



February 19, 2020

Department of Labor and Industries
Washington State Apprenticeship & Training Council
Attn: Program Manager, Apprenticeship Section
PO Box 44530
Olympia, WA 98504-4530

Dear WSATC,

Perry Technical Institute is submitting this letter to provide information regarding the partnership between the Construction Industry Training Council of Washington (CITC) and the Electrical Technology program of PTI.

Established in 1939, Perry Technical Institute is a private, non-profit educational institution which offers 13 specialized technical training programs. Created out of a desire for individuals to acquire the skills necessary to achieve gainful employment and have opportunities for advancement, Perry has developed a reputation for being the place to go when you are ready for a career. In the Electrical Technology program, students are offered a diversified curriculum that guides them through the process of becoming electricians. During the two-year program, students will learn how to install, connect, test, and maintain electrical systems for industrial, commercial, residential, process control, security, and communications.

At Perry Technical Institute, students are expected to treat every day in the classroom as though it's the world of work. While adhering to strict attendance requirements, random drug testing, conduct and professionalism standards, and extensive safety practices, students are learning the appropriate skills to succeed in industry. During lab exercises and the final quarter externship phase, students are held to the same physical standards as an electrical apprentice working on the job site. They are expected to climb ladders, lift and carry up to 50 pounds, and handle basic hand and power tools.

Establishing this partnership between CITC and PTI creates a direct channel to communicate the current needs of industry to our program as well as developing a clear pathway for graduates of the Electrical Technology program to pursue apprenticeship.

If you have any questions regarding this agreement, feel free to contact me.

Thank you,

A handwritten signature in black ink, appearing to read 'Adam Rieker'.

Adam Rieker
Department Head
adam.rieker@perrytech.edu



- Communication Plan
CITC has been invited to join the Electrical Technology Program Advisory Committee (PAC). Committee members meet bi-annually to discuss the curriculum of the program and comment on the appropriateness and adequacy of the program objectives, length, curriculum content, and the adequacy of facilities and equipment.
- Safety Training
Perry Technical Institute and the Electrical Technology program focus on a culture of safety. Every student becomes certified by completing the OSHA 10 Construction Industry training. Students attend weekly safety meetings where general safety topics are covered, a WAC/RCW presentation is given, as well as a tool demonstration. Students receive ladder and fall protection training as well as aerial lift training in which students earn certifications for telescoping boom lifts and scissor lifts. Following strict industry safety guidelines, students adhere to Lock Out/Tag Out/Try Out precautions and utilize the proper personal protective equipment for specific hazards.
- Math Skills
The Electrical Technology program requires a series of entrance exams. The “general math” exam ensures that each student entering the program has met the minimum guidelines to understand the upcoming concepts. Throughout the curriculum, students receive instruction on math related to the electrical industry. Series, parallel, and series parallel circuits, voltage drop, and other theory related circuits are calculated, as well as motor and load calculations.
- Recruitment and Retention
Recruitment efforts take place in schools throughout Washington State paying special attention to the Lower Yakima Valley and rural communities who may have less of an opportunity than students who attend school in more populated areas. Additional events are attended by the admissions team at veteran, Hispanic, and women focused events. Proven to increase retention rates, all new students at PTI attend a series of workshops that focus on the goal of providing students with the essential study/life skills that will allow them to be successful in their academic career and beyond. The workshops cover topics such as time and stress management, Title IX and harassment, financial preparedness, self-awareness, and goal setting. Students are also held to a progressive disciplinary system that oversees academic, conduct, and attendance issues; procedures are in place to provide interventions for students encountering struggles.
- Participant Demographics
The Electrical Technology department currently has 154 students, one of which is female. The average student age is 22.71. Hispanic students make up 57% of the currently enrolled students, American Indian or Alaskan Native students are 2%, and 38% of the students are white. There are currently seven veteran students enrolled.
- Additional Information
For the past two years, the Electrical Technology program has seen a placement rate of 92% and a retention rate of 80%. Students attend class from 6:50 am – 4:05 pm Monday – Thursday with a half hour lunch at 11:15 am. PTI students are granted time off for 1 week during Spring Break, 2 weeks for Summer Break, and 2 weeks for Winter Break as well as all major holidays.

