## DELAWARE VALLEY SCHOOL DISTRICT

**PLANNED INSTRUCTION**

**A PLANNED COURSE FOR:**

**Building Construction Occupations Levels 1‐3**

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**Grade Level:10‐12**

**Date of Board Approval:**

# Curriculum Map

## 1. Level One – Overview with time range in days:

Building Trades

180 days

**Level One ‐Goals:**

**Understanding of:**

DEMONSTRATE SAFETY RULES FOR THE CONSTRUCTION TRADES

Demonstrate knowledge of OSHA and its mission of safety in the work place.

Demonstrate knowledge of hazard communications.

Demonstrate knowledge of working safely with hazardous materials. Describe and demonstrate the use of personal protective equipment. Follow rules and regulations for fire protection.

Safely handle and store construction materials. Perform safe operations with hand and power tools.

Perform safe operations with welding and cutting equipment. Demonstrate knowledge and skill to ensure electrical safety.

Demonstrate and follow procedures that protect workers from falling from elevated structures.

Describe and demonstrate safety procedures to follow when working around excavations.

Explain safety rules to follow when working around excavations. Describe and follow safety rules for working with concrete and masonry construction.

Demonstrate safe use of ladders and scaffolding.

Explain and follow safety procedures for working in confined spaces.

Explain safety procedures to follow when using explosive or powder-actuated tools.

DEMONSTRATE PROPER USE OF HAND TOOLS

Identify and follow all basic safety rules for using hand tools Identify and demonstrate the proper use of layout tools

- Identify and demonstrate the proper use cutting tools Identify and demonstrate the proper use shaping tools Identify and demonstrate the proper use fastening tools Identify and demonstrate the proper use dismantling tools

OPERATE PORTABLE POWER TOOLS AND EQUIPMENT

Operate a circular saw safely and accurately

Operate battery and electric drills safely and accurately Operate belt and hand sanders safely and accurately

Operate reciprocating saws safely and accurately Operate routers safely and accurately

Operate a pneumatic nailer safely and accurately Operate a power miter box safely and accurately Operate a table saw safely and accurately Operate an electric planer safely and accurately

PERFORM SITE AND BUILDING LAYOUT

Use a builder’s level, transit and/or laser level to determine site and building elevations.

Square a building

DEMONSTRATE SKILL IN PLACING CONCRETE

Describe modern concrete materials and renewal methods

Associate trade terms with the appropriate concrete finishing processes and equipment.

Estimate the amount of concrete needed for footers and slabs Lay out and build concrete forms

Describe the use of equipment and tools for placing concrete

Describe the process of depositing, spreading, consolidating, and striking off concrete.

Describe and demonstrate the basic concrete finishing processes Describe the tools used to edge, groove, and cut concrete

LAY BLOCK AND BRICK MASONRY UNITS

Describe the most common types of masonry units Identify concrete block by size and type

Estimate masonry units needed for block construction Demonstrate masonry cutting techniques

Lay out and construct a block laying project to specifications Describe various masonry positions and bonds

Lay block to a line

Describe the function of wall ties Describe installation of anchor bolts

Mix mortar to proper proportions and consistency Describe different mortar types and applications Demonstrate proper brick and block laying techniques

Demonstrate the installation of lintels in block or brick walls

## Level Two ‐Overview with time range in days:

Building Trades

180 days

**Level Two ‐Goals:**

**Understanding of:**

DEMONSTRATE SKILL IN FRAMING FLOORS

Identify different types of framing materials and systems Describe how to install girders and sills

Demonstrate and perform layout of floor joists and openings Demonstrate how to install various floor joists and band joists Demonstrate how to install various types of bridging Demonstrate how to install various types of columns and supports Demonstrate how to install various types of subfloor materials

DEMONSTRATE SKILL IN FRAME WALL

Describe and demonstrate how to install various components of interior and exterior walls.

Describe and demonstrate how to install various ceiling joists

Describe and demonstrate how to install various steel framing components.

DEMONSTRATE SKILL IN ROOF FRAMING

Describe how to identify various roof types

Describe how to install various roof components for gable roofs. Describe how to install various types of roof trusses.

Describe how to install various types of roof sheathing materials. Estimate various roof component materials.

INSTALL ROOF COVERINGS

Describe how to install various types of asphalt shingles.

Describe and demonstrate how to install various types of underlayment materials.

Describe how to install various types of flashing. Estimate various roof covering materials.

INSTALL INSULATION MATERIALS

Describe how to install various types of insulation and ventilation. Estimate quantities of insulation and ventilation materials.

APPLY EXTERIOR FINISHES

Describe how to install various types of horizontal sidings. Describe how to install various types of vertical sidings.

Describe how to install various types of cornices. Estimate various exterior finish materials Identify how to install various types of windows.

Identify how to install various types of exterior doors.

Describe how to install various types of soffit and fascia/windows and doors.

## 3 Level Three ‐Overview with time range in days:

Building Traders

180 days

**Level Three‐Goals:**

**Understanding of:**

INSTALL BASIC PLUMBING

Describe and demonstrate plumbing hand tools and basic safe use. Identify and demonstrate plumbing power tools and basic safe use. Identify various types of pipe

Identify various types of fittings.

Describe how to install various types of valves and devices. Describe how to install faucets and drain assemblies.

Describe how to install various appliances.

Describe how to interpret blueprints and specifications. Describe how to install water distribution systems.

Describe how to correctly size drain, waste and vent systems. Describe how to install fixtures and equipment.

Describe how to troubleshoot and repair various common plumbing problems.

INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTSDEMONSTRATE

Identify electrical hazards and practice electrical safety. Apply the National Electric Code (NEC) to common residential installations.

