DELAWARE VALLEY SCHOOL DISTRICT
PLANNED INSTRUCTION

A PLANNED COURSE FOR:

Electrical Occupations 1, 2, 3

Grade Level:
10, 11, 12

Date of Board Approval: _____

Title of Planned Instruction: Electrical Occupations 1, 2, 3

Subject Area: Career and Technical Education

Grade Level: 10, 11, 12

Course Description:

Level 1 students will start with safety training and testing of competence via the SP2 safety program. Students will then learn about hand tools and basic wiring techniques in order to complete basic “bread board” tabletop electrical projects. The students will focus on electrical symbols and their orientation on the wiring board as well as proper wiring techniques. Each quarter the students will refine and build on the skills they learned by adding additional skills. Advanced students will begin to learn how to bend EMT conduit with a hand bender. Level II will expand on the skills learned in level I, this will be accomplished through designed residential wiring projects that are done in the model house in an as close to real world scenario as possible. Students will continue to expand and strengthen their skills and knowledge of electrical theory, code and wiring techniques as listed below. Commercial and Industrial wiring will be introduced. This will include larger wiring projects as well as conduit installation and wiring. Level III will continue to build upon level 1 and 2 learning and experiences. Students will learn to install an overhead electrical service on the model house. The National Electrical Code book will be examined during each project to ensure electrical safety. Students learn what Green Energy is as well as what career paths and certifications are available.
Each student will perform work orders for projects, technical writing activities and be involved in mock interviews to achieve the highest level of career readiness possible.

Time/Credit for the Course: Full year, 3 Periods per day, 3 Credits

Curriculum Writing Committee: Brian Watson

DELAWARE VALLEY SCHOOL DISTRICT Curriculum Map

Time range: 180 days

Level I- Goals:
Understanding of:

- Safety
  - General
  - Jobsite
  - Fire
  - Electrical
- Hand Tools
  - Screwdrivers
  - Hammers
  - Pliers
  - Wrenches
  - Hydraulic punch
- Electrical Symbols
  - Panel
  - Circuit
  - Receptacles
  - Switches
  - One line
  - Schematic
- Switches and receptacles
  - Installation of
  - National Electrical Code of
- Anchors and Supports
  - Selection of
  - Installation of
- Blueprint Reading
  - Architectural scaling Circuit origin
  - Receptacle layout

- Lighting layout
- Switching

Residential Cabling Technology
- Ampacities
- Uses permitted
- Splicing techniques
- Termination techniques

Power Tools
- Portable band saw
- Reciprocating saw
- Hammer drill
- Corded drill

Level II- Overview with range in days:
180 days

Level II- Goals
Fixtures
- Ceiling light
- Wall light
- Specialty
- Outdoor
- Ceiling Fan
- Exhaust fan

Testing Equipment
- Amperage
- Voltage
- Resistance

Wired Devices
- Motion sensors
- Photocell sensors
- Smoke detectors
- Carbon monoxide detectors

Raceways
- Electrical Metallic Tubing
- Intermediate Metallic Tubing

Ridged Metallic Tubing

Level III- Overview with range in days- 180 days

Level III- Goals:
Understanding of:

Electrical Service
- Overhead
- Underground
- Grounding
- Code requirements

National Electrical Code
- Origin of
- Cycle of
- Purpose of
- Scope of
- Interpreting

Green Technology
- Identification of
- Careers related to
- Certification requirements

Professional Skills
- Technical writing
- Resume
- Interview skills

DELAWARE VALLEY SCHOOL DISTRICT

CURRICULUM PLAN

Course Name: Electrical Occupations

Unit Name: Safety

Unit Number: 100

Unit Description/Objectives:

Level 1 students must complete the Basic Safety unit, receive a certificate of completion of the SP2 online safety course, and return the safety pledge signed by the student and the parent or guardian of the student before working on any other unit or hands on projects.

Tasks:
PA101 – Inspect and use personal protective equipment
PA102 - Identify causes of job site accidents
PA105 – Properly don fall protection
PA106 – Identify four classes of fire extinguishers
PA107 – Confirm circuits are de-energized before working on them
PA108 - Perform Lockout/Tag-out
PA109 – Inspect and use ladders
PA110 – Complete jobsite hazard analysis form
PA111 – Identify Arc-flash hazards and protection

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.A Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

CC.3.5.11-12.B Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domainspecific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.

CC.3.5.11-12.E Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

CC.3.5.11-12.G Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

CC.3.5.11-12.I Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grades level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

CC.1.5.11-12.B Integrate multiple sources of information presented in diverse formats and media (e.g. visually, quantitative, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

CC.1.5.11-12.C Evaluate how the speaker's perspective, reasoning, and use of evidence and rhetoric affect the credibility of an argument through the author's stance, premises, links among ideas, word choice, points of emphasis, and tone.

CC.1.5.11-12.D Present information, findings, and supporting evidence, conveying a clear and distinct perspective; organization, development, substance, and style are appropriate to purpose, audience, and task.

Focus Anchor/Standard #2:

- MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply to polynomials.

CC.2.2.HS.D.4 Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.

CC.2.2.HS.D.5 Use polynomial identities to solve problems.

CC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms.

Connecting Anchor/Standard:

- CEW

Supporting Anchor/Standards:

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.E Justify the selection of a career.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.D Develop a personal budget based on career choice, such as, but not limited to: charitable contributions, fixed/variable expenses, gross pay, net pay, other income, savings and taxes.

Instructional Activities:

- K-W-L
- Look for unknown words

- Picture questioning
- Picture story
- Read the questions at the end of the chapter
- Read the summary information first
- Vocabulary by accident

- Directed reading or learning questions
- Question aloud
- Read then predict
- Reciprocal Teaching
- Checklist of facts
- Process listing - Writing journals **Safety:**

• Safety Glasses must be worn at all times
• Use extreme caution when using cutting tools

Assessment:
THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Writing assignments
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Completed and Turned-in Make Up work
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation

• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Student self-assessment

WORK ETHIC
• Determine if students follow the daily plan as laid out at the start of class.
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical Occupations

Unit Name: Hand Tools

Unit Number: 200

Unit Description/Objectives:

Students will learn the proper use of common hand tools used for electrical installations and repairs.

Tasks
PA201 – Use screwdrivers
PA202 – Use pliers
PA203 – Use keyhole / drywall saw
PA204 – Use hydraulic knockout/ punch tool
PA205 – Use a tape measure
PA206 – Use wire strippers
PA207 - Use wire cutters
PA208 – Use a utility knife
PA209 – Use torpedo level
PA210 – Use a hammer
PA211 – Use a conduit reamer
PA212 – Use a hacksaw
PA213 – Use a roto-split
PA214 – Use adjustable or non-adjustable wrenches
PA215 – Use ratchet and sockets
PA216 – Use nut drivers

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- LITERACY

Supporting Anchor/Standards:

CC.1.2.11-12.L Read and comprehend literary non-fiction and informational text on grade level, reading independently and proficiently.

CC.1.2.11-12.K Determine or clarify the meaning of unknown and multiplemeaning words and phrases based on grade level reading and content, choosing flexibly from a range of strategies and tools.