Electrical Technology

Patrick Martin 2-24-2020 TG 2-24-2020

Perry Technical Institute's Electrical Technology program offers students a diversified curriculum that guides them through the process of becoming electricians.

Students are introduced to the generation and distribution of AC/DC electricity, residential and commercial wiring methods, industrial motor controls and electronics, as well as utilizing green technologies such as solar. During classroom, lab and fieldwork experiences, students gain valuable theory while incorporating current NEC codes and WAC/RCW rules, laws, and procedures with hands-on application.

The Washington State Department of Labor & Industries may recognize up to two years of training received from Perry's Electrical Technology program toward the (01) journey level certification. Graduates must accumulate additional hours of industrial/commercial electrical work before applying to take their (01) journey level examination with the State of Washington.

The goal for students who successfully complete this program is entry-level employment as third-year electrical trainees. The two largest groups of potential employers are electrical construction contractors and electrical departments in manufacturing industries.

The Electrical Technology program is 24 months in length (eight quarters). The student will earn 172.5 credit hours which are 3,000 clock hours. Tuition is payable on a quarterly basis. There are four quarters in an academic year.

This training program concludes with an externship off campus, or with the completion of a capstone project on campus. The classroom student to instructor ratio for the Electrical Technology program is 24:1. The student to (01) journey level electrician ratio when performing fieldwork for the school is 4:1. When performing fieldwork for a contractor other than Perry Technical Institute, the student to (01) journey level electrician ratio is 1:1.

PROGRAM OUTLINE

Quarter 1

ET 110	Safety	2.5
ET 111	NEC/WAC/RCW	7.5
ET 112	Electrical Theory I	8.5
ET 113 L	Lab & Shop Projects	5.5
		Subtotal: 24

Quarter 2

ET 120	Safety	0.5
ET 121	NEC	3.0
ET 122	Electrical Theory II	18.0
ET 123 L	Lab & Shop Projects	2.5
		Subtotal: 24

Quarter 3

ET 130	Safety	0.5
ET 131	NEC	3.5
ET 132	Industrial I	10.5
ET 133 L	Lab & Shop Projects	8.0
		Subtotal: 22.5

Quarter 4

ET 140	Safety	0.5
ET 141	NEC	0.5
ET 142	Industrial II	12.0
ET 143 L	Lab & Shop Projects	8.0
		Subtotal: 21

Quarter 5

ET 210	Safety	0.5
ET 211	NEC/WAC/RCW	11.5
ET 212	Industrial III	7.5
ET 213 L	Lab & Shop Projects	4.5
		Subtotal: 24

Quarter 6		
ET 220	Safety	0.5
ET 221	NEC/Utility	7.0
ET 222	Construction I	9.0
ET 223 L	Lab & Shop Projects	6.5
		Subtotal: 23
Quarter 7		
ET 230	Safety	0.5
ET 231	Career Planning	1.0
ET 232	Solid State Electrical Fundamentals	7.0
ET 233 L	Lab & Shop Projects	5.5
ET 234 L	Construction II	6.0
		Subtotal: 20
Quarter 8		
ET 240 E	Construction III/Externship	14.0
		Subtotal: 14
		Total Credit Hours: 172.5

Electrical Technology Book and Tool List

The book and tool list for students in the Electrical Technology program is intended to be a minimum requirement to complete the program. The book and tool list will be provided no later than the first day of class. For specifics on cost of books, training materials, uniforms, and tools, please refer to Program Cost Breakdown (p. 18).

