle using a digital multimeter. Review the Digital multimeter and accessories you will use every day and exhibit a working knowledge of all aspects of a digital multimeter.	

Element/Course: Digital Multimeter Principles - Review & Competency-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Review all materials from Digital Multimeter Principles Chapters 1-10. Complete a competency test from the book.	

Element/Course: Review-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Review of all materials covered and prepare for review exam.	

Element/Course: Review Exam-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by Express Electric Apprenticeship Academy:	
Description of element/course: Successfully pass the Review Exam within the program completion requirements.	

Element/Course: Lab Activity-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☐ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Explain, demonstrate & practice different scenarios where 3&4 way switching can be installed.	

Element/Course: Electrical Fundamentals – Unit 5 – Electromagnetism-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Study the relationship between current flow and magnetic lines of flow. Utilize the left-hand rule for conductors and understand how the electromagnetic field interacts in a looped conductor.	

Element/Course: Electrical Fundamentals – Unit 6 – Uses of electromagnetism-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Understand how different electrical metering devices utilize electromagnetism. Identify commonly used equipment which use electromagnetism such as motors, generators, and electromagnetic relays.	

Element/Course: Electrical Fundamentals – Unit 7 – The Electrical Circuit-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by Express Electric Apprenticeship Academy:		
Description of element/course: Outline basic components of electrical circuits and their significance. Study the differences of electron & conventional current flow theories. Study the relationship between voltage, resistance, current & power in a circuit.		

Element/Course: Electrical Fundamentals – Unit 8 – Math-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy		
Description of element/course: Introduce & demonstrate basic math terms & rules. Demonstrate the ability to perform basic mathematics essential to the electrical trade including squaring, square roots, volume, metric prefix kilo, rounding& parentheses.		

Element/Course: Electrical Fundamentals – Unit 9 – Electrical Formulas-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply)		

☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Identify the basics of the electrical circuit. Understand the advantages of AC over DC power with respect to power transmission & distribution. Understand the best electrical conductors in order. Study OHM's Law in DC & AC circuits. Study proper use of the power wheel for calculating circuit values. Understand aspects of power in relation to losses, cost, & voltage.	

Element/Course: Electrical Fundamentals – Unit 10 – Series Circuits-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Study common uses of series circuits as they apply to electrical construction. State the laws & rules of series circuits. Perform calculations pertaining to series circuits.	

Element/Course: Electrical Fundamentals – Unit 11 – Parallel Circuits-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Study common uses of parallel circuits as they apply to electrical construction. Know the laws & rules for parallel circuits. Perform calculations pertaining to parallel circuits. Study practical uses of series-parallel circuits. List circuits that contain series-parallel connections.	

Element/Course: Electrical Fundamentals – Unit 12 – Series/Parallel circuits-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Review series & parallel circuits. Study how circuit rules apply to series & parallel connected devices when working with series-parallel circuits.	

Element/Course: Electrical Fundamentals – Unit 13 – Multiwire circuits-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Study the role the neutral conductor plays in multiwire circuits and current flow. Understand unbalanced current and balanced systems. Introduce and understand branch circuits and using multiwire circuits. Learn about NEC requirements when using multiwire circuits.	

Element/Course: Lab Activity-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☐ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Worksheet – Series-Parallel Calculations.	

Element/Course: WAC / RCW Training-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study	

Provided by: Express Electric Apprenticeship Academy
Description of element/course: This day will be used for the following: Gaining knowledge and understanding of the Washington Administrative Code and the Revised Code of Washington.

Element/Course: Review cover Material	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Review of all materials covered in section.	

Element/Course: Review Exam 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Successfully pass Review Exam 2 within the program completion requirements.	

Element/Course: Electrical Fundamentals – Unit 14 – The Electrical System-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Study & design of typical electrical systems in relation to intended paths for current. Utility ground-fault current path, premises neutral current path, premises ground-fault current path will be studied. Understand high-voltage transmission. Use voltage drop & power loss. Understand the gradual voltage adjustments throughout transmission by transmission lines, substations & distribution transformers.	

Element/Course: Electrical Fundamentals – Unit 15 – Protection Devices-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Understand different types of faults. Study common types of OCPD's. Study the construction of different types of OCPD's. Understand AIR ratings of OCPD's and short-circuit current ratings of equipment. Understand operational characteristics of GFCI's and common uses of this type of protection for persons and utilization equipment. Understand the operational characteristics of AFCI's as well as common uses of this type of protection.	

Element/Course: Electrical Fundamentals – Unit 16 – Alternating Current-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy		
Description of element/course: Understand why alternating current is used for transmission. Understand the protection of alternating current. Recognize illustrations of sine waves and describe the phase relationship of two or more sine waves that are related to one another. Recall formulas and calculate alternating-current values.		

Element/Course: Electrical Fundamentals – Unit 17 – Capacitance-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy		
Description of element/course: Define Capacitance. Understand and list operation of capacitors in an alternating-current circuit. Understand and list use of capacitors as filters. Understand and list the safe discharging of capacitors. Determine capacitance, capacitive reactance, and phase angle between voltage and current of an RC circuit.		

Element/Course: Electrical Fundamentals – Unit 18 – Inductance-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy		
Description of element/course: Understand alternating current flow and fluctuating magnetic fields. Understand fluctuating magnetic fields and induction. Understand counter-electromotive force (CEMF). Calculate resistance, inductive reactance, and inductance of inductors.		

Element/Course: Electrical Fundamentals – Unit 19 – Power Factor & Efficiency-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Understand and relate apparent power and true power as well as units of measurement. Understand power factor of alternating-current circuits. Understand the unity power factor. Calculate the cost of using an electrical appliance or load over a selected length of time. Calculate loads for selecting circuit equipment when power factor is involved.	

Element/Course: Electrical Fundamentals – Unit 20 – Motors-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5yrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Understand and relate principles of motor operation. Understand and relate all ratings listed on the motor nameplate, as well as the FLC compared to the FLA. Understand and relate motor starting current, motor running current, and overload protection. Check the leads of different types of direct-current motors and identify them. Check the leads of different types of alternating-current motors and identify them.	