Read and interpret electrical drawings. Understand and apply electrical theory. Describe basic electrical circuits.

Describe and identify various wire types and sizes. Identify and use electrical tools.

Identify and install ground fault circuit interrupters. Identify and install arc fault circuit interrupters.

Identify and install over current protection devices. Install a junction box.

Rough in a ceiling fan box. Install light fixtures.

Install various receptacle circuits. Install various switch circuits.

Install a 220-volt circuit. Install a recessed light.

Trim out and finish electrical circuits. Describe service entrance installation. Describe low voltage electrical circuits. Describe panel installation.

KNOWLEDGE AND SKILL IN WALL INTERIOR FINISHES

Describe how to install various wall surfaces.

Describe and demonstrate how to install various interior moldings. Estimate various materials for wall surfaces.

Estimate various types of interior moldings DEMONSTRATE KNOWLEDGE OF INTERIOR FINISHES

Describe how to apply different types of paints and their uses. Describe how to apply different paints and stains to different surfaces. Clean painting tools.

Describe and apply various types of caulking. Describe and demonstrate how to install ceramic tile

INSTALL STAIR

Describe various types of stairways and components. Calculate, layout and cut stair stringers WAYS

STATEWIDE ARTICULATION TRAINING

will examine web-based information related to articulated college

will review the requirements to obtain advanced college credit

will investigate SOAR concepts and other PDE resources

 INVESTIGATING POS ARTICULATION AGREEMENTS

examine web-based information related to articulated college credit,   
 review the requirements to obtain advanced college credit,   
 will investigate SOAR concepts, and other PDE resources

COMPLETING THE ARTICULATION AGREEMENT COVER SHEET

examine web-based information related to articulated college credit,   
 review the requirements to obtain advanced college credit,   
 investigate SOAR concepts and other PDE resources

**Construction Trades Level 1**

**Curriculum**

## DELAWARE VALLEY SCHOOL DISTRICT

**Planned Instruction**

**Title of Planned Instruction: Building Construction Occupations 1 Subject Area: CTE**

**Course Description:** This program of study prepares individuals for a variety of trade areas, including carpentry, masonry, plumbing, heating, electrical, and painting and decorating.

•Carpenters construct, erect, install, and repair structures and fixtures made from wood and other materials. As part of a single job, they might frame walls and partitions, put in doors and windows, build stairs, install cabinets and molding, and complete many other tasks. Each carpentry task is somewhat different, but most involve the same basic steps. Working from blueprints or instructions from supervisors, carpenters first do the layout – measuring, marking, and arranging materials – in accordance with local building codes. They cut and shape wood, plastic, fiberglass, or drywall using hand and power tools and join the materials.

* Bricklayers build and repair walls, floors, partitions, and other structures with brick, precast masonry panels, concrete block, and other masonry materials. Workers cut or break the materials used to create walls, floors, and other structures.
* Plumbers install and repair the water, waste disposal, drainage, and gas systems in homes and commercial and industrial buildings. Plumbers also install plumbing fixtures.
* Electricians specializing in construction primarily install and maintain all of the electrical and power systems in homes and businesses. Electricians specializing in maintenance fix and upgrade existing electrical systems and repair electrical equipment. They install and maintain the wiring and control equipment through which electricity flows.
* Painters apply paint, stain, varnish, and other finishes to buildings and other structures. They select the right paint or finish for the surface to be covered, taking into account durability, ease of handling, method of application, and customers' wishes. Paperhangers cover walls with decorative coverings made of paper, vinyl, or fabric. When redecorating, they may first remove the old covering by soaking, steaming, or applying solvents. When necessary, they patch holes and take care of other imperfections before hanging the new wall covering.

**Time/Credit for the Course:** Full Year, 3 Periods Per Day, 3 Credits

**Curriculum Writing Committee:** William Tidridge

**Course Name:** Construction Trades

**Unit Name:** DEMONSTRATE SAFETY RULES FOR THE CONSTRUCTION TRADES

### Unit Number: 100

**Unit Description/Objectives:**

Students will have knowledge of safety in the work place

### Tasks:

PA101 - Demonstrate knowledge of OSHA and its mission of safety in the work place.

PA102 - Demonstrate knowledge of hazard communications.

PA103 - Demonstrate knowledge of working safely with hazardous materials. PA104 - Describe and demonstrate the use of personal protective equipment. PA105 - Follow rules and regulations for fire protection.

PA106 - Safely handle and store construction materials. PA107 - Perform safe operations with hand and power tools.

PA108 - Perform safe operations with welding and cutting equipment. PA109 - Demonstrate knowledge and skill to ensure electrical safety. PA110 - Demonstrate knowledge of stuck by and caught in between hazards.

PA111 - Demonstrate and follow procedures that protect workers from falling from elevated structures.

PA112 - Describe and demonstrate safety procedures to follow when working around excavations.

PA113 - Explain safety rules to follow when working around excavations.

PA114 - Describe and follow safety rules for working with concrete and masonry construction.

PA115 - Demonstrate safe use of ladders and scaffolding.

PA116 - Explain and follow safety procedures for working in confined spaces.

PA117 - Explain safety procedures to follow when using explosive or powder- actuated tools.

### 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 domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.

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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.

CC.1.5.11-12.E Adapt speech to a variety of contexts and tasks.

CC.1.5.11-12.F Make strategic use of digital media in presentations to add interest and enhance understanding of findings, reasoning, and evidence.

CC.1.5.11-12.G Demonstrate command of the conventions of standard English when speaking based on grade 11-12 level and content.

CC.3.6.11-12.A Write arguments focused