Electrical Technology Equipment List

Students in the Electrical Technology program utilize the following equipment:

- Computers
- Electrical hand tools
- Motor control labs
- Single- and three-phase motors
- PLC simulators
- PLC labs
- Electronic workstations
- Arduino
- Variable Frequency Drives
- Steel and wood framed structures
- Power factor correction labs
- Conduit bending equipment
- Oscilloscopes and related electronic equipment

ET 110 - Safety (2.5)

This course will provide a basic understanding of electricity and how to prevent common electrical/workplace hazards. Students will be introduced to safety requirements for campus, classroom, lab, and shop environments including the proper use of tools/equipment, and safety procedures. Weekly safety meetings are held and include safety demonstrations showing the correct way to use tools, ladders, and other equipment needed in the electrical trade. A first aid and CPR certificate is awarded after successful completion of the CPR class.

ET 111 - NEC/WAC/RCW (7.5)

While learning to navigate the National Electrical Code (NEC), students will be introduced to minimum standards for safe installation, maintenance and repair of electrical systems. This course will also cover the Washington Administrative Codes (WAC) that supersede the NEC and Revised Code of Washington (RCW) pertaining to electricians.

ET 112 - Electrical Theory I (8.5)

Beginning with atomic structures, this course will introduce the basic theory of electricity along with solving for voltage, current, resistance and wattage in different circuit configurations using Ohm's and Watt's laws. Students will also identify and draw single-phase and three-phase systems used in industry.

ET 113 L - Lab & Shop Projects (5.5)

Starting with proper drawing of schematics, students will practice safe and practical application of classroom instruction through wiring residential switch and receptacle labs. Students will also demonstrate proper use of personal protective equipment and tools to install and troubleshoot conductors, switches, receptacles and fixture wiring.

ET 120 - Safety (0.5)

Building on their electrical theory, students will learn safety relating to energy and various test equipment. The Electrical Department holds weekly safety meetings that include safety demonstrations showing the correct way to use tools, ladders, and other equipment needed in the electrical trade.

ET 121 - NEC (3.0)

This course will review and build upon the code previously covered in the program with the addition of articles relating to reactors such as capacitors and inductors.

ET 122 - Electrical Theory II (18.0)

This course will examine direct current motors and generators beginning with magnetic fields surrounding conductors and coils. From there, students will move into the generation of alternating current and reactive components such as inductors and capacitors in RLC circuits. Students will learn the theory of transformers, conversions of power and various semiconductor components.

ET 123 L - Lab & Shop Projects (2.5)

Students will use electrical components and breadboard to assemble circuits and verify electrical quantities determined in classroom calculations.

ET 130 - Safety (0.5)

Students will explore safety in an industrial setting, covering topics such as proper meter use, personal protective equipment and lock-out, tag-out, try-out. Weekly safety meetings are held and include safety demonstrations showing the correct way to use tools, ladders, and other equipment needed in the electrical trade.

ET 131 - NEC (3.5)

This course will cover NEC requirements for motor circuits. Students will determine sizes of conductors, overloads, overcurrent protection and disconnecting means for motor circuits. Previously covered NEC will be added to these calculations such as proper grounding and bonding.

ET 132 - Industrial I (10.5)

Industrial I introduces the principles of two- and three-wire control for motor control circuits. The course will identify various control components such as relays, mag-starters, timers and sensors, along with the symbols and ladder diagrams needed to make a successful control installation. Students will learn the theory and operation of AC motors along with proper wiring connections for different voltages and troubleshooting of motors and motor control circuits.

ET 133 L - Lab & Shop Projects (8.0)

Using ladder diagrams designed in class, students install the wiring to motor control lab stations for various applications and processes. After completion of the lab, the instructor will bug the station and students will apply troubleshooting skills learned in the classroom to locate and repair the malfunctioning process.

ET 140 - Safety (0.5)

Students will explore safety in an industrial setting such as proper meter use, personal protective equipment and lock-out, tag-out, try-out. Weekly safety meetings are held and include safety demonstrations showing the correct way to use tools, ladders, and other equipment needed in the electrical trade.

ET 141 - NEC (0.5)

This course will examine and review previously covered NEC articles.

ET 142 - Industrial II (12.0)

This course will build upon the material introduced in Industrial I with the introduction of programmable logic controllers (PLCs). Students will learn the parts of a PLC and how to setup communication with the computer along with constructing programs in the PLC software. Students will also examine several digital numbering systems and conversions along with troubleshooting.