CC.1.2.11-12.J Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

CC.1.2.11-12.H Analyze seminal texts based upon reasoning, premises, purposes, and arguments.

Focus Anchor/Standard #2:

- MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.

Connecting Anchor/Standard:

- CEW

Supporting Anchor/Standards:

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

Safety:

- Safety Glasses must be worn at all times
- Use extreme caution when using cutting tools
- Follow all manufacturer safety instructions

Assessment:

THEORY EVALUATION

- Traditional Tests – multiple choice, matching, true/false, short answer completion
- Traditional Quizzes - multiple choice, matching, true/false, short answer completion
- Graded Homework
- Graded Writing assignments

- Graded Math practice assignments
- Graded Reading assignments
- Notebook checks
- Completed and Turned-in Make Up work
- Class oral responses
- Business and Industry Credentialing Tests
- Exit Slips
- Student Hand Held Response Systems
- Textbook Computer Generated Tests

SKILL EVALUATION

- Scores on projects when they are completed
- Teacher observing and scoring each step of the process as a job is being completed
- Teacher observing and recording the quality of work being done on an assigned job
- Teacher checking and scoring as each part of an activity is being done correctly
- Teacher observing and scoring as a job is done within a time frame
- Teacher checking and scoring that students use the appropriate terminology for particular jobs
- Teacher determining if the student has the skills to work independently on an assigned job
- Teacher evaluating if PA Program of Study tasks are being achieved as expected
- Teacher evaluating student class participation
- Teacher evaluating a student media presentation
- Peer evaluation of individual student
- Student self-assessment

WORK ETHIC

- Determine if students follow the daily plan as laid out at the start of class.
- Evaluate the student's ability to work within a team when teamwork is necessary.
- Evaluate the student's responsibility to complete work logs as expected.
- Determine and evaluate if students adhere to all safety procedures.
- Evaluate if students work without hindering other students' progress.
- Evaluate if students stay on task in accordance with the job expectation.
- Account if students are prepared for class each day.
- Account if students are wearing appropriate clothing when necessary.
- Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

- Study guides provided prior to tests
- Use of a scribe
- Use of calculator
- Multiple Choice will include 3 choices instead of 4
- Matching with groups of no more than 10 (depends on IEP)

- Matching with groups of no more than 5
- Tests read aloud
- Word bank with no more than 10 options
- Word bank with no more than 5 options
- Extended time to complete the assessment
- Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: POWER TOOLS
Unit Number: 300

Unit Description/Objectives:

Students will learn to safely use the power tools listed.

Tasks:

PA302 - Identify and safely use electric hammer drill
PA303 - Identify and safely use reciprocating saw
PA304 - Identify and safely use portable hand-held band saw
PA306 - Identify and safely use electric/cordless drill PA310
– Use oscillating multi-purpose tool
PA311 – Use impact driver

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- LITERACY

Supporting Anchor/Standards:

CC.3.5.11-12.C Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domainspecific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.

CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

CC.3.5.11-12.G Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

CC.3.5.11-12.H Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

Focus Anchor/Standard #2:

- MATH/SCIENCE

Supporting Anchor/Standards:

CC.2.4.4.A.6 Measure angles and use properties of adjacent angles to solve problems.

CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Vocabulary with Graphics
- Directed reading or learning questions

Special Modifications:

- Extended Time (assignments and/or testing)
- Chunking of Assignments/Material
- Study Guide

Assessment:

THEORY EVALUATION

• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Writing assignments
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Completed and Turned-in Make Up work
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION

• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Student self-assessment

WORK ETHIC

• Determine if students follow the daily plan as laid out at the start of class.
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.

• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: BLUEPRINT READING

Unit Number: 400

Unit Description/Objectives:

Students will read, create and interpret blueprints including identify and explain the electrical outlet symbols used in the plans of the single-family dwelling. Discuss the types of outlets, boxes, luminaires, and switches used in the residence.

Tasks:
PA401 - Identify types of blueprint plans
PA402 - Identify blueprint symbols
PA403 - Interpret blueprint plans
PA405 – Develop electrical details on a residential blueprint
PA406 Use a measuring tool to scale

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- LITERACY

Supporting Anchor/Standards:

L.N.1.3.2 Summarize the key details and events of a nonfictional text, in part or as a whole.

L.N.2.5 Use appropriate strategies to identify and analyze essential and nonessential information in literary nonfiction.

Focus Anchor/Standard #2:

- MATH/SCIENCE

Supporting Anchor/Standards:

2.3.4.B Select and use appropriate tools and units for measuring quantities (e.g., length, time, weight, temperature).

2.3.5.B Select and use appropriate instruments and units for measuring quantities to a specified level of accuracy.

M03.D-M.2.1.3 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by making a line plot, where the horizontal scale is marked in appropriate units—whole numbers, halves, or quarters.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Picture questioning
- Read the questions at the end of the chapter
- Read the summary information first
- Checking for Comparative Knowledge
- Directed reading or learning questions
- Essential Question Reflection

Special Modifications:
- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material
- Study Guide
- Use of Calculator

Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
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SKILL EVALUATION
• Scores on projects when they are completed
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WORK ETHIC
• Determine if students follow the daily plan as laid out at the start of class.
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment **Course Name:** Electrical and Power Transmission Installers

Unit Name: ANCHORS AND SUPPORTS

Unit Number: 500
Unit Description/Objectives:

Students will learn the proper use of common anchors and supports used for electrical installation and repair.

Tasks/Readings:
PA501 - Identify, select and install various types of anchors and supports

Standards / Assessment Anchors *Focus Anchor/Standard #1:*

- LITERACY
- L.N.2.5 Use appropriate strategies to identify and analyze essential and nonessential information in literary nonfiction.

Supporting Anchor/Standards:
R3.A.2.1 Identify and interpret the meaning of vocabulary in nonfiction.

R3.A.2.5 Summarize a nonfictional text as a whole.
R3.A.2.5.1 Summarize the major points, processes, and/or events of a nonfictional text as a whole.
R3.B.3 Understand concepts and organization of nonfictional text.

Focus Anchor/Standard #2:

- MATH/SCIENCE

Focus Anchor/Standard #2:

- 2.3.4.B Select and use appropriate tools and units for measuring quantities (e.g., length, time, weight, temperature).

  Supporting Anchor/Standards:

  2.3.5.B Select and use appropriate instruments and units for measuring quantities to a specified level of accuracy.

  M03.D-M.2.1.3 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by making a line plot, where the horizontal scale is marked in appropriate units—whole numbers, halves, or quarters.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure,

entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:
Assessment:

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Writing assignments
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Completed and Turned-in Make Up work
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Student self-assessment

WORK ETHIC
• Determine if students follow the daily plan as laid out at the start of class.
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.

• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: RESIDENTIAL CABLING TECHNOLOGY
Unit Number: 600

Unit Description/Objectives:

Students will learn how to identify and properly use all types of cable listed. Including how to determine the current-carrying capacity (ampacity) of conductors and understanding overcurrent protection for conductors and maximum loading of branch circuits.