Element/Course: Electrical Fundamentals – Unit 21 – Generators-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Understand the operation of direct-current generators. Understand the operation of alternating-current generators. Study and understand the operation of three-phase generators. Identify the leads of windings for proper connections.	

Element/Course: Electrical Fundamentals – Unit 22 – Transformers-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5yrs ☒ Lab 1yrs ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course:	

Study and identify the components of different types of transformers and understand their operations. Recap inductance. Understand efficiency, applied and inducted voltages, load current, and primary current on transformer windings. Calculate line current for single-phase and three-phase transformers.

Element/Course: Lab Activity – Box Fill-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 1.5hrs ☒ Lab 2hrs ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Box fill calculations. Properly size device boxes. Properly size junction and pull boxes.	

Element/Course: Lab Activity – Box Fill-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☐ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Express Electric	
Description of element/course: Box fill calculations. Properly size device boxes. Properly size junction and pull boxes.	

Element/Course: Review for Exam 3-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Review all units in the *Basic Electrical Theory* textbook.	

Element/Course: Exam 3-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Successfully pass the Exam 3 within the program completions requirements.	

Element/Course: Introduction to the NEC-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Possess a general understanding of how to use the National Electrical Code and its intent. Understand the general layout of the NEC.	

Element/Course: Apprenticeship Supplement – Articles 90 & 100-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Academy	
Description of element/course: Study the history of the NEC – when it was established and how its updated. Understand the purpose of the NEC, practical safeguarding, adequacy, and intention. Cover the scope of the NEC, including what is and isn't covered. Understand the meaning of terms used throughout the NEC. Understand why some terms are contained in specific articles.	

Element/Course: Apprenticeship Supplement – Article 110	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply)		

☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Demonstrate a clear understanding of the importance of installing products in accordance with their listing and/or labeling instructions, and termination/torquing requirements. Understand short-circuit current and short-circuit current ratings of electrical equipment. Cover deteriorating agents and mechanical execution of work. Thoroughly understand electrical connections focusing on temperature limitations and equipment provisions.	

Element/Course: AC/DC Fundamentals-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Review all material pertaining to electrical theory using unit summaries.		

Element/Course: Apprenticeship Supplement – Grounding & Bonding-Year 1	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by:Express Electric Apprenticeship Program		
Description of element/course: Understand the general requirements for the installation and termination of grounding and bonding conductors. Comprehend the protection of fittings and clean surfaces.		

Element/Course: Apprenticeship Supplement – Grounding & Bonding-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Understand service raceways and enclosures. Comprehend other enclosures. Understand bonding equipment and intersystem bonding termination. Comprehend bonding enclosures.	

Element/Course: Apprenticeship Supplement – Grounding & Bonding-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Understand equipment grounding and equipment grounding conductors.	

Element/Course: Lab / Activity-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Identify correct conductor size and ampacity using the NEC for a given basic application. Perform conductor ampacity calculations considering conduit fill and/or ambient temperature.	

Element/Course: WAC / RCW-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course:	

This day will be used for the following: Gaining knowledge and understanding of the Washington Administrative Code and the Revised Code of Washington.

Element/Course: Review for Exam 4-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all material from Quarter 4 to prepare for the quarterly exam.	

Element/Course: Review Exam 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass the Review Exam 4 within the program completion requirements.	

Element/Course: Year 1 Review	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all material from Level 1 utilizing unit summaries to prepare for the Level 1 Final Exam.	

Element/Course: Year 1 Exam	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Year 1 Final Exam within the program completion requirements.	

Element/Course: Introduction, Orientation & Tools – Year 2	Planned Hours: 8
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Sign-off, Books & Documents. Policies & Procedures	

Element/Course: OSHA Construction Safety – Electrical Safety & PPE-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover electrical hazards & safe electrical practices. Cover the importance of PPE – Your last line of defense against injury.	

Element/Course: OSHA Construction Safety – Confined Space, Emergency Response, & Lockout/Tagout.-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course:		

Learn & understand how to get in and out of confined spaces safely. Learn and understand how to deal with incidents on-site. Learn & understand how to control hazardous energy. Review confined space entry, emergency response, and lockout/tagout. Successfully pass quiz within the program completion requirements.	

Element/Course: NEC - Article 90 – Introduction-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Understand the intent & purpose of the NEC. List locations both covered and not covered by the NEC. List the general articles and the supplemental and modifying articles as well as communications and tables. Identify key words that signify mandatory and permissive rules. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC – Article 100 – Definitions-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Study and comprehend the importance of understanding the language of the code and the meaning of the terms contained within the NEC. Cover definitions. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC – Article 110 – Requirements for Electrical Installations 1-Year 1	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Introduce article 110 by covering the scope. Understand the significance of 110.3(b). Study interrupting ratings of overcurrent devices. Study short-circuit current and short-circuit current ratings of electrical equipment. Cover deteriorating agents and mechanical execution of work. Thoroughly study electrical connections focusing on temperature limitations and equipment provisions. Study the requirements for high-leg identification and flash protection warning signs. Properly select an enclosure for a given installation condition.	

Element/Course: NEC – Article 110 – Requirements for Electrical Installations 2-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Study and understand spaces about electrical equipment. Study working depth in relation to voltage and condition as shown in table 110.26(A)(1). Cover working width, height, and clear spaces. Lay out electrical equipment with proper clearances along with adequate entrance/egress. Study the requirements for foreign systems in dedicated electrical space. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC – Article 200 – Use and Identification of Grounded (Neutral) Conductors.-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course:	

Study the article and the neutral conductor's continuity requirements. Study and demonstrate proper methods of identification for grounded conductors. Study methods of re-identifying white conductors within multi-conductor cables. Study terminal identification. Give examples of the dangers of incorrect polarity of neutral terminals or leads. Successfully pass the article quiz within the program completion requirements.

Element/Course: NEC – Article 210 – Branch Circuits 1-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Identify the article and study articles with specific branch-circuit requirements. Learn what determines a branch-circuit's rating. Cover multiwire branch-circuit requirements. Relate prior lessons on ground-fault devices and protection to GFCI branch-circuit requirements. Study required branch-circuits focusing on specific dwelling unit requirements. Cover AFCI requirements for dwelling unit branch-circuits. Study branch-circuit ratings. Point out that neutral conductors not terminating on an overcurrent device don't have to be sized at 125% for continuous loads.	