ET 143 L - Lab & Shop Projects (8.0)

Students will develop, use, and create programs and use logical diagrams to control the desired process by analyzing inputs and updating outputs and by monitoring devices and troubleshooting the written program.

ET 210 - Safety (0.5)

Students will explore safety in an industrial setting such as proper meter use, personal protective equipment and lock-out, tag-out, try-out. The Electrical Department holds weekly safety meetings that include a safety demonstration to show the correct way to use tools, ladders, and other equipment needed in the electrical trade.

ET 211 - NEC/WAC/RCW (11.5)

This course will cover how to calculate the ampacity of service, feeder and branch circuit conductors, and the ampacity rating of the panels they supply. Students will also revisit the Washington Administrative Code (WAC) and Revised Code of Washington (RCW) requirements for the electrical industry including, but not limited to: electrical industry scopes of work, licensing qualifications, exams, fees, penalties, types of certifications, and continuing education requirements.

ET 212 - Industrial III (7.5)

This course will outline the fundamentals and functions of variable frequency drives (VFDs) and interpreting manufacturer manuals. Students will troubleshoot poor power quality and harmonics along with learning skills to correct these symptoms through the use of power quality analyzers.

ET 213 L - Lab & Shop Projects (4.5)

Students will use technical manuals to wire variable frequency drives to change the speed of AC motors through the use of various analog components. They will also monitor the power quality on various circuits through the use of analyzers and size capacitors to correct poor power factor.

ET 220 - Safety (0.5)

Students will distinguish safety hazards on a construction job site. The Electrical Department holds weekly safety meetings that include a safety demonstration indicating the correct way to use tools, ladders, and other equipment needed in the electrical trade.

ET 221 - NEC/Utility (7.0)

This course will discuss the code requirements for wiring a dwelling unit, photovoltaic system and cover articles relating to commercial wiring methods. The minimum standards of outdoor branch circuits and feeders, services, grounding and bonding, hazardous locations and pools will also be covered. Students will learn the local utility requirements for electrical installations.

ET 222 - Construction I (9.0)

The course will introduce terms, symbols, layout, organization, and structure of plans that are used for residential, commercial, and industrial buildings. Students will learn how to understand

and interpret prints for identification of code violations, conflicts of space, and safety issues. Students will be trained to use hand, hydraulic, and PVC conduit benders. Also covered are solar photovoltaic systems including the array circuit, inverter, and controller.

ET 223 L - Lab & Shop Projects (6.5)

Students will practice applied wiring techniques in various hands-on exercises and labs including, but not limited to: conduit bending, switch connections, non-metallic cable, metallic cable, wire pulling, panel, box and device installation, and connections.

ET 230 - Safety (0.5)

Students will distinguish safety hazards on a construction job site and the safe handling of electronics. The Electrical Department holds weekly safety meetings that include a safety demonstration showing the correct way to use tools, ladders, and other equipment needed in the electrical trade.

ET 231 - Career Planning (1.0)

Students will prepare for an effective career search by learning to create a resume, practicing interviewing skills, and reviewing the job application process. This course will also include a comprehensive review of material related to career opportunities.

ET 232 - Solid State Electrical Fundamentals (7.0)

Students will build a foundation of solid state electronics, printed circuit boards, soldering, and troubleshooting electronics.

ET 233 L - Lab & Shop Projects (5.5)

Students will have the opportunity to apply the use of training equipment including oscilloscopes, signal generators, and DC power supplies, used with solid state components to determine how and why they operate. Students will also practice soldering for construction and repair of circuit boards.

ET 234 L - Construction II (6.0)

Students will take part in on-the-job training projects doing hands-on electrical wiring installations in residential and commercial buildings. Students are required to have 100% supervision by a (01) journey level electrician employed by Perry Technical Institute while performing these electrical installations with a ratio of not more than four students to one (01) journey level electrician while working outside the school. All work will comply with the NEC, WAC and RCWs and shall be inspected by the Department of Labor & Industries as required. In addition to holding a current (01) journey level electrician certificate, the (01) journey level electricians must also have training in instruction and meet the minimum requirements of a classroom instructor. Journey level electricians shall not engage in any of the electrical installations.