Tasks:
PA601 - Install Non-Metallic (NM) Cable
PA602 - Install metal-clad cable (MC) Cable
PA605 – Terminate a coaxial cable
PA609 – Identify telecommunications cable types
PA610 – Terminate an RJ-45 connector
PA611 – Install SE cable

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- R3.A.2 Understand nonfiction appropriate to grade level.

Supporting Anchor/Standards:

R4.A.2.1 Identify and interpret the meaning of vocabulary in nonfiction.

R4.A.2.5 Summarize a nonfictional text as a whole.

R4.A.2.5.1 Summarize the major points, processes and/or events of a nonfictional text as a whole.

Connecting Anchor/Standard:

- 2.3.4.B Select and use appropriate tools and units for measuring quantities (e.g., length, time, weight, temperature).

  Supporting Anchor/Standards:

  2.3.5.B Select and use appropriate instruments and units for measuring quantities to a specified level of accuracy.

CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.
13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Read the questions at the end of the chapter
- Read the summary information first
- Directed reading or learning questions
- Read, listen, share, and question in a small group

Special Modifications:

- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material
- Study Guide
- Use of Calculator
- Have Student Repeat Directions **Assessment:**

THEORY EVALUATION

- Traditional Tests – multiple choice, matching, true/false, short answer completion
- Traditional Quizzes - multiple choice, matching, true/false, short answer completion
- Graded Homework
- Graded Writing assignments
- Graded Math practice assignments
- Graded Reading assignments
- Notebook checks
- Completed and Turned-in Make Up work
- Class oral responses
- Business and Industry Credentialing Tests
- Exit Slips
- Student Hand Held Response Systems
- Textbook Computer Generated Tests

SKILL EVALUATION

- Scores on projects when they are completed
- Teacher observing and scoring each step of the process as a job is being completed
- Teacher observing and recording the quality of work being done on an assigned job
- Teacher checking and scoring as each part of an activity is being done correctly
- Teacher observing and scoring as a job is done within a timeframe
- Teacher checking and scoring that students use the appropriate terminology for particular jobs
- Teacher determining if the student has the skills to work independently on an assigned job
- Teacher evaluating if PA Program of Study tasks are being achieved as expected
- Teacher evaluating student class participation
- Teacher evaluating a student media presentation
- Peer evaluation of individual student
- Student self-assessment

WORK ETHIC

- Determine if students follow the daily plan as laid out at the start of class.
- Evaluate the student's ability to work within a team when teamwork is necessary.
- Evaluate the student's responsibility to complete work logs as expected.
- Determine and evaluate if students adhere to all safety procedures.
- Evaluate if students work without hindering other students' progress.
- Evaluate if students stay on task in accordance with the job expectation.
- Account if students are prepared for class each day.
- Account if students are wearing appropriate clothing when necessary.
- Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

- Study guides provided prior to tests

- Use of a scribe
- Use of calculator
- Multiple Choice will include 3 choices instead of 4
- Matching with groups of no more than 10 (depends on IEP)
- Matching with groups of no more than 5
- Tests read aloud
- Word bank with no more than 10 options
- Word bank with no more than 5 options
- Extended time to complete the assessment
- Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: SWITCHES AND RECEPTACLES CIRCUITS

Unit Number: 700

Unit Description/Objectives:

Students will learn to identify switches and receptacles for specific uses in electrical installations and repairs. Including how to identify the various types of toggle switches for lighting circuit control, select a switch with the proper rating for the specific installation conditions.

Tasks:

PA701 - Install a duplex receptacle
PA702 - Install a single pole switch
PA703 - Install a 3-way switch
PA704 - Install a 4-way switch
PA705 - Install a split-wired duplex receptacle
PA706 - Install a Ground Fault Circuit Interrupter (GFCI) Receptacle
PA707 - Install an Arc-Fault Circuit Interrupter (AFCI)
PA708 - Install a time control switch
PA709 – Install a range receptacle
PA710 – Install a dryer receptacle

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- R3.A.2 Understand nonfiction appropriate to grade level. *Supporting Anchor/Standards:*

  R3.A.2.1 Identify and interpret the meaning of vocabulary in nonfiction.

  R3.A.2.5 Summarize a nonfictional text as a whole.

R3.A.2.5.1 Summarize the major points, processes, and/or events of a nonfictional text as a whole.

R3.B.3 Understand concepts and organization of nonfictional text.

Focus Anchor/Standard #2:

- 3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

Supporting Anchor/Standards:

2.3.4.B Select and use appropriate tools and units for measuring quantities (e.g., length, time, weight, temperature).

2.3.5.B Select and use appropriate instruments and units for measuring quantities to a specified level of accuracy.

3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.
13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.
Instructional Activities:

- Read the questions at the end of the chapter
- Read the summary information first

- Questioning while reading

Special Modifications:

- Extended Time (assignments and/or testing)
- Study Guide
- Adapted Tests and/or Assignments
- Use of Calculator **Assessment:**

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Writing assignments
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Completed and Turned-in Make Up work
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Student self-assessment

WORK ETHIC
• Determine if students follow the daily plan as laid out at the start of class.
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.

- Evaluate if students work without hindering other students' progress.
- Evaluate if students stay on task in accordance with the job expectation.
- Account if students are prepared for class each day.
- Account if students are wearing appropriate clothing when necessary.
- Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

- Study guides provided prior to tests
- Use of a scribe
- Use of calculator
- Multiple Choice will include 3 choices instead of 4
- Matching with groups of no more than 10 (depends on IEP)
- Matching with groups of no more than 5
- Tests read aloud
- Word bank with no more than 10 options
- Word bank with no more than 5 options
- Extended time to complete the assessment
- Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers **Unit Name:** Ohm's Law

Unit Number:

Unit Description/Objectives:

Student will be able to independently express the relationship between Current, Voltage, and Resistance; known as Ohm's Law. As well as use Ohm's Law to solve for the missing variable; reconfiguring the formula if needed.

Tasks:

Use Ohm's Law to solve for missing variables of the Ohm's Law formula

- The students will understand the relationship of the three values of Ohm's Law in relation to one another

- By understanding Ohm's Law and the relationships of its values the students will be able to apply its use to both Direct Current and Alternating Current circuit calculations

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- A2.1.3.2.1 Determine how a change in one variable relates to a change in a second variable.

Supporting Anchor/Standards:

6.EE.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

6.EE.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

6.EE.CS Represent and analyze quantitative relationships between dependent and independent variables.

CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Read the questions at the end of the chapter
- Read the summary information first
- Reciprocal Teaching
- Demonstrate what was learned **Special Modifications:**

- Extended Time (assignments and/or testing)
- Chunking of Assignments/Material
- Preferential Seating
- Directions/Comprehension Check (frequent checks for understanding)
- Adapted Tests and/or Assignments
- Use of Calculator **Assessment:**

- Traditional Tests – multiple choice, matching, true/false, short answer completion
- Traditional Quizzes - multiple choice, matching, true/false, short answer completion
- Notebook checks

Course Name: Electrical and Power Transmission Installers **Unit Name:** FIXTURES

Unit Number: 800

Unit Description/Objectives:

Students will learn to select and install miscellaneous fixtures, understand luminaire terminology, such as Type IC and Type Non-IC and understand the *NEC* requirements for installing and connecting surface and recessed luminaires.