Element/Course: NEC – Article 210 – Branch Circuits 2-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover branch-circuit overcurrent protection. Study outlet device ratings for branch-circuits and cord-and-plug connected loads. Cover sections on permissible loads, multiple occupancies, and required outlets general requirements. Study the constitution of "wall space" according to the NEC as it pertains to the location of "general use" receptacle outlets within dwelling occupancies. Study the constitution of "countertop space" according to the NEC as it pertains to the location of receptacles served by small-appliance branch circuits.	

Element/Course: NEC – Article 210 – Branch Circuits 3-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Study the requirements for dwelling unit bathrooms, garages, basements, outdoors, and hallways. Study permissions for guest rooms, suites, dormitories, and similar occupancies with respect to placement for permanent furniture layout. Successfully pass the article quiz within the program completion requirements.	

Element/Course: Review for Exam 5	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all material from section to prepare for the review exam.	

Element/Course: Exam 5	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Exam 5 within the program completion requirements.	

Element/Course: NEC Article 215 – Feeders-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study	

Provided by: Express Electric Apprenticeship Program
Description of element/course: Study the scope of Article 215 with practical examples & illustrations. Study ampacity calculation for feeder conductors. Study load calculations for selecting OCPD for feeder conductors. Study equipment grounding conductor sizing & terminating. Study ground-fault protection of equipment. Study identification for feeder conductors. Successfully pass the article quiz within the program completion requirements.

Element/Course: NEC Article 220 – Branch-Circuit, Feeder & Service Calculations1-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Calculate branch-circuit loads & selection ampacities. Select proper OCPD for branch-circuits. Select minimum conductor size for branch-circuits.	

Element/Course: NEC Article 220 – Branch-Circuit, Feeder & Service Calculations 2-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Calculate branch-circuit loads & selection ampacities. Select proper OCPD for branch-circuits. Select minimum conductor size for branch-circuits. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC Article 225 – Outside Branch-Circuits & Feeders-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Cover Article 225 in its entirety. Exhibit equipment commonly used for outdoor installations. Exhibit the function & mechanics of equipment commonly used for outdoor installations. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC Article 230 – Services 1-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Cover Article 230 in its entirety. Exhibit equipment commonly used for outdoor installations. Exhibit the function & mechanics of equipment commonly used for outdoor installations.		

Element/Course: NEC Article 230 – Services 2-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Select appropriate equipment for outside wiring. Assemble appropriate equipment necessary for outdoor wiring installations. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Article 240 – Overcurrent Protection 1 – Parts 1-3-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply)	

☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program
Description of element/course: Cover definitions in article 240. Point out that overcurrent protection for specific appliances should be referenced within the article that governs that type of equipment. Be sure to cover Article 240.4. Point out the list of standard OCPD ratings. Study the location of OCPD in the circuit.

Element/Course: NEC Article 240 – Overcurrent Protection 2 – Parts 4-6-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Make an emphasis on understanding tap conductors. Utilize tap rules properly where permitted. Cover fuse and circuit breaker types & requirements. Iterate fuse types & requirements as well as breaker types & requirements. Successfully pass the article quiz within the program completion requirements.	

Element/Course: Apprenticeship Supplement – Article 250 – Grounding & Bonding-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Grasp an understanding of equipment grounding & equipment grounding conductors. Understand the different methods of equipment grounding.	

Element/Course: Lab – GFCI Devices-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Select and install proper GFCI protection for given circumstances.	

Element/Course: WAC / RCW-Year 2	Planned Hours: 8
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: This day will be used for the following: Gaining knowledge and understanding of the Washington Administrative Code and the Revised Code of Washington.	

Element/Course: Review for Exam 6	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials to prepare for Exam 6. Make sure all information that will be on the exam is covered.	

Element/Course: Review Exam 6	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Exam 6 within the program completion requirements.	

Element/Course: NEC Article 242 – Surge-Protective Devices-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Recognize the uses of SPD's. Recognize the permitted uses of SPD's. Understand how SPD's are rated. Understand how to properly install SPD's. Recognize different types of SPD's along with common applications of the different types. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Article 300 – General Requirements for Wiring Methods & Materials 1-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Study general conductor requirements. Cover protection of physical damage. Study minimum cover requirements. Study protection against physical damage. Go over raceways exposed to different temperatures. Cover electrical continuity requirements. Demonstrate proper securing & supporting. Study mechanical continuity. Cover splices & pigtails. Study the purpose of a minimum length of free conductors. Study where boxes and conduit bodies are required.	

Element/Course: NEC Article 300 – General Requirements for Wiring Methods & Materials 2-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Demonstrate proper methods for installing conductors in raceways. Study the principles regarding induces currents in metal raceways & enclosures. Study proper patching techniques to limit the spread of fire. List acceptable wiring methods for installation in ducts & plenums as well as spaces used for environmental air. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC Article 310 – Conductors for General Wiring 1-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: List the requirements for conductors installed in parallel including minimum size. Identify locations & corrosive conditions affecting conductor selection. Study insulation temperature limitations. Go over methods of conductor identification.		

Element/Course: NEC Article 310 – Conductors for General Wiring 2-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Study Conductor construction, conductor ampacity, adjustment factors, and correction factors. Utilize Table 310.16 Conductor Ampacity to select conductors for given installations. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC Article 312 – Cabinets, Cut-Out Boxes & Meter Socket Enclosures.-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover installations in damp or wet locations. Study requirements for enclosures installed in walls. List methods to properly repair gaps around enclosures. Go over conductor protection from abrasion when entering an enclosure. Study minimum wire-bending space based on Table 312.6(A). Cover permissions to use enclosures as raceways or for splices. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Article 314 – Outlet, Device, Pull & Junction Boxes, Conduit Bodies, and Handhole Enclosures 1-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Identify and study the differences between nonmetallic & metallic boxes as well as installation requirements associated with them. Review box fill calculations.	

