

ELECTRICAL LINEWORKER 2
COURSE CODE: 6306
STUDENT PROFILE

STUDENT'S NAME:		TEACHER'S NAME:			
School Year/Semester:		Date Begin:			
Grade:		Date Completed:			

Directions: Document student's progress using the applicable rating scales below: Enter date of completion under the appropriate column.

0 - Has not received instruction in this area / **no experience or knowledge of this task (N/A)**
1 - Can apply and perform **independently (80-100)**
2 - Can perform the task completely with **limited supervision (70-79)**
3 - Requires additional instruction and or **close supervision (60-69)**

A. STUDENT ORGANIZATIONS		0	1	2	3
1	Identify the purpose and goals of a Career and Technology Student Organization (CTSO).				
2	Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.				
3	Explain the benefits and responsibilities of being a member of a CTSO.				
4	List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.				
5	Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.				

B. TECHNOLOGY KNOWLEDGE		0	1	2	3
1	Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation				
2	Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.				
3	Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.				
4	Explain the consequences of social, illegal, and unethical uses of technology (e.g., cyber bullying; piracy; illegal downloading; cyberbullying; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).				

5	Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, Creative Commons, documents, video, sounds, music, trademarks, and other elements for personal use.				
6	Describe ethical and legal practices of safeguarding the confidentiality of business-related information.				
7	Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.				

C. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS		0	1	2	3
1	Demonstrate punctuality.				
2	Demonstrate self-representation.				
3	Demonstrate work ethic.				
4	Demonstrate respect.				
5	Demonstrate time management.				
6	Demonstrate integrity.				
7	Demonstrate leadership.				
8	Demonstrate teamwork and collaboration.				
9	Demonstrate conflict resolution.				
10	Demonstrate perseverance.				
11	Demonstrate commitment.				
12	Demonstrate a healthy view of competition				
13	Demonstrate a global perspective.				
14	Demonstrate health and fitness.				
15	Demonstrate self-direction.				
16	Demonstrate lifelong learning.				
D. PROFESSIONAL KNOWLEDGE		0	1	2	3
1	Demonstrate effective speaking and listening skills.				
2	Demonstrate effective reading and writing skills.				
3	Demonstrate mathematical reasoning.				
4	Demonstrate job-specific mathematics skills.				

5	Demonstrate critical-thinking and problem-solving skills.				
6	Demonstrate creativity and resourcefulness.				
7	Demonstrate an understanding of business ethics.				
8	Demonstrate confidentiality.				
9	Demonstrate an understanding of workplace structures, organizations, systems, and climates.				
10	Demonstrate diversity awareness.				
11	Demonstrate job acquisition and advancement skills.				
12	Demonstrate task management skills.				
13	Demonstrate customer-service skills.				

E. NCCER® CONTREN CORE MODULES		0	1	2	3
MODULE A: SAFETY					
1	Identify the responsibilities and personal characteristics of a professional craftsperson.				
2	Describe the safe work requirements for elevated work.				
3	Identify and explain how to avoid struck-by and caught-in-between hazards.				
4	Explain the appropriate safety precautions around common job-site hazards.				
5	Demonstrate the use and care of appropriate personal protective equipment (PPE).				
6	Identify and describe other specific job-site safety hazards.				
7	Follow safe procedures for lifting heavy objects.				
8	Describe safe behavior on and around ladders and scaffolds.				
9	Explain the importance of the Hazard Communication Standard (HazCom) requirement and Safety Data Sheets (SDS)				
10	Describe fire prevention and firefighting techniques.				
11	Define safe work procedures around electrical hazards.				
12	Complete 10-hour OSHA course/assessment and receive card. (SDE Requirement)				
13	Complete Performance Tasks				
MODULE B: CONSTRUCTION MATH		0	1	2	3

1	Add, subtract, multiply, and divide whole numbers, with and without a calculator.				
2	Use a standard ruler and a metric ruler to measure.				
3	Add, subtract, multiply, and divide fractions.				
4	Add, subtract, multiply, and divide decimals, with and without a calculator.				
5	Convert decimals to percent and percent to decimals.				
6	Convert fractions to decimals and decimals to fractions.				
7	Explain what the metric system is and how it is important in the construction trade.				
8	Recognize and use metric units of length, weight, volume, and temperature.				
9	Recognize some of the basic shapes used in the construction industry and apply basic geometry to measure them.				

MODULE C: INTRODUCTION TO HAND TOOLS		0	1	2	3
1	Recognize and identify various types of basic hand tools used in the construction trade.				
2	Identify and describe how to use various types of measurement and layout tools.				
3	Identify and explain how to use various types of cutting and shaping tools.				
4	Use these tools safely.				
5	Describe the basic procedures for taking care of these tools.				
6	Complete Performance Tasks				
MODULE D: INTRODUCTION TO POWER TOOLS		0	1	2	3
1	Identify and explain how to use various types of power drills and impact wrenches used in the construction trade.				
2	Identify and explain how to use various types of power saws.				
3	Identify and explain how to use various grinders and grinder attachments.				
4	Identify and explain how to use miscellaneous power tools.				
5	Use power tools safely.				
6	Explain how to maintain power tools properly.				
7	Complete Performance Tasks				