Tasks:

PA801 - Install surface-mounted lighting fixture
PA802 - Install recessed lighting fixtures
PA803 - Install a ceiling fan
PA804 – Install LED lighting
PA805 – Identify IC and non-IC recessed lighting fixtures

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- L.N.2.4 Use appropriate strategies to identify and analyze text organization and structure in literary nonfiction.

Supporting Anchor/Standards:

R3.A.2 Understand nonfiction appropriate to grade level.
R3.A.2.1 Identify and interpret the meaning of vocabulary in nonfiction.
R3.A.2.5 Summarize a nonfictional text as a whole.
R3.A.2.5.1 Summarize the major points, processes, and/or events of a nonfictional text as a whole.

Focus Anchor/Standard #2:

- 3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

Supporting Anchor/Standards:

3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.

3.2.10.B4 Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability,

health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Read the questions at the end of the chapter
- Read the summary information first
- Vocabulary with Graphics
- Step defining

Special Modifications:

- Extended Time (assignments and/or testing)
- Graphic Organizer
- Directions/Comprehension Check (frequent checks for understanding)
- Study Guide
- Use of Calculator **Assessment:**

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion • Graded Homework
• Graded Writing assignments
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks

- Completed and Turned-in Make Up work
- Class oral responses
- Business and Industry Credentialing Tests
- Exit Slips
- Student Hand Held Response Systems
- Textbook Computer Generated Tests

SKILL EVALUATION

- Scores on projects when they are completed
- Teacher observing and scoring each step of the process as a job is being completed
- Teacher observing and recording the quality of work being done on an assigned job
- Teacher checking and scoring as each part of an activity is being done correctly
- Teacher observing and scoring as a job is done within a timeframe
- Teacher checking and scoring that students use the appropriate terminology for particular jobs
- Teacher determining if the student has the skills to work independently on an assigned job
- Teacher evaluating if PA Program of Study tasks are being achieved as expected
- Teacher evaluating student class participation
- Teacher evaluating a student media presentation
- Peer evaluation of individual student
- Student self-assessment

WORK ETHIC

- Determine if students follow the daily plan as laid out at the start of class.
- Evaluate the student's ability to work within a team when teamwork is necessary.
- Evaluate the student's responsibility to complete work logs as expected.
- Determine and evaluate if students adhere to all safety procedures.
- Evaluate if students work without hindering other students' progress.
- Evaluate if students stay on task in accordance with the job expectation.
- Account if students are prepared for class each day.
- Account if students are wearing appropriate clothing when necessary.
- Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

- Study guides provided prior to tests
- Use of a scribe
- Use of calculator
- Multiple Choice will include 3 choices instead of 4
- Matching with groups of no more than 10 (depends on IEP)
- Matching with groups of no more than 5
- Tests read aloud
- Word bank with no more than 10 options

- Word bank with no more than 5 options
- Extended time to complete the assessment
- Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: RACEWAYS

Unit Number: 900

Unit Description/Objectives:

Students will learn to properly identify and install different types of raceways and know how to use the *NEC* as a reference for installation requirements for all raceways.

Tasks:

PA901 - Install Electrical Metallic Tubing (EMT
PA902 - Install Poly-Vinyl Chloride conduit (PVC)
PA903 - Identify surface metal and non-metal raceways
PA904 - Identify flexible raceways
PA908 – Bend a stub 90 degrees
PA909 – Bend an offset
PA910 – Bend a back to back 90 degrees
PA911 – Cut, ream, and deburr raceway systems
PA912 – Install conductors in a raceway system

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- R3.A.2 Understand nonfiction appropriate to grade level.

Supporting Anchor/Standards:

R11.A.2.5 Summarize a nonfictional text as a whole.

R11.A.2.5.1 Summarize the major points, processes, and/or events of a nonfictional text as a whole.

Focus Anchor/Standard #2:

- G.2.1 Coordinate Geometry and Right Triangles

Supporting Anchor/Standards:

G.2.2 Measurements of Two-Dimensional Shapes and Figures

G.2.2.1 Use and/or compare measurements of angles.

G.2.2.1.1 Use properties of angles formed by intersecting lines to find the measures of missing angles.

Connecting Anchor/Standard:

- 3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

  Supporting Anchor/Standards:

  3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

  3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.

  3.2.10.B4 Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Vocabulary with Graphics

- Checking for Comparative Knowledge
- Checking for Comparative Knowledge
- Process finding
- Reciprocal Teaching
- Checklist of facts
- Develop tomorrow's quiz
- Essential Question Reflection **Special Modifications:**

- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material
- Study Guide
- Use of Calculator
- Small Group Instruction **Assessment:**

THEORY EVALUATION
• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Writing assignments
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Completed and Turned-in Make Up work
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student

• Student self-assessment

WORK ETHIC
• Determine if students follow the daily plan as laid out at the start of class.
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: WIRED DEVICES

Unit Number: 1000

Unit Description/Objectives:

Students will learn to identify and install hard wired smoke detectors and doorbell systems, how to install residential telephone and television wiring, antennas, and CATV cables, in conformance to *NEC* requirements.

Tasks:

PA1001 - Install a hard wired smoke detector
PA1002 - Install door-bell system
PA1003 – Trim out electrical devices
PA1004 - Install an occupancy sensor
PA1005 – Install a photocell

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- R11.A.2.5 Summarize a nonfictional text as a whole.

Supporting Anchor/Standards:

R11.A.2.5.1 Summarize the major points, processes, and/or events of a nonfictional text as a whole.

R11.A.2.1 Identify and apply the meaning of vocabulary in nonfiction.

Focus Anchor/Standard #2:

- 3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

Supporting Anchor/Standards:

3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.

3.2.10.B4 Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Go Find
- Picture questioning
- Checking for Comparative Knowledge
- Questioning while reading
- Reciprocal Teaching **Special Modifications:**

- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material
- Study Guide
- Use of Calculator **Assessment:**

THEORY EVALUATION

• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Writing assignments
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Completed and Turned-in Make Up work
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips
• Student Hand Held Response Systems
• Textbook Computer Generated Tests

SKILL EVALUATION

• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected

- Teacher evaluating student class participation
- Teacher evaluating a student media presentation
- Peer evaluation of individual student
- Student self-assessment

WORK ETHIC

- Determine if students follow the daily plan as laid out at the start of class.
- Evaluate the student's ability to work within a team when teamwork is necessary.
- Evaluate the student's responsibility to complete work logs as expected.
- Determine and evaluate if students adhere to all safety procedures.
- Evaluate if students work without hindering other students' progress.
- Evaluate if students stay on task in accordance with the job expectation.
- Account if students are prepared for class each day.
- Account if students are wearing appropriate clothing when necessary.
- Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

- Study guides provided prior to tests
- Use of a scribe
- Use of calculator
- Multiple Choice will include 3 choices instead of 4
- Matching with groups of no more than 10 (depends on IEP)
- Matching with groups of no more than 5
- Tests read aloud
- Word bank with no more than 10 options
- Word bank with no more than 5 options
- Extended time to complete the assessment
- Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: TESTING EQUIPMENT

Unit Number: 1100

Unit Description/Objectives:

Students will learn to identify and properly use testing equipment i.e. multi meters and clamp on amp meters as used commonly in the electrical field.