Element/Course: NEC Article 314 – Outlet, Device, Pull & Junction Boxes, Conduit Bodies, and Handhole Enclosures 2-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5 hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Go over conductors entering boxes or conduit bodies. Demonstrate how to install boxes recessed in walls or ceilings. Properly select the correct size pull boxes for given raceway sizes and pull type. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Articles 320 & 330 – Armored Cable (Type AC) and Metal-Clad Cable (Type MC)-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: List the uses permitted and not permitted for the wiring method. State the securing and supporting intervals or other requirements. Study any ampacity and/or bending radius requirements. Describe the construction specification. Successfully pass the article quiz within the program completion requirements.	

Element/Course: Lab Activity – Voltage Drop Calculations-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☐ Classroom ☒ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Introduction to the application of and method for voltage-drop calculations.	

Element/Course: Flex Day – School/Instructor Choice-Year 2	Planned Hours: 8
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: This day can be used for any of the following: Make Up Day, Safety Training, Special Event, Study & Practice, Company Specific Training.	

Element/Course: Review for Exam 7	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials to prepare for Exam 7. Make sure all information that will be on the exam is covered.	

Element/Course: Review Exam 7	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Exam 7 within the program completion requirements.	

Element/Course: NEC Articles 334,336,& 338 – Cable Types NM, NMC, TC, SE & USE.-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: List the uses permitted and not permitted for the wiring method. State the securing and supporting intervals or other requirements. Study any ampacity and/or bending radius requirements. Describe the construction specification. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Articles 340, 342, & 348 – Cable Type UF, Conduit Types IMC and FMC.-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: List the uses permitted and not permitted for the wiring method. State the securing and supporting intervals or other requirements. Study any ampacity and/or bending radius requirements. Describe the construction specification. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Articles 350, 352, & 356 – Conduit Types LFMC, PVC, & LFNC.-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: List the uses permitted and not permitted for the wiring method. State the securing and supporting intervals or other requirements. Study any ampacity and/or bending radius requirements. Describe the construction specification. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC Articles 344 & 358 – Conduit Types RMC & EMT-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course:		

List the uses permitted and not permitted for the wiring method. State the securing and supporting intervals or other requirements. Study any ampacity and/or bending radius requirements. Describe the construction specification. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Articles 362 & 376 – Conduit Type ENT and Metal Wireways.-Year 2	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: List the uses permitted and not permitted for the wiring method. State the securing and supporting intervals or other requirements. Study any ampacity and/or bending radius requirements. Describe the construction specification. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC Articles 380, 386 & 392 – Multioutlet Assemblies, Surface Metal Raceways, & Cable Trays.-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: List the uses permitted and not permitted for the wiring method. State the securing and supporting intervals or other requirements. Study any ampacity and/or bending radius requirements. Describe the construction specification. Successfully pass the article quiz within the program completion requirements.	

Element/Course: Lab Activity – Conduit Bending-Year 2	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Study methods and techniques for bending and installing different types of raceways.	

Element/Course: Lab Activity - Raceway Sizing Calculations-Year 2	Planned Hours: 6.5
Mode of Instruction (check all that apply) ☒ Classroom 2hrs ☒ Lab 4.5hrs ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Introduction to the application of and method for raceway calculations. Learn the basics of conduit area and fill percentage calculations. Study sizing a raceway using Annex C.	

Element/Course: WAC / RCW-Year 2	Planned Hours: 6
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: This day will be used for the following: Gaining knowledge and understanding of the Washington Administrative Code and the Revised Code of Washington.	

Element/Course: Review for Exam 8	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials to prepare for Review Exam 8.	

Element/Course: Review Exam 8	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Review Exam 8 within the program completion requirements.	

Element/Course: Year 2 Review	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all material from Year 2 to prepare for the Year 2 Exam	

Element/Course: Year 2 Exam	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass the Year 2 Exam within the program completion requirements.	

Element/Course: Introduction / Orientation / Tools-Year 3	Planned Hours: 5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Sign-Off, Books & Documents. Policies & Procedures.	

Element/Course: OSHA Construction Safety – Electrical Safety & PPE-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover electrical hazards and safe electrical practices. Cover the importance of PPE – Your last line of defense against injury. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: OSHA Construction Safety – Excavation/Motor Vehicles/Tools-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Learn and understand excavation safety in and around the site. Cover and learn vehicle operations and safety. Successfully pass the unit quiz within the program completion requirements.		

Element/Course: NEC Article 400 & 420 – Flexible Cords & Cables, and Fixture Wires.-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course:		

Go over ampacities for flexible cords & cables. Study the uses permitted and not permitted. Show types of cords and cables listed in Table 400.4. Demonstrate the proper use of strain reliefs and study common types. Select appropriate size fixture wire for given ampacities. List acceptable uses of fixture wires. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Article 204 & 406 – Switches & Receptacles-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Demonstrate the proper switch connections for 3- and 4-way switches and position them correctly. Properly mount snap switches. Study acceptable methods for grounding switch plates. Study receptacle ratings and types. Study the several acceptable replacement methods for non grounding-type receptacles. Cover attachment plugs and cord connectors with respect to exposed or energized parts. Successfully pass the article quiz within the program completion requirements.		

Element/Course: NEC Article 408 – Switchboards, Switchgear & Panelboards.-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Go over phase arrangement with respect to “high-leg” systems. Study the requirements for panel directors. Cover overcurrent protection requirements. List types of enclosures suitable for installing panelboards in damp and wet locations. Demonstrate proper termination of conductors in panelboards. Give the proper percent fill for panelboards used as raceways and for splices. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Articles 410 & 411 – Luminaires & Low-Voltage Lighting Systems-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover definitions associated with luminaries, lampholders, and lamps. Study fixtures installed near combustibles. Demonstrate proper support of luminaries. Study wiring and grounding of luminaries. Study low-voltage systems as defined by the NEC, and their uses. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Article 422 – Appliances-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover branch circuit ratings and overcurrent protection. Go over permitted uses of flexible cords for appliances. Study proper appliance disconnecting means and types. Determine branch circuit rating for various appliances. Select equipment to properly assemble cord-and-plug appliances. Determine appropriate disconnecting means for various appliances. Successfully pass the article quiz within the program completion requirements.	

Element/Course: NEC Article 424 – Fixed Electric Space-Heating Equipment-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study	

Provided by: Express Electric Apprenticeship Program
Description of element/course: Cover branch circuit ratings, overcurrent protection, and disconnects. Study requirements for heating conductors installed in concrete and other masonry floors. Successfully pass the article quiz within the program completion requirements.

