** Steel Center for CTE PROGRAM BRIEF**

**Program of Study (POS): ELECTRICAL CONSTRUCTION (EC)**

**Classification of Instructional Program (CIP): 46.0399**

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|  **Topic** | **Information** |  **Additional**  |
| **Essential aptitudes and skills** |  Ability to read installation instructions independently. Strong math skills; the ability to memorize symbols and apply the symbols to equations in order to wire properly.  Maintain tight grips repeatedly on high torque power tools and pliers, work at ground level and overhead, communicate effectively, and read schematics accurately on your own. | Students need to have good grip strength to make splices and to maintain a safe grip on high torque rotating drills and leg strength to bend conduit. Strong memorization skills in order to advance skill level constantly. |
| **Midterm and/or final exams. Research papers** |  1st and 3rd nine weeks tests, midterm test and final. 1 to 2 research papers   | www.residentialconstructionacademy.com; www.nocti.org |
| **Industry certification tests and costs\*** |  Available to students who qualify and who complete at  least 2 full years of instruction. *Pennsylvania Builders*  *Association*: 80% or greater on all chapter tests and must  pass both written and performance sections of the  NOCTI exam (no cost); OSHA 10 |  www.pabuilders.org;  www.abcwpa.orgOSHA  |
| **Number of books** | 5: *National Electrical Code* (NFPA), *House Wiring*  (Fletcher), *Electricity I* (Kubala), *Electrical Principles*  (Herman),  | Students must read the NEC and text books on their own. |
| **Direct instruction (%)** |  Up to 90% during the 1st quarter; 60% during the 2nd, 3rd,  and 4th quarters. 1st year students is mostly theory based. |  All 3 levels of students 10,11,12 are taught at the same time. |
| **Cooperative education** |  Available to students who qualify. Second year seniors and juniors with one and a half years in the program |  Mrs. Stacey Caudill, Work- based Learning Coordinator:   x2542 |
| **Homework** |  A few times each 9 weeks | Visual inspections |
| **Task list** |  Program of study task list for CIP 46.0399 |  www.education.pa.gov  |
| **Prerequisites** |  Algebra 1 recommended; completion of grade 9; strong  interest in electrical trades. Strong independent learner. |  |
| **Reading levels** |  Students will be required to read technical manuals independently since there are 10th, 11th and 12th in 1 class |  Strong memorization and comprehension skills needed. |
| **Math levels** |  Students will be required to calculate formulas independently since there are 10th, 11th and 12th in 1 class |  Solve equations, read tables and charts. |
| **Program requirements and related costs (required and optional)** |  Work boots (steel toes **not** required), clean natural fiber  pants or 12oz. denim, and a clean T-shirt (no sleeveless  shirts); long sleeve fire rated shirts will be provided  when necessary; approx. cost of work boots: $40 - $70 |  Hand tools at an approximate cost of $150 to $200 |
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| **Articulation agreements** |  For third-year completers who qualify: Triangle Tech,  Rosedale College, Pennsylvania Technical College, and  others listed on PDE’s website. |  PDE: www.education.pa.gov  (search SOAR);  |
| **Classroom tests** |  Residential wiring: 1 to 2 quizzes, weekly and a chapter  test every 12-15 days on average; electrical theory:  weekly quizzes with 1 to 2 tests per nine weeks   | www.residentialconstructionacademy.com; www.nccer.org |
| **Work environment** |  Danger of electrical shock, therefore no jewelry may be  worn while working in the shop; Inclement weather conditions (hot/cold, wet/muddy, etc.) Tasks will be performed while standing, kneeling or laying on ground.  |  Follow OSHA rule/regs.No jewelry in the shop |

 **\*Detailed information may be provided upon acceptance to this program**.