Objectives

Tasks:

PA1101 - Identify and safely use a multi-meter
PA1102 - Identify and safely use a continuity tester
PA1103 - Identify and safely use a plug-in circuit tester
PA1104 - Identify and safely use a clamp-on ammeter
PA1106 - Identify and safely use a circuit tracer
PA1107 – Use a network cable tester
PA1108 – Apply Ohms/ Watt's Law Calculations to electrical applications

Standards / Assessment Anchors *Focus*

Anchor/Standard #1:

- R8.A.2 Understand nonfiction appropriate to grade level.

Supporting Anchor/Standards:

R8.A.2.5 Summarize a nonfictional text as a whole.

R8.A.2.5.1 Summarize the major points, processes, and/or events of a nonfictional text as a whole.

R8.A.2.1 Identify and apply the meaning of vocabulary in nonfiction.

Focus Anchor/Standard #2:

- 3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

Supporting Anchor/Standards:

2.3.4.B Select and use appropriate tools and units for measuring quantities (e.g., length, time, weight, temperature).

2.3.5.B Select and use appropriate instruments and units for measuring quantities to a specified level of accuracy.

Connecting Anchor/Standard:

- S11.C.3.1.4 Describe electricity and magnetism as two aspects of a single electromagnetic force.

Connecting Anchor/Standard:

CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.
13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Find It
- Look for unknown words
- Read the questions at the end of the chapter
- Read the summary information first
- Reciprocal Teaching
- Using graphic organizers for notes **Special Modifications:**

- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material
- Study Guide
- Use of Calculator

Assessment:

THEORY EVALUATION
- Traditional Tests – multiple choice, matching, true/false, short answer completion
- Traditional Quizzes - multiple choice, matching, true/false, short answer completion
- Graded Homework
- Graded Writing assignments
- Graded Math practice assignments
- Graded Reading assignments
- Notebook checks
- Completed and Turned-in Make Up work
- Class oral responses
- Business and Industry Credentialing Tests
- Exit Slips
- Student Hand Held Response Systems
- Textbook Computer Generated Tests

SKILL EVALUATION
- Scores on projects when they are completed
- Teacher observing and scoring each step of the process as a job is being completed
- Teacher observing and recording the quality of work being done on an assigned job
- Teacher checking and scoring as each part of an activity is being done correctly
- Teacher observing and scoring as a job is done within a timeframe
- Teacher checking and scoring that students use the appropriate terminology for particular jobs
- Teacher determining if the student has the skills to work independently on an assigned job
- Teacher evaluating if PA Program of Study tasks are being achieved as expected
- Teacher evaluating student class participation
- Teacher evaluating a student media presentation
- Peer evaluation of individual student
- Student self-assessment

WORK ETHIC
- Determine if students follow the daily plan as laid out at the start of class.
- Evaluate the student's ability to work within a team when teamwork is necessary.
- Evaluate the student's responsibility to complete work logs as expected.
- Determine and evaluate if students adhere to all safety procedures.
- Evaluate if students work without hindering other students' progress.
- Evaluate if students stay on task in accordance with the job expectation.
- Account if students are prepared for class each day.
- Account if students are wearing appropriate clothing when necessary.
- Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: ELECTRICAL SERVICE
Unit Number: 1200

Unit Description/Objectives:

Students will learn to identify and properly install underground and overhead services. How to install panels and how to understand and install the required grounding and bonding for residential electrical services.

Tasks:

PA1201 - Install an overhead service
PA1202 - Identify parts of an underground service
PA1209 – Identify types of safety disconnect switches
PA1210 – Terminate a service panel/ load center

Standards / Assessment Anchors *Focus*

Anchor/Standard #1:

- 2.3.4.B Select and use appropriate tools and units for measuring quantities (e.g., length, time, weight, temperature).

Supporting Anchor/Standards:

R11.B.3 Understand concepts and organization of nonfictional text.
R11.B.2 Understand literary devices in fictional and nonfictional text.
R11.A.2.1 Identify and apply the meaning of vocabulary in nonfiction. R11.A.2.5 Summarize a nonfictional text as a whole.

Focus Anchor/Standard #2:

- 3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

  Supporting Anchor/Standards:

  3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.

  3.2.10.B4 Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- K-W-L with a twist
- Read the questions at the end of the chapter
- Read the summary information first
- Process finding **Special Modifications:**
- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material
- Directions/Comprehension Check (frequent checks for understanding) - Study Guide

- Use of Calculator

Assessment:

THEORY EVALUATION

- Traditional Tests – multiple choice, matching, true/false, short answer completion
- Traditional Quizzes - multiple choice, matching, true/false, short answer completion
- Graded Homework
- Graded Writing assignments
- Graded Math practice assignments
- Graded Reading assignments
- Notebook checks
- Completed and Turned-in Make Up work
- Class oral responses
- Business and Industry Credentialing Tests
- Exit Slips
- Student Hand Held Response Systems
- Textbook Computer Generated Tests

SKILL EVALUATION

- Scores on projects when they are completed
- Teacher observing and scoring each step of the process as a job is being completed
- Teacher observing and recording the quality of work being done on an assigned job
- Teacher checking and scoring as each part of an activity is being done correctly
- Teacher observing and scoring as a job is done within a timeframe
- Teacher checking and scoring that students use the appropriate terminology for particular jobs
- Teacher determining if the student has the skills to work independently on an assigned job
- Teacher evaluating if PA Program of Study tasks are being achieved as expected
- Teacher evaluating student class participation
- Teacher evaluating a student media presentation
- Peer evaluation of individual student
- Student self-assessment

WORK ETHIC

- Determine if students follow the daily plan as laid out at the start of class.
- Evaluate the student's ability to work within a team when teamwork is necessary.
- Evaluate the student's responsibility to complete work logs as expected.
- Determine and evaluate if students adhere to all safety procedures.
- Evaluate if students work without hindering other students' progress.
- Evaluate if students stay on task in accordance with the job expectation.
- Account if students are prepared for class each day.

- Account if students are wearing appropriate clothing when necessary.
- Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS

- Study guides provided prior to tests
- Use of a scribe
- Use of calculator
- Multiple Choice will include 3 choices instead of 4
- Matching with groups of no more than 10 (depends on IEP)
- Matching with groups of no more than 5
- Tests read aloud
- Word bank with no more than 10 options
- Word bank with no more than 5 options
- Extended time to complete the assessment
- Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: NATIONAL ELECTRICAL CODE

Unit Number: 1300

Unit Description/Objectives:

Students will learn to use the National Electrical Code book and understand the basic safety rules for working on electrical systems and become familiar with important electrical codes, safety codes, and building codes.