Element/Course: NEC Article 430 – Motors, Motor Circuits, & Controllers 1-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: View video in its entirety. Completely calculate the minimum conductor required, maximum overload protection rating, and maximum branch circuit OCPD rating for motor branch circuits. Study the rating of overcurrent protection for motor feeders. Cover protection of motor control circuits and the ratings of motor controllers. Cover the requirements of disconnecting means. Study the navigation of relevant tables. Review Article 430.	

Element/Course: NEC Article 430 – Motors, Motor Circuits, & Controllers 2-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover motor nameplate information. Study conductor sizing. Study overload protection and how to rate it. Study overcurrent protection of a motor branch circuit and how to rate this protection. Completely calculate maximum OCPD for motor feeders. Reference relative FLC tables for motors when given necessary nameplate information. Successfully pass the article quiz within the program completion requirements.	

Element/Course: Review for Exam 9	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials to prepare for Review Exam 9. Make sure all information on the exam is covered.	

Element/Course: Review Exam 9	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Review Exam 9 within the program completion requirements.	

Element/Course: Lab Activity – Lighting – Ballasts & Transformers-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Use instructor provided resources to show wiring, function, and troubleshooting of lighting ballasts and transformers. Identify main types of lamps and ballasts and understand the process to troubleshoot and replace them.	

Element/Course:	NEC Articles 440, 445 & 450 – Air-Conditioning/Refrigeration Equipment & Transformers-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Cover ampacity ratings. Study requirements of disconnecting means. Study the determination of overcurrent protection. Study the determination of conductor size, Cover the requirements for “room air-conditioners.” Demonstrate a working knowledge of the requirements for the installation of generators. Exhibit competence in calculation of overcurrent protection for transformers. Successfully pass the article quiz within the program completion requirements.			

Element/Course:	Bonding & Grounding – Fundamentals – Units 1-4-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: View electrical fundamentals part of the video series on “Bonding & Grounding.” Successfully pass the unit quiz within the program completion requirements.			

Element/Course:	Bonding & Grounding – NEC – Articles 90, 100 & 110.-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: View Part 1 of the video series on “Bonding & Grounding.” Exhibit strong understanding of bonding & grounding and practices. Successfully pass the chapter quiz within the program completion requirements.			

Element/Course:	Bonding & Grounding – NEC – Article 250.-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: View Part 2 of the video series on “Bonding & Grounding.” Exhibit strong understanding of bonding & grounding and practices. View Part 2 of the video series on “Bonding & Grounding.”			

Element/Course:	Bonding &Grounding – NEC – Article 250.-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: View Part 2 of the video series on “Bonding & Grounding.” Begin Part 3 of the Video Series on “Bonding & Grounding.” Exhibit strong understanding of bonding & grounding and practices.			

Element/Course:	Bonding &Grounding – NEC – Article 250.-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course:			

View Part 4 of the Video Series on “Bonding & Grounding.” Exhibit a strong understanding of bonding & grounding principles and practices.

Element/Course:	NEC Articles 500-503, 511 & 514 – Hazardous Locations, Commercial Garages,& Motor Fueling Dispensing.-Year 3	Planned Hours:	3.5

Mode of Instruction (check all that apply)
☒ Classroom 2.5hrs ☒ Lab 1hrs ☐ Online ☐ Self-Study
Provided by: Express Electric Apprenticeship Program

Description of element/course:
Study the design of typical electrical systems in relation to intended paths for current. Utility ground-fault current path, premises neutral current path and premises ground-fault current path should be studied. Cover wiring &equipment within hazardous locations. Study sealing, special equipment and GFCI-protected receptacles, underground wiring & raceway seals, and maintenance and service of dispensing equipment. Successfully pass the article quiz within the program completion requirements.

Element/Course:	NEC Articles 517, 518,550 & 590 – Health Care Facilities, Assembly Occupancies, Mobile/Manufactured Homes, & Temporary Installations.-Year 3	Planned Hours:	3.5

Mode of Instruction (check all that apply)
☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study
Provided by: Express Electric Apprenticeship Program

Description of element/course:
Recognize requirements for equipment in patient care spaces and the essential electrical systems for hospitals. Recognize and be familiar with the requirements for assembly occupancies. Determine the minimum feeder necessary for the service. Be familiar with the requirements of temporary installations. Recognize the listing of decorative lighting. Successfully pass the article quiz within the program completion requirements.

Element/Course:	NEC Articles 600, 604 & 620 – Electric Signs, Manufactured Wiring Systems & Elevators.-Year 3	Planned Hours:	3.5

Mode of Instruction (check all that apply)
☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study
Provided by: Express Electric Apprenticeship Program

Description of element/course:
Determine branch-circuit ratings. Determine necessary equipment and install such equipment. Adequately construct such systems in compliance with the requirements of relevant code article sections/subsections. Study installation and NEC requirements of equipment. Cover disconnecting means and control. Cover machine rooms, control rooms, machinery spaces, and control spaces. Successfully pass the article quiz within the program completion requirements.

Element/Course:	WAC / RCW-Year 3	Planned Hours:	3.5

Mode of Instruction (check all that apply)
☒ Classroom ☐ Lab ☐ Online ☐ Self-Study
Provided by: Express Electric Apprenticeship Program

Description of element/course:
This day will be used for the following: Gaining knowledge and understanding of the Washington Administrative Code and the Revised Code of Washington.

Element/Course:	Review for Exam 10	Planned Hours:	3.5

Mode of Instruction (check all that apply)
☒ Classroom ☐ Lab ☐ Online ☐ Self-Study
Provided by: Express Electric Apprenticeship Program

Description of element/course:

Review all materials to prepare for Review Exam 10. Make sure all information that will be on the exam is covered.

Element/Course: Review Exam 10	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Review Exam 10 within the program completion requirements.	

Element/Course: NEC Articles 625 & 630 – Electric Vehicle Charging System & Electric Welders.-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Adequately reference Article 625. Be familiar with the provisions & installations of this type of equipment. Cover the ampacity of supply connectors for welders. Cover OCPD for welders & for conductors. Cover the provisions for welding cable. Successfully pass the Article Quiz within the program completion requirements.	