ET 240 E - Construction III/Externship (14.0)

Students will complete on-the-job training projects doing hands-on electrical wiring installations in residential and commercial buildings. While working for the school, all trainee electrical installations are supervised by a (01) journey level electrician and

the work is inspected by the Department of Labor & Industries as required. Students who have a job offer as an electrician may leave the program and work in the field under a training extern agreement with Perry Technical Institute, the employer, and the student. Completion of an externship packet is required. For students that wish to meet the requirements of the Department of Labor & Industries and qualify for credit towards (01) certification, completion of the WAC and RCW compliance form which ensures students are supervised 100% of the time by a (01) journey level electrician at a ratio of no more than one student to one (01) journey level electrician is required in addition to the externship packet. If the student does not obtain an externship, completion of an electrical capstone project is required.

Patrick Martin 2-24-2020

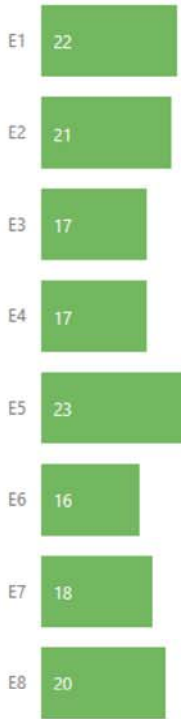
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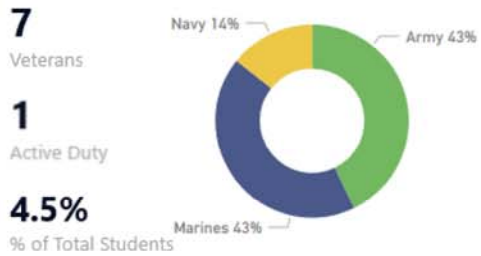
Current Demographics

