

TEEL 1110 - Electrician Apprentice IA (3 Credits)

Course Description

The Electrician Apprentice IA course establishes a solid foundation in electrical fundamentals and the study of basic electrical theory. This course addresses math applications as they relate to the electrical field. In this course, students will use the National Electrical Code (NEC) to apply code requirements to electrical systems. Students will learn and practice in the basics of conduit bending. Students will be introduced to electrical and jobsite hazards and workplace safety.

Course Objectives

- Demonstrate a proficiency in general math skills with an emphasis on how they relate to the electrical field.
- Identify electrical and jobsite hazards.
- Explain workplace safety.
- Apply mathematical principles to conduit bending.
- Demonstrate a practical application of conduit bending.
- Explain the fundamentals of electrical theory.
- Explain the fundamentals of electrical circuitry.
- Demonstrate the application of the National Electrical Code (NEC) Articles 090-240.
- Demonstrate how to navigate the National Electrical Code (NEC) Articles 090-240.

Course Outline

- Year IA

Textbook & Reading Materials

Illustrated Guide to the National Electrical Code 2020, Charles Miller, ISBN: 9780357766712

Electrical Wiring Residential 21st Edition, Mullin/Simmons/Vigstol, ISBN: 9798214122823

NFPA 70: NEC National Electrical Code 2023, National Fire Protection Association (NFPA), ISBN: 9781455929320

Ugly's Electrical References, 2023 Edition, Charles R Miller, ISBN: 9781284275914

Electrical Safety: A Practical Guide to OSHA and NFPA 70E, James R. White, ISBN: 9780826935977

Assignments and Assessments

Orientation
Orientation Acknowledgement
Electrical Safety Chapter 1 - Electrical Safety OSHA and NFPA 70E.pdf
Electrical Safety: OSHA and NFPA 70E
UNIT 1 Atomic Structure
Reading
DEL Unit 1 Atomic Structure
UNIT 2 Electrical Quantities and Ohm's Law
Reading
DEL Unit 2 Electrical Quantities and Ohm's Law
UNIT 3 Static Electricity
Reading
DEL Unit 3 Static Electricity
UNIT 4 Magnetism
Reading
DEL Unit 4 Magnetism
UNIT 5 Resistors
Reading
DEL Unit 5 Resistors
eTextbook: Illustrated Guide to the National Electrical Code
IGNEC Unit 1 Introduction to the National Electrical Code
IGNEC Unit 2 Definitions
30 Degree Offset
90 Degree Bend with Box Offset
eTextbook: Electrical Wiring Residential
EWR Chapter 1 General Information for Electrical Installations
Midterm Practice Exam
Midterm Exam
EWR Chapter 2 Specifications, Electrical Symbols, and Outlets
EWR Chapter 3 Determining the Required Number of Branch Circuits, Lighting Outlets, and Receptacle Outlets
eTextbook: Illustrated Guide to the National Electrical Code
IGNEC Unit 6 General Provisions
IGNEC Unit 7 Specific Provisions
IGNEC Unit 8 Load Calculations
IGNEC Unit 9 Services and Electrical Equipment
Final Practice Exam
Final Exam
End of Course Survey
1_found_base_plan.pdf
2_first_floor plan.pdf
3_south_elev wind_door sch.pdf
4_ east_ elev _int_ elev.pdf
S_north_elev_plot_plan.pdf
6_ west_ elev_ elec_sch.pdf
7 _cross_section_a-a.pdf
B_basement_elec_plan.pdf
9 _first_floor elec_plan.pdf

basement_electrical.pdf

first_floor _electrical.pdf

Subject to change. Please consult your Canvas course for the most current instructions and updates.

Classroom Hours

Start: 8-18-2025
End: 12-8-2025

Mo, Th
6:00 PM - 9:00 PM

For a full list of course hours visit: [Course Schedule](#)

Instructor Contact Information

Cody Post – cpost@stech.edu

Office Hours: By appointment

Email is the preferred method of communication; you will receive a response within 24 hours during regular business hours.

Canvas Information

Canvas is the where course content, grades, and communication will reside for this course.

- [stech.instructure.com](#)
 - For Canvas passwords or any other computer-related technical support contact Student Services.
 - For regular Hours and Weekdays call (435) 586 - 2899.
 - For after Hours & Weekends call (435) 865 - 3929 (Leave a message if no response).
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Course Policies

Course Grading: You will also be required to complete the course, exams and homework, with 75% or higher accuracy for credit and DOPL licensure points.