Element/Course: NEC Articles 640 & 645 – Audio Signaling Processing & Information Technology Equipment.-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover the protection of electrical equipment. Study the mechanical execution of work. Cover wiring methods and bonding & grounding. Cover permanent audio system installations. Adequately reference Article 645. Be familiar with provisions & installations of this type of equipment. Successfully pass the Article Quiz within the program completion requirements.	

Element/Course: NEC Article 680 – Swimming Pools, Spas, hot Tubs, Fountains, & Similar Installations.-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Adequately reference Article 680 – Parts 1,2 & 3. Be familiar with provisions & installations of this type of equipment. Cover equipotential bonding. Cover pumps. Cover GFCI-protected receptacles & receptacle locations. Successfully pass the Article Quiz within the program completion requirements.		

Element/Course: NEC Articles 700, 701 & 702 – Emergency, Legally Required, & Optional Stand-By Systems.-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program		
Description of element/course: Cover the general requirements of circuit wiring. Cover the requirements for sources of power. Cover circuits for lighting & power. Cover overcurrent protection. Adequately reference Articles 701 & 702. Be familiar with provisions & installations of these types of equipment. Successfully pass the Article Quiz within the program completion requirements.		

Element/Course:	NEC Article 725 – Remote-Control, Signaling, & Power-Limited Circuits.-Year 3	Planned Hours: Hours	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Adequately reference Article 725 – Parts 1 & 2. Be familiar with provisions & installations of this type of equipment. Cover Class 2 & 3 circuit requirements. Cover listing requirements. Successfully pass the Article Quiz within the program completion requirements.			

Element/Course:	NEC Articles 760, 770, 800, 810 & 820 – Fire Alarm Systems, Optical Fiber Cables & Raceways, Communication Circuits, Radio & Television Equipment, and CATV & Radio Distribution Systems-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Adequately reference Article 760 – Parts 1 & 2. Adequately reference Article 800. Be familiar with provisions & installations of this type of equipment. Successfully pass the Article Quiz within the program completion requirements.			

Element/Course:	NEC Article 690 – Solar Photovoltaic (PV) Systems 1-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Study how to work safely with solar panels. Demonstrate proficiency with Code Rules pertaining to photovoltaic systems. Study Code Rules associated with photovoltaic systems. Introduce some of the dangers of working with solar panels.			

Element/Course:	NEC Article 690 – Solar Photovoltaic (PV) Systems 2-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Study how to work safely with solar panels. Demonstrate proficiency with Code Rules pertaining to photovoltaic systems. Study Code Rule associated with photovoltaic systems. Introduction to some of the dangers of working with solar panels.			

Element/Course:	NEC Articles 480, 691 & 705 – Storage Batteries, Large-Scale Solar Photovoltaic (PV) Electric Supply Stations, and Interconnected Electric Power Production Sources (IEPPS)-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Review NEC requirements for storage batteries. Review NEC requirements for large scale PV systems. Review NEC requirements for Interconnected Electric Power Production Sources (IEPPS)			

Element/Course:	NEC Articles 705 & 706 – Interconnected Electric Power Production Sources (IEPPS) & Energy Storage Systems.-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Review NEC requirements for Interconnected Electric Power Production Sources (IEPPS)			

Element/Course:	NEC Articles 706 & 710 – Energy Storage & Stand-Alone Systems.-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Review NEC requirements for Energy Storage Systems (ESS) Review NEC requirements for Stand-Alone Systems.			

Element/Course:	Review for Exam 11	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Review all materials to prepare for Review Exam 11. Make sure all information that will be on the exam is covered.			

Element/Course:	Review Exam 11	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Successfully pass Review Exam 11 within the program completion requirements.			

Element/Course:	Motor Controls – Units 1-3 – Introduction to Motor Controls-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Understand common language, symbols, and abbreviations associated with motors and motor control. List, define and learn the operation of common control equipment and devices. Successfully pass the unit quizzes within the program completion requirements.			

Element/Course:	Motor Controls – Units 4-8 – Motor Controls & Schematics 1-Year 3	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: List common components of schematics. Study the purpose of various components associated with Magnetic control. Introduce motor starters, overloads, auxiliary contacts, and accessory devices. Cover sections on 2 & 3 wire control circuits. Study overcurrent protection for control circuits. Compare common & separate control protection. Go over control transformer protection.			

Element/Course: Motor Controls – Units 9-10 – Motor Controls & Schematics 2-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Identify circuit locations that would likely employ the use of indicator lights. Properly connect a 2 & 3 position selector switch. Successfully pass the unit quizzes within the program completion requirements.	

Element/Course: Motor Controls – Units 11-12 – Reversing Controls 1-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Introduce the reversing of motors and the components utilized to accomplish it. Discuss interlocking devices. Properly wire a reversing starter or explain how it would be accomplished with given components. Cover adding forward and reverse pilot lights. Study alternate pilot light connection points.	

Element/Course: Motor Controls – Units 13-14 – Reversing Controls 2-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover section pertaining to the use of indicator lights with reversing controls. Study how to reverse single-phase motors. List some common single-phase motor types. Successfully pass the unit quizzes within the program completion requirements.	

Element/Course: Motor Controls – Units 15-16 – Controls for Multiple Motors-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Exhibit an understanding of motor sequencing and the related controls. Cover section on the master stop function. Successfully pass the unit quizzes within the program completion requirements.	

Element/Course: Motor Controls – Units 17-20 – Miscellaneous Requirements-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Size, connect, and protect various control circuits using a variety of components. Wrap up the motor controls section with the last units on winding connections and other circuits. Successfully pass the unit quizzes within the program completion requirements.	

Element/Course: Lab Activity – Variable Speed Drives-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Locate or create a lab or activity suitable for the material covered or for the purpose of review.	

Element/Course: WAC / RCW-Year 3	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: This day will be used for the following: Gaining knowledge and understanding of the Washington Administrative Code and the Revised Code of Washington.	

Element/Course: Review for Exam 12	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials to prepare for Review Exam 12. Make sure all information that will be on the exam is covered.	

Element/Course: Review Exam 12	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Review Exam 12 within the program completion requirements.	