Tasks/Readings:

PA1301 - Identify the purpose of the National Electrical Code
PA1302 – Use Chapter 9 tables
PA1303 - Use the NEC as a reference to questions and competencies that students perform for all electrical installations
PA1304 – Identify the publisher of the National Electrical Code
PA1305 – Identify the Code Cycle of the National Electrical Code PA1306 – Identify NFPA70E (Arc Flash)

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- R11.A.2 Understand nonfiction appropriate to grade level.

Supporting Anchor/Standards:

http://guides4learning.com/ct/plans/edit1_plan.php?PlanID=521#Focus1R11.A.2.1 Identify and apply the meaning of vocabulary in nonfiction.

R11.A.2.5 Summarize a nonfictional text as a whole.

R11.A.2.5.1 Summarize the major points, processes, and/or events of a nonfictional text as a whole.

Focus Anchor/Standard #2:

- 3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

Supporting Anchor/Standards:

3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.

3.2.10.B4 Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Essential Question Posting
- Go Find
- Read the questions at the end of the chapter
- Read the summary information first
- Scan the lines
- Checking for Comparative Knowledge
- Jigsaw reading
- Read, listen, share, and question in a small group
- Oral reading
- Questioning while reading
- Read then predict
- Reciprocal Teaching

Special Modifications:

- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material

- Study Guide

- Adapted Tests and/or Assignments
- Use of Calculator
- Small Group Instruction

Assessment:

THEORY EVALUATION

- Traditional Tests – multiple choice, matching, true/false, short answer completion
- Traditional Quizzes - multiple choice, matching, true/false, short answer completion
- Graded Homework
- Graded Writing assignments
- Graded Math practice assignments
- Graded Reading assignments
- Notebook checks
- Completed and Turned-in Make Up work
- Class oral responses
- Business and Industry Credentialing Tests
- Exit Slips
- Student Hand Held Response Systems
- Textbook Computer Generated Tests

SKILL EVALUATION

- Scores on projects when they are completed
- Teacher observing and scoring each step of the process as a job is being completed
- Teacher observing and recording the quality of work being done on an assigned job
- Teacher checking and scoring as each part of an activity is being done correctly
- Teacher observing and scoring as a job is done within a timeframe
- Teacher checking and scoring that students use the appropriate terminology for particular jobs
- Teacher determining if the student has the skills to work independently on an assigned job
- Teacher evaluating if PA Program of Study tasks are being achieved as expected
- Teacher evaluating student class participation
- Teacher evaluating a student media presentation
- Peer evaluation of individual student
- Student self-assessment

WORK ETHIC

- Determine if students follow the daily plan as laid out at the start of class.
- Evaluate the student's ability to work within a team when teamwork is necessary.
- Evaluate the student's responsibility to complete work logs as expected.
- Determine and evaluate if students adhere to all safety procedures.

• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: GREEN TECHNOLOGY

Unit Number: 1400

Unit Description/Objectives:

Students will learn about Green Technology and how to identify the components of a residential utility-interactive solar photovoltaic system and recognize the electrical hazards unique to solar photovoltaic systems.

Tasks:
PA1401 – Identify renewable energy sources
PA1402 – Identify procedures for installing a wind turbine
PA1404 – Identify procedures for installing a solar energy source system PA1407 – Evaluate the demand and consumption of electrical energy

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- R11.A.2.5 Summarize a nonfictional text as a whole.

Supporting Anchor/Standards:
R11.A.2.1 Identify and apply the meaning of vocabulary in nonfiction.

R11.A.2.5 Summarize a nonfictional text as a whole.

R11.A.2.5.1 Summarize the major points, processes, and/or events of a nonfictional text as a whole.

Focus Anchor/Standard #2:

- 2.3.4.B Select and use appropriate tools and units for measuring quantities (e.g., length, time, weight, temperature).

Supporting Anchor/Standards:

2.3.5.B Select and use appropriate instruments and units for measuring quantities to a specified level of accuracy.

3.2.3.B4 Identify and classify objects and materials that are conductors or insulators of electricity. Identify and classify objects and materials as magnetic or nonmagnetic.

3.2.6.B2 Describe energy as a property of objects associated with heat, light, electricity, magnetism, mechanical motion, and sound. Differentiate between potential and kinetic energy.

3.2.10.B4 Describe quantitatively the relationships between voltage, current, and resistance to electrical energy and power. Describe the relationship between electricity and magnetism as two aspects of a single electromagnetic force.

3.2.P.B4 Explain how stationary and moving particles result in electricity and magnetism. Develop qualitative and quantitative understanding of current, voltage, resistance, and the connections among them. Explain how electrical induction is applied in technology.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education,

graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.
13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Anticipation guide
- Picture questioning
- Read the questions at the end of the chapter
- Read the summary information first
- Jigsaw reading
- Read, listen, share, and question in a small group
- Oral reading
- Questioning while reading
- Create a tutorial
- Demonstrate what was learned
- Step defining
- Summary statements

Special Modifications:

- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material
- Study Guide
- Use of Calculator
- Small Group Instruction **Assessment:**

THEORY EVALUATION

• Traditional Tests – multiple choice, matching, true/false, short answer completion
• Traditional Quizzes - multiple choice, matching, true/false, short answer completion
• Graded Homework
• Graded Writing assignments
• Graded Math practice assignments
• Graded Reading assignments
• Notebook checks
• Completed and Turned-in Make Up work
• Class oral responses
• Business and Industry Credentialing Tests
• Exit Slips
• Student Hand Held Response Systems

• Textbook Computer Generated Tests

SKILL EVALUATION
• Scores on projects when they are completed
• Teacher observing and scoring each step of the process as a job is being completed
• Teacher observing and recording the quality of work being done on an assigned job
• Teacher checking and scoring as each part of an activity is being done correctly
• Teacher observing and scoring as a job is done within a timeframe
• Teacher checking and scoring that students use the appropriate terminology for particular jobs
• Teacher determining if the student has the skills to work independently on an assigned job
• Teacher evaluating if PA Program of Study tasks are being achieved as expected
• Teacher evaluating student class participation
• Teacher evaluating a student media presentation
• Peer evaluation of individual student
• Student self-assessment

WORK ETHIC
• Determine if students follow the daily plan as laid out at the start of class.
• Evaluate the student's ability to work within a team when teamwork is necessary.
• Evaluate the student's responsibility to complete work logs as expected.
• Determine and evaluate if students adhere to all safety procedures.
• Evaluate if students work without hindering other students' progress.
• Evaluate if students stay on task in accordance with the job expectation.
• Account if students are prepared for class each day.
• Account if students are wearing appropriate clothing when necessary.
• Account if students make up missed assignments in the established time limit.

SPECIAL NEEDS ASSESSMENT ADAPTATIONS
• Study guides provided prior to tests
• Use of a scribe
• Use of calculator
• Multiple Choice will include 3 choices instead of 4
• Matching with groups of no more than 10 (depends on IEP)
• Matching with groups of no more than 5
• Tests read aloud
• Word bank with no more than 10 options
• Word bank with no more than 5 options
• Extended time to complete the assessment
• Alternate assessment-project or presentation instead of written assessment

Course Name: Electrical and Power Transmission Installers
Unit Name: PROFESSIONAL SKILLS

Unit Number: 1500

Unit Description/Objectives:

Students will learn the required professional skills to be successful in an Electrical Occupation.