High School Power School Grades: Quarter student grades will be determined by student progress percentage. Faculty will use the higher percentage of either 1) quarter progress, or 2) cumulative progress for the current training plan year.

Grade Scale: The following grading scale will be used to determine a letter grade.

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|-----------------|-----------------|-----------------|-----------------|
| • A : 94 - 100% | • B : 83 - 86% | • C : 73 - 76% | • D : 63 - 66% |
| • A- : 90 - 93% | • B- : 80 - 82% | • C- : 70 - 72% | • D- : 60 - 62% |
| • B+ : 87 - 89% | • C+ : 77 - 79% | • D+ : 67 - 69% | • F : 0 - 59% |

Course Policies: Cell phones for many have become a distraction. When you are in class or lab we encourage you to keep your cell phones put away in a secure location. If you use ear buds we ask that you only use one so you can still hear the things going on around you. If you are using your phone for things other than school related items, instructors will ask you to put them away. Please follow the direction of your instructors. Those who have been asked to refrain from using your cell phone and fail to do so will be asked to meet with the Director of Transportation, and student services will be notified.

Additional Information

InformaCast Statement: Southwest Tech uses InformaCast to ensure the safety and well-being of our students. In times of emergency, such as weather closures and delays, this app allows us to promptly deliver notifications directly to your mobile devices. To stay informed and receive real-time updates, we encourage all students to sign up for notifications. Your safety is our priority, and staying connected ensures a swift response to any unforeseen circumstances. More information and directions for signing up are available at: <https://stech.edu/emergency-notifications/>

Internet Acceptable Use Policy: The student is expected to review and follow the Southwest Technical College Internet Safety Policy at: <https://stech.edu/students/policies/>

Student Code of Conduct Policy: The student is expected to review and follow the Southwest Technical College Student Code of Conduct Policy at: <https://stech.edu/students/policies/>

Accommodations: Students with medical, psychological, learning, or other disabilities desiring accommodations or services under ADA, must contact the Student Services Office. Student Services determines eligibility for and authorizes the provision of these accommodations and services. Students must voluntarily disclose that they have a disability, request an accommodation, and provide documentation of their disability. Students with disabilities may apply for accommodations, based on an eligible disability, through the Student Services office located at 757 W. 800 S., Cedar City, UT 84720, and by phone at (435) 586-2899. No diagnostic services are currently available through Southwest Technical College.

Safety and Building Maintenance: The College has developed and follows a variety of plans to ensure the safe and effective operation of its facilities and programs. The following plans are available online:

1) Facilities Operations and Maintenance Plan; 2) Technical Infrastructure Plan; and 3) Health and Safety Plan.

Withdrawals and Refunds: Please refer to the Southwest Technical College Refund Policy at: <https://stech.edu/students/policies/>

Any high school or adult student, who declares a technical training objective is eligible for admission at Southwest Technical College (Southwest Tech). Program-specific admissions requirements may exist and will be listed on the Southwest Tech website. A high school diploma or equivalent is not required for admission but is mandatory for students seeking Title IV Federal Financial Aid.

Non-Discriminatory Policy: Southwest Technical College affirms its commitment to promote the goals of fairness and equity in all aspects of the educational enterprise, and bases its policies on the idea of global human dignity.

Southwest Tech is committed to a policy of nondiscrimination. No otherwise qualified person may be excluded from participation in or be subjected to discrimination in any course, program or activity because of race, age, color, religion, sex, pregnancy, national origin or disability. Southwest Technical College does not discriminate on the basis of sex in the education programs or activities that it operates, as required by Title IX and 34 CFR part 106. The requirement not to discriminate in education programs or activities extends to admission and employment. Inquiries about Title IX and its regulations to STECH may be referred to the Title IX Coordinator, to the Department of Education, and/or to the Office for Civil rights.

If you believe you have experienced discrimination or harassment on our campus, please contact the Title IX Coordinator, Cory Estes: cestes@stech.edu, (435) 865-3938.

For special accommodations, please contact the ADA Coordinator, Cyndie Tracy: ctracy@stech.edu, (435) 865-3944.

Southwest Technical College

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