Element/Course: Year 3 Review	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials from Year 3 to prepare for the Year 3 Exam. Make sure all information that will be on the exam is covered.	

Element/Course: Year 3 Exam	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass the Year 3 Exam within the program completion requirements.	

Element/Course: Introduction – Orientation – Tools-Year 4	Planned Hours: 5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Sign-Off, Books & Documents. Policies & Procedures	

Element/Course: OSHA Construction Safety – Electrical Safety & PPE-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Learn and understand electrical hazards and safe electrical practices. Successfully pass the unit quizzes within the program completion requirements.	

Element/Course:	OSHA construction Safety – Hazard Communication, Jobsite Exposures, and Work Zone Safety-Year 4	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Learn and understand physical, chemical, and health hazards. Learn and understand jobsite hazards and protective measures. Successfully pass the unit quizzes within the program completion requirements.			

Element/Course:	Electrical Estimating – Chapters 1&2 – Introduction and About Estimating.-Year 4	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Describe the difference between estimating & bidding. State the objectives & purpose of an electrical contractor. Study the qualities of a good estimator. Go over the detailed estimate method. Successfully pass the chapter quizzes within the program completion requirements.			

Element/Course:	Electrical Estimating – Chapter 3 – Understanding Labor Units-Year 4	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Determine labor units for given tasks. List some labor unit manuals. Successfully pass the chapter quizzes within the program completion requirements.			

Element/Course:	Electrical Estimating – Chapter 4 – The Estimating Process-Year 4	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Describe how to select a job and determine a scope of work. Prepare for an estimate, and review plans and specifications. Prepare a takeoff. Properly build all components of an electrical estimate used to compile a bid. Successfully pass the chapter quizzes within the program completion requirements.			

Element/Course:	Electrical Estimating – Chapter 5 – Determining Break-Even Cost-Year 4	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Determine the labor cost for a specific project with given rates. Properly calculate material and overhead costs for a given project. Successfully pass the unit quizzes within the program completion requirements.			

Element/Course:	Electrical Estimating – Chapters 6&7 – The Bid Process & Unit Pricing-Year 4	Planned Hours:	3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program			
Description of element/course: Understand that profit is ok and how to set rates. Perform proper unit pricing. Successfully pass the unit quizzes within the program completion requirements.			

Element/Course: Lab Activity – Blueprint Takeoff-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 1hr ☒ Lab 2.5hrs ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Understand the process methods used to do a complete takeoff on paper blueprints. Provide instruction on takeoffs. Learn about takeoff errors. Have a guest estimator come in to describe his job and the process.	

Element/Course: Leadership Training – Leadership Skills-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Go over and grasp concepts on Personal Branding & Basic Leadership Skills.	

Element/Course: Leadership Training - Part 2-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Go over and grasp concepts of what it takes to get to the next level. Go over and grasp concepts of what it takes to be a team player and develop others. Go over and grasp concepts of what it takes to stay on the top of your game.	

Element/Course: Review for Exam 13	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials to prepare for Review Exam 13. Make sure all information that will be on the exam is covered.	

Element/Course: Review Exam 13	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Review Exam 13 within the program completion requirements.	

Element/Course: Code Review – Articles 90 thru 110 and 200 thru 240-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review code rules from last year. Begin preparation for Journeyman practice Exam	

Element/Course: Code Review – Articles 300 thru 314-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review code rules from last year. Begin preparation for Journeyman practice Exam	

Element/Course: Code Review – Articles 400 thru 480-Year 4	Planned Hours: 3.5

Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program
Description of element/course: Review code rules from last year. Begin preparation for Journeyman practice Exam

Element/Course: Fundamentals Review - Unit 1 – Electrician's Math & Basic Electrical Formulas-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Utilize Chapter 1 of the Exam Preparation textbook to give additional practice with math & formulas pertaining to the electrical field & circuits. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: Fundamentals Review – Unit 2 – Series, Parallel, & Multiwire Circuits-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Utilize Chapter 1 of the Exam Preparation textbook to give additional practice with math & formulas pertaining to the electrical field & circuits. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: Fundaments Review - Unit 3 – Understanding Alternating Current-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review Concepts and sine waves of alternating current. Review capacitance and capacitance reactance. Review induction and induction reactance. Review the concepts of power factor in relation to inductance, capacitance, and resistance within a circuit. Review the efficiency of such loads or appliances as to how they affect circuit equipment. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: Fundamentals Review – Unit 4 – Motor Basics-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Explain the principles of motor operation. Discuss mechanical power verses electrical power. Explain motor current ratings and FLA. Explain motor-starting current, running current, and locked rotor current. Explain overcurrent protection. Explain overload protection. Take time to review Part A.	

Element/Course: Fundamentals Review – Transformers-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 2.5hrs ☒ Lab 1hr ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Explain the basic construction of transformers. Explain induced voltage & efficiency. Explain power ratings, current flow, and current rating. Explain the structure of transformers. Explain the science of induction. Determine loads on various components of a transformer or three-phase transformer bank. Take time to review Part B.	

Element/Course: Fundamentals Final Review – Units 1-4-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all fundamentals Units in preparation for Program Final Exam paying particular attention to any weaknesses.	

Element/Course: WAC / RCW-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: This day will be used for the following: Gaining knowledge and understanding of the Washington Administrative Code and the Revised Code of Washington.	

Element/Course: NEC Calculations – Raceway & Box Calculations-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Study the information referenced in the tables for conduit fill and conductor CSA. Study the application of data from the tables in the process of determining raceway size. Cover sizing boxes that contain the same sized conductors. Identify conductor equivalents. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: Review for Exam 14	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials to prepare for Review Exam 14. Make sure all information that will be on the exam is covered.	

Element/Course: Review Exam 14	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Review Exam 14 within the program completion requirements.	

Element/Course: NEC Calculations – Unit 6 – Part A – Commercial Calculations 1-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Study conductor insulation types. Study terminal temperature ratings. Cover conductor sizing. Study minimum size conductors, stranded conductors, and insulated vs bare conductors. Cover conductor size based on equipment terminal rating. Study the overcurrent protection general requirements of Article 240. Cover overcurrent protection of conductors for specific requirements.	