MODULE E: INTRODUCTION TO CONSTRUCTION DRAWINGS/RECOMMEND BLUEPRINT READING		0	1	2	3
1	Identify and describe various types of construction drawings, including their fundamental components and features.				
2	Recognize and identify basic blueprint terms, components, and symbols.				
3	Relate information on blueprints to actual locations on the print.				
4	Recognize different classifications of drawings.				
5	Interpret and use drawing dimensions.				
6	Complete Performance Tasks				
MODULE F: BASIC RIGGING		0	1	2	3
1	Explain how ropes, chains, hoists, loaders, and cranes are used to move material and equipment from one location to another on a job site.				
2	Describe inspection techniques and load-handling safety practices.				
3	Explain the American National Standards Institute (ANSI) hand signals.				
4	Complete Performance Tasks				

MODULE G: BASIC COMMUNICATION SKILLS (SDE REQUIREMENT)		0	1	2	3
1	Describe the communication, listening and speaking processes and their relationship to job performance.				
2	Describe good reading and writing skills and their relationship to job performance				
3	Demonstrate telephone and e-communication skills necessary in the workplace.				
4	Complete Performance Tasks				
MODULE H: BASIC EMPLOYABILITY SKILLS (SDE Requirement)		0	1	2	3
1	Describe the opportunities in the construction business and how an individual enters the construction workforce.				
2	Explain the importance of critical thinking and how to solve problems in the workplace.				
3	Explain the importance of social skills and identify ways good social skills are applied in the construction trade.				
4	Describe computer systems and their industry applications.				

5	Explain interpersonal relationship skills, self-presentation, and key workplace issues such as sexual harassment, stress, and substance abuse.				
MODULE I: MATERIALS HANDLING (OPTIONAL)		0	1	2	3
1	Describe the hazards associated with handling materials and provides techniques to avoid both injury and property damage.				
F. ALTERNATING CURRENT		0	1	2	3
1	Define the terminology of sine waves.				
2	Define AC phase relationships.				
3	Find unknown values in purely resistive AC circuits.				
4	Find unknown values in inductive AC circuits.				
5	Find unknown values in capacitive AC circuits.				
6	Find unknown values in combination circuits.				
7	Make power calculations in AC circuits.				
8	Calculate true, apparent, and reactive power.				
9	Use the power triangle to determine unknown values.				
10	Identify the basic components in a transformer.				
11	Identify transformer operating characteristics.				
12	Calculate turns and voltage ratios.				
13	Identify various types of transformers and their applications.				

G. ELECTRICAL TEST EQUIPMENT		0	1	2	3
1	Identify electrical test equipment.				
2	Demonstrate proper use of electrical test equipment.				
3	Compare the atomic structures of conductors and insulators.				
4	Identify the role of magnetism in electrical devices.				
5	Identify the basic components in a power distribution system.				
6	Define terms related to electricity, e.g., current, voltage, resistance.				
7	Use Ohm's law to solve for unknown circuit values.				
8	Identify the symbol for a resistor and determine its value based on color codes.				

9	Distinguish between series and parallel circuits.				
10	Identify the instruments used to measure circuit values.				
11	Calculate electrical power.				

H. ELECTRIC LIGHTING		0	1	2	3
1	Identify and install lamps.				
2	Identify lighting fixtures and their applications.				
3	Install lighting fixtures.				
4	Select photosensors.				
I. PULL AND JUNCTION BOXES		0	1	2	3
1	Select pull and junction boxes.				
2	Select and install fittings.				
3	Size pull and junction boxes for systems over and under 1,000V.				
4	Identify conduit bodies and other cast enclosures.				
5	Select and install handholes				
J. CONDUCTOR INSTALLATIONS		0	1	2	3
1	Plan the installation.				
2	Identify a pulling location and set up the cable reels.				
3	Prepare raceways for conductors.				
4	Install a pull line.				
5	Prepare the cable ends for pulling.				
6	Select cable-pulling equipment.				
7	Set up the feeding end.				
8	Support conductors.				
9	Pull cable in cable trays.				
10	Identify cable limitations when pulling.				
11	Calculate the allowable tension on pulling devices and conductors.				
12	Calculate the sidewall loading.				

K. CONDUCTOR TERMINATIONS AND SPLICES		0	1	2	3
1	Analyze the significance of American Wire Gauge System (AWG).				
2	Strip and train small and large conductors.				
3	Bend cable and train conductors.				
4	Make wire connections.				
5	Install various types of connectors.				
6	Make aluminum connections.				
7	Reinsulate electrical connections.				
8	Tape electrical connections.				
9	Install heat-shrink insulators.				

L. GROUNDING AND BONDING		0	1	2	3
1	Identify the purpose of grounding and bonding.				
2	Identify the grounding requirements for various systems.				
3	Identify service grounding methods.				
4	Size and install a grounding electrode conductor.				

M. CIRCUIT BREAKERS AND FUSES		0	1	2	3
1	Identify the function of overcurrent protective devices				
2	Identify types of overcurrent conditions.				
3	Identify NESC® requirements for overcurrent protective devices.				
4	Size and select circuit breakers.				
5	Identify circuit breaker components.				
6	Identify circuit breaker types and ratings.				
7	Size and select fuses.				
8	Identify fuse types and markings.				
9	Size fuses.				
10	Coordinate the operation of overcurrent protective devices.				

N. CAREER DEVELOPMENT		0	1	2	3
1	Research and demonstrate appropriate employability skills necessary in the field of electrical lineman.				
2	Develop a personal resume' for a position in the electrical lineman field.				