Enrollment

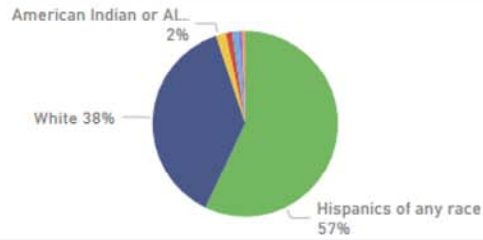
Total Students
154



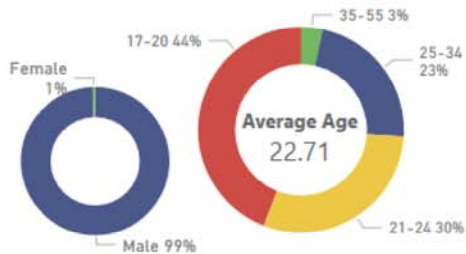
Military History



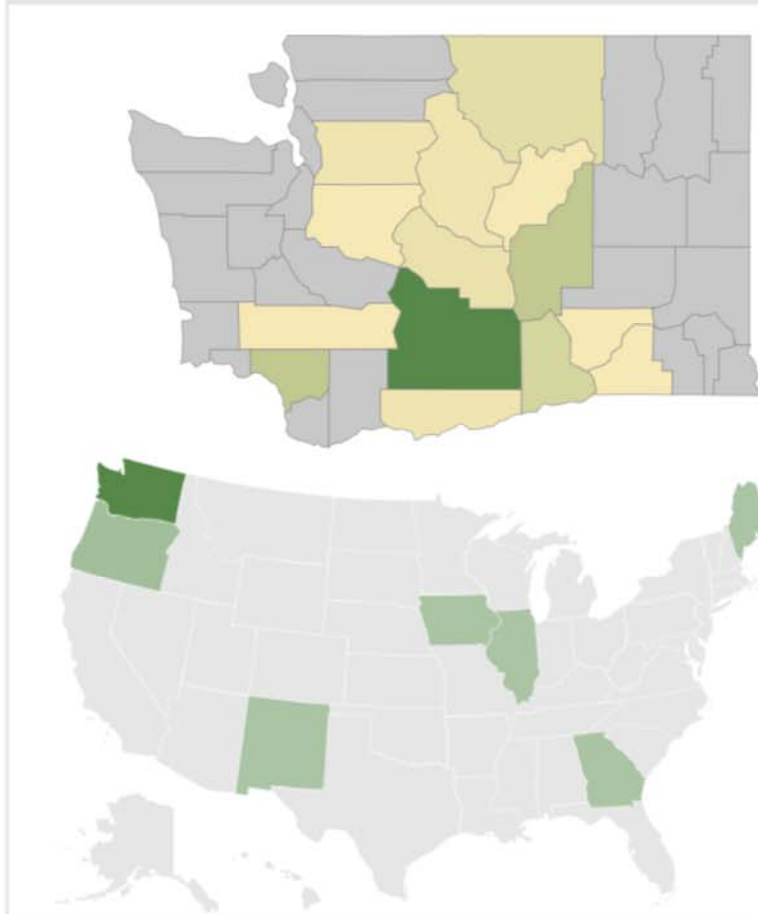
Ethnicity



Gender and Age



Geographic Location (Based on High School)



High School	#	%
A C Davis High School - Yaki...	22	12.4%
GED - General Equivalency D...	12	6.8%
Selah High School	11	6.2%
Wapato Senior High School	10	5.6%
West Valley High School - Yaki	9	5.1%
Sunnyside High School - Wa...	8	4.5%
Toppenish High School	8	4.5%
Dwight D Eisenhower High S...	7	4.0%
Grandview High School	6	3.4%
Mark Morris High School	5	2.8%
Naches Valley High School	5	2.8%
East Valley High School - Yaki	4	2.3%
Kelso High School	4	2.3%
White Swan High School	4	2.3%
Cle Elum-Roslyn High School	3	1.7%
Moses Lake Senior High Sch...	3	1.7%
Wahluke High School	3	1.7%
Zillah High School	3	1.7%
Compass High School	2	1.1%
Hanford High School	2	1.1%
Highland High School	2	1.1%
Irrigon Junior/Senior High Sch	2	1.1%
Prosser Senior High School	2	1.1%
Stanton Alternative School	2	1.1%
	1	0.6%
Almira Coulee-Hartline High ...	1	0.6%
Ankeny High School	1	0.6%
Bickleton High School	1	0.6%
Bothell Senior High School	1	0.6%
Brewster High School	1	0.6%
Canby High School	1	0.6%
Cashmere High School	1	0.6%
Chiawana High School	1	0.6%



Patrick Martin 2-24-2020

TG 2-24-2020

February 18, 2020

Mr. Adam Rieker, Department Head
Electrical Technology & Veterans Advisor
Perry Technical Institute
2011 W. Washington Ave
Yakima, WA 98903

Dear Mr. Rieker:

The Construction Industry Training Council of Washington (CITC) is pleased to provide this letter of commitment to Perry Tech's Electrical Technology program (ET) as you pursue recognition of your program as a pre apprenticeship program from the Washington State Apprenticeship and Training Council (WSATC).

CITC is a state-licensed, vocational trade school for the construction industry. We offer ten state approved construction apprenticeship programs, including carpentry, Electrical, HEO, HVAC, Laborers, Painting, Plumbing, and sheet metal; ten construction craft training programs; many state approved continuing education courses for license renewal; as well as skills assessments, performance verifications, and targeted task training and skills upgrade courses for field construction professionals..

In support of Perry Tech's Electrical Technology program, we can provide the following services:

- Direct entry opportunities for ET graduates to enter CITC's electrical apprenticeship programs
- Guidance and consultation regarding training needs and industry trends for employment
- Industry experts who can present career information to ET students
- Collaboration with Perry Tech to increase apprenticeship opportunities for ET students

If you need any additional information, or if we can help serve your students in any other way, please feel free to contact me directly at 425-285-2324.

Sincerely,

Halene Sigmund

Halene Sigmund, President
Construction Industry Training Council of Washington