Element/Course: NEC Calculations – Unit 6 – Part B – Conductor Sizing & Protection Calculations 2-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply)	

☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program
Description of element/course: Study the listed ampacity of conductors in Table 310.15(B)(16). Study how adjustment factors are applied to conductors given conditions mentioned in the title of Table 310.15(B)(16) vary. Study how current-carrying conductors are counted. Study and exhibit the calculation and determination of selection ampacity. Cover conductor sizing and feeder tap rules. Successfully pass the unit quiz within the program completion requirements.

Element/Course: NEC Calculations – Unit 7 – Parts A&B – Motor & Air-Conditioning Calculations 1-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Cover the scope of Article 430. Cover nameplate current ratings & FLC referenced in the NEC. Study motor nameplate full load amperes (FLA). Study the determination of branch-circuit conductors. Study the determination of feeder conductors. Study the determination of the overload protection rating. Study the determination of the branch-circuit protection.	

Element/Course: NEC Calculations – Unit 7 – Parts B&C – Air-Conditioning Calculations – Transformers 2-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Determine the appropriate feeder protection rating for feeders that serve motor branch circuits. Exhibit understanding of motor load calculations. Determine appropriate OCPD for air-conditioning loads. Determine the adequate conductor size for air-conditioning loads. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: NEC Calculations – Unit 8 – Parts A&B – Voltage-Drop Calculations-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Study and understand the factors that affect the resistance of conductors. Demonstrate proficiency in the use of Tables 8&9 of Chapter 9 in the NEC. Apply the theory to practical calculations. Determine if a circuit or feeder conductor is sufficient to limit voltage drop. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: NEC Calculations - Unit 9 – Parts A&B – Dwelling Unit Calculations 1-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Properly and adequately calculate the demand loads covered and select proper equipment for their circuits in a single-family dwelling occupancy. Apply the standard of load calculations to a single-family dwelling.	

Element/Course: NEC Calculations - Unit 9 – Parts B&C – Dwelling Unit Calculations 2-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study	

Provided by: Express Electric Apprenticeship Program
Description of element/course: Apply the optional method of load calculations to single-family dwellings. Apply reductions to neutral demand loads for dryers and ranges where permitted. Properly and adequately calculate the neutral demand load for single-family dwellings. Successfully pass the unit quiz within the program completion requirements.

Element/Course: Lab Activity – Dwelling Unit Calculations	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 1hr ☒ Lab 2.5hrs ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Using instructor provided resources, review & complete various dwelling calculations using the methods for calculating the service.	

Element/Course: NEC Calculations – Unit 10 – Parts A&B – Multifamily Dwelling Calculations 1-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Properly and adequately calculate the demand loads covered and select proper equipment for their circuits in a single-family dwelling occupancy. Properly and adequately calculate service conductor sizing for multi-family dwellings. Apply the standard of load calculations to a single-family dwelling.	

Element/Course: NEC Calculations – Unit 10 – Parts B&C – Multifamily Dwelling Calculations 2-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Apply the optional calculation methods to practical examples of multifamily dwelling service loads. Apply reductions to neutral demand loads for dryers and cooking equipment where permitted. Properly and adequately calculate the neutral demand load for multifamily dwellings. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: Lab Activity – Fire Alarm Systems-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom 1hr ☒ Lab 2.5hrs ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Identify the basic components of a fire alarm system and how they operate.	

Element/Course: Review for Exam 15	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all materials to prepare for Review Exam 15. Make sure all information that will be on the exam is covered.	

Element/Course: Review Exam 15	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass Review Exam 15 within the program completion requirements.	

Element/Course: NEC Calculations – Unit 11 – Parts A&B – Commercial Calculations 1-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review general requirements for calculations, nominal voltages, fractions of an ampere, conductor ampacity & overcurrent protection. Cover demand factors for lighting. Study sign circuits and show window lighting. Complete calculations mentioned throughout unit when examples have some degree of varying scenarios.	

Element/Course: NEC Calculations – Unit 11 – Parts B&C – Commercial Calculations 2-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review demand load calculations for marinas. Review the optional method of calculation for new restaurants. Examine accurate load calculation results for welders and light industrial manufacturing and school buildings. Successfully pass the unit quiz within the program completion requirements.	

Element/Course: NEC Practice Quiz 16 – Sections 90.1-680.25-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Practice navigating the NEC to prepare for final exams. Complete practice exam within the allotted time.	

Element/Course: NEC Practice Quiz 17 – Sections 680.26-701.12-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Practice navigating the NEC to prepare for final exams. Complete practice exam within the allotted time.	

Element/Course: OSHA Construction Safety Handbook – Safety Rules & Practices-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all material pertaining to safety rules and practices.	

Element/Course: Electrical Theory – Review Unit Summaries-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all material pertaining to electrical theory using unit summaries to prepare for the Journeyman Practice Exam.	

Element/Course: Year 4 Exam – Part 1 – Journeyman Practice Exam – Electrical Theory	Planned Hours: 3.5
Mode of Instruction (check all that apply)	

☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program
Description of element/course: Successfully pass the theory section of the Journeyman Practice Exam within the program completion requirements.

Element/Course: National Electrical Code – Review-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all material pertaining to understanding the NEC to prepare for the Journeyman Practice Exam.	

Element/Course: Year 4 Exam – Part 2 – Journeyman Practice Exam - NEC	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass the Code section of the Journeyman Practice Exam within the program completion requirements.	

Element/Course: Electrical Calculations – Review-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Review all material pertaining to electrical calculations to prepare for the Journeyman Practice Exam.	

Element/Course: Year 4 Exam - Part 3 – Journeyman Practice Exam - Electrical Calculations-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Successfully pass the calculations section of the Journeyman Practice Exam within the program completion requirements.	

Element/Course: Final Exam – Review Test Results & Questions-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course: Hand out graded exams. Go over the exam questions and answers. Collect the exams and file them in accordance with program policy. Identify questions that were answered incorrectly and where the mistakes were made. Review deficient areas.	

Element/Course: Final Processing – Graduation Documents-Year 4	Planned Hours: 3.5
Mode of Instruction (check all that apply) ☒ Classroom ☐ Lab ☐ Online ☐ Self-Study Provided by: Express Electric Apprenticeship Program	
Description of element/course:	