Tasks:
Internet based research for all of the following:

Identify components of a professional portfolio.
Recognizes safety issues.
Develop personal financial skills.
List proficiency in program competencies.
Investigate a career in your field.
Measure and modify short term goals.
Identify stress sources.
Demonstrate awareness of governmental agencies, professional organizations and trade unions.
Apply teamwork to a group project.
Observe and critique a business meeting and demonstrate business meeting skills.
Demonstrate social etiquette.
Identify customer expectations.
Assemble your employment portfolio.
Evaluate your proficiency in program competencies.
Develop and write a good set of work ethics.
Update your career goals.
Explore activities for advanced training.
Create a marketing plan for your instructional program.
Serve as a volunteer in your community.
Create a business plan for your own business.
Explore supervisory and management roles in a business.
Understand customer service in the workplace.
Identify and apply conflict resolution and problem-solving skills in the workplace.
Demonstrate evaluation skills.
Perform a skill demonstration for the class.
Research and propose updates to competency list.
Recognize pre-employment screenings and assessments and drug and alcohol abuse in the workplace.

Standards / Assessment Anchors

Focus Anchor/Standard #1:

- R11.A.2 Understand nonfiction appropriate to grade level.

  Supporting Anchor/Standards:
  R7.B.3 Understand concepts and organization of nonfictional text.

Connecting Anchor/Standard:
CEW *Supporting Anchor/Standards:*

13.1.11.A Relate careers to individual interests, abilities, and aptitudes.

13.1.11.B Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

13.1.11.C Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: career days, career portfolio, community service, cooperative education, graduation/senior project, internship, job shadowing, part-time employment, registered apprenticeship and school-based enterprise.

13.1.11.E Justify the selection of a career.

13.1.11.F Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: associate degree, baccalaureate degree, certificate/licensure, entrepreneurship, immediate part/full time employment, industry training, military training, professional degree, registered apprenticeship, tech prep and Vocational Rehabilitation Centers.

13.1.11.G Assess the implements of the individualized career plan through the ongoing development of the career portfolio.

13.1.11.H Review personal high school plan against current personal career goals and select postsecondary opportunities based upon personal career interests.

13.2.11.A Apply effective speaking and listening skills used in a job interview.

13.2.11.B Apply research skills in searching for a job: Career Links, Internet (i.e. O-NET), Networking, Newspapers, Professional associations and resource books (that is Occupational Outlook Handbook, PA Career Guide).

13.2.11.C Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation following an interview, letter of introduction, postsecondary education/training applications, request for letter of recommendation, and resume.

13.2.11.D Analyze, revise, and apply an individualized career portfolio to chosen career path.

13.2.11.E Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: commitment, communication, dependability, health/safety, laws and regulations (that is Americans With Disabilities Act, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets), personal initiative, SelfAdvocacy, scheduling/time management, team building, technical literacy and technology.

13.3.11.A Evaluate personal attitudes and work habits that support career retention and advancement.

13.3.11.B Evaluate team member roles to describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating and summarizing

13.3.11.C Evaluate conflict resolution skills as they relate to the workplace: constructive criticism, group dynamics, managing/leadership, mediation, negotiation and problem solving.

13.3.11.E Evaluate time management strategies and their application to both personal and work situations.

13.3.11.F Evaluate strategies for career retention and advancement in response to the changing global workplace.

13.3.11.G Evaluate the impact of lifelong learning on career retention and advancement.

Instructional Activities:

- Read the questions at the end of the chapter
- Read the summary information first
- Process finding
- Using graphic organizers for notes
- Summary statements **Special Modifications:**
- Extended Time (assignments and/or testing)
- Graphic Organizer
- Chunking of Assignments/Material

- Directions/Comprehension Check (frequent checks for understanding)
- Study Guide
- Use of Calculator

Assessment:

- Business and Industry Credentialing Tests
- Traditional Tests – multiple choice, matching, true/false, short answer completion - Graded Writing assignments
- Notebook checks
- Teacher determining if the student has the skills to work independently on an assigned job
- Teacher evaluating if PA Program of Study tasks are being achieved as expected - Determine if students follow the daily plan as laid out at the start of class
- Evaluate the student's ability to work within a team when teamwork is necessary
- Evaluate the student's responsibility to complete work logs as expected
- Determine and evaluate if students adhere to all safety procedures
- Study guides provided prior to tests
- Use of calculator
- Multiple Choice will include 3 choices instead of 4
- Matching with groups of no more than 10 (depends on IEP)
- Matching with groups of no more than 5

Electrical and Power Transmission Installers, Other, Classification of Instructional Program (CIP) 46.0399 Units of Instruction and Task Grid Linked to Pennsylvania Core Standards

Secondary Competency Task Grid with Unit and Task Numbers
Common Career Technical Core Standards
Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5
Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6
Pennsylvania Core Standards for Mathematics Standard 2.1

100 BASIC SAFETY. 101 Inspect and use personal protective equipment. 102 Identify causes of job site accidents. 103 RESERVED 104 RESERVED 105 Properly don fall protection. 106 Identify four classes of fire extinguishers. 107 Confirm circuits are deenergized before working on them. 108 Perform lockout/tagout. 109 Inspect and use ladders. 110 Complete jobsite hazard analysis form. 111 Identify Arc-flash hazards and protection. CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7
CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.
TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by

Revised June 2018 2
Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text. INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J
planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Revised June 2018 3
By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently. 200 HAND TOOLS. 201 Use screwdrivers. 202 Use pliers. 203 Use keyhole/drywall saw. 204 Use hydraulic knockout/punch tool. 205 Use a tape measure. 206 Use wire strippers. 207 Use wire cutters. 208 Use utility knife. 209 Use torpedo level. 210 Use a hammer. 211 Use a conduit reamer. 212 Use a hacksaw. 213 Use a roto-split. 214 Use adjustable or non-adjustable wrenches. 215 Use ratchet and sockets. 216 Use nut drivers. CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7
CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6
NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area. KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.1112.C Follow precisely a complex multistep procedure, etc.
CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G

Revised June 2018 4
Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.

300 POWER TOOLS. 301 RESERVED 302 Use electric hammer drill. 303 Use reciprocating saw. 304 Use portable hand-held band saw. 305 RESERVED CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7 KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.1112 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to
Revised June 2018 5
306 Use a drill. 307 RESERVED 308 RESERVED 309 RESERVED 310 Use oscillating multi-purpose tool. 311 Use impact driver.

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources,
solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

ALGEBRA Standard 2.2.HS.C.9 Prove the Pythagorean identity and use it to calculate trigonometric ratios.

GEOMETRY Standard 2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles. Standard 2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.

Revised June 2018 6
INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.

following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.1112.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

400 BLUEPRINT READING.

401 Identify types of blueprint plans. 402 Identify blueprint symbols. 403 Interpret blueprint plans. 404 RESERVED 405 Develop electrical details on a residential blueprint. 406 Use a measuring tool to scale.

CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D
TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6
Revised June 2018 7
Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.

Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.
Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I.
Extend the knowledge of arithmetic operations and apply to complex numbers.

ALGEBRA Standard 2.2.HS.C.9 Prove the Pythagorean identity and use it to calculate trigonometric ratios.

GEOMETRY Standard 2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles. Standard 2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures. Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.

Revised June 2018 8
Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.
Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

500 ANCHORS AND SUPPORTS.

501 Identify, select, and install various types of anchors and supports.
CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and
TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on

measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

GEOMETRY Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.

Revised June 2018 9
Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently. significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.1112.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Revised June 2018 10
600 RESIDENTIAL CABLING TECHNOLOGY.

601 Install non-metallic (NM) Cable for connection to an electrical device. 602 Install metal-clad cable (MC). 603 RESERVED 604 RESERVED 605 Terminate a coaxial cable. 606 RESERVED 607 RESERVED 608 RESERVED 609 Identify telecommunications cable types. 610 Terminate an RJ45 connector. 611 Install SE

cable. CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H
TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

ALGEBRA Standard 2.2.HS.C.9 Prove the Pythagorean identity and use it to calculate trigonometric ratios.

GEOMETRY Standard 2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles. Standard 2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures. Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.
Revised June 2018 11
Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.
Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

700 SWITCHES AND RECEPTACLES CIRCUITS.

701 Install a duplex receptacle. 702 Install a single pole switch. 703 Install a 3-way switch. 704 Install a 4-way switch. 705 Install a split-wired duplex receptacle. 706 Install a Ground Fault Circuit Interrupter (GFCI) Receptacle. 707 Install an Arc-Fault Circuit Interrupter (AFCI). 708 Install a time control switch. 709 Install a range receptacle.

CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE:
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard

CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C
TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to
Revised June 2018 12
710 Install a dryer receptacle. Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant

information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

GEOMETRY Standard 2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles. Standard 2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures. Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.

Revised June 2018 13
Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.
Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

800 FIXTURES.

801 Install surface-mounted lighting fixture. 802 Install recessed lighting fixtures. 803 Install a ceiling fan. 804 Install LED lighting. 805 Identify IC and non-IC recessed lighting fixtures.

CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard

CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

Revised June 2018 14
Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

Revised June 2018 15
RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.

900 RACEWAYS.

901 Install Electrical Metallic Tubing (EMT). 902 Install Poly-Vinyl Chloride conduit (PVC). 903 Identify surface metal and non-metal raceways (Wiremold). 904 Identify flexible raceway. 905 RESERVED 906 RESERVED 907 RESERVED 908 Bend a stub 90°. 909 Bend an offset. 910 Bend a back to back 90°. 911 Cut, ream, and deburr raceway systems. 912 Install conductors in a raceway system.

CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7
CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce,
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

ALGEBRA Standard 2.2.HS.C.9 Prove the Pythagorean identity and use it to calculate trigonometric ratios.

GEOMETRY Standard 2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles. Standard 2.3.HS.A.3
Revised June 2018 16
INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the

author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.
publish, and update individual or shared writing products. RESEARCH GRADES 910-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.
Verify and apply geometric theorems as they relate to geometric figures. Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.

1000 WIRED DEVICES.

Revised June 2018 17
1001 Install a hard-wired smoke detector. 1002 Install door-bell system. 1003 Trim out electrical devices. 1004 Install an occupancy sensor. 1005 Install a photocell.
CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H
TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products. RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
Revised June 2018 18
Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard

CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently. a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

1100 TESTING EQUIPMENT.

1101 Use a multimeter. 1102 Use a continuity tester. 1103 Use a plug-in circuit tester. 1104 Use a clamp-on ammeter. 1105 RESERVED 1106 Use a circuit tracer. 1107 Use a network cable tester. 1108 Apply Ohm's/Watt's Law calculations to electrical applications.

CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE:
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C
TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to
Revised June 2018 19
Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
Revised June 2018 20
Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.
Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

1200 ELECTRICAL SERVICE.

1201 Install an overhead service. 1202 Identify parts of an underground service. 1203 RESERVED 1204 RESERVED 1205 RESERVED 1206 RESERVED 1207 RESERVED 1208 RESERVED 1209 Identify types of safety disconnect switches. 1210 Terminate a service panel/load center.
CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.
Revised June 2018 21
Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.

INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

Revised June 2018 22
RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently.

1300 NATIONAL ELECTRICAL CODE.

1301 Identify the purpose of the National Electrical Code (NEC). 1302 Use Chapter 9 Tables. 1303 Use the NEC as a reference to questions and competencies that students perform for all electrical installations. 1304 Identify the publisher of the National Electrical Code (NEC). 1305 Identify the code cycle of the National Electrical Code (NEC). 1306 Identify NFPA70E (Arc Flash).

CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career Pathway (Choose Standards) 1-2-3-4-5-6

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TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.

PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce,

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Revised June 2018 23
INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

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RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently. publish, and update individual or shared writing products.

RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

1400 GREEN TECHNOLOGY.
Revised June 2018 24
1401 Identify renewable energy sources. 1402 Identify procedures for installing a wind turbine system. 1403 RESERVED 1404 Identify procedures for installing a solar energy source system. 1405 RESERVED 1406 RESERVED 1407 Evaluate the demand and consumption of electrical energy.
CAREER CLUSTER Manufacturing Career Cluster (Choose Standards) 1-2-3-4-5-6-7

CAREER PATHWAYS INCLUDE: Maintenance, Installation and Repair Career

Pathway (Choose Standards) 1-2-3-4-5-6

NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways to meet the needs of your local Area.
KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.

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INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H
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RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer
NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

ALGEBRA Standard 2.2.HS.C.9 Prove the Pythagorean identity and use it to calculate trigonometric ratios.

GEOMETRY Standard 2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles. Standard 2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures. Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.
Revised June 2018 25
Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.

INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 1112, read and comprehend technical texts independently and proficiently. a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.

RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences

Primary Textbook(s) Used for this Course of Instruction

Name of Textbook: *Electrical Wiring Residential* (18th ed)

Textbook ISBN #: ISBN-13: 978-1-285-17095-4

Textbook Publisher &Year of Publication: Delmar/Cengage, 2015

Curriculum Textbook is utilized in (title of course): Electrical Occupations (CTE) Levels 1, 2, 3

Name of Textbook: *Delmar's Standard Textbook of Electricity* (6th ed)

Textbook ISBN-13: 978-1-285-85270-6

Textbook Publisher &Year of Publication: Delmar/Cengage, 2016

Curriculum Textbook is utilized in (title of course): Electrical Occupations (CTE) Levels 1, 2, 3

Name of Textbook: *National Electrical Code* (2017 ed)

Textbook ISBN #: ISBN-13: 978-1455912773

Textbook Publisher &Year of Publication: NFPA, 2016

Curriculum Textbook is utilized in (title of course): Electrical Occupations (CTE) Levels 1, 2, 3

Supplemental Materials:

SP2.org - safety certification program

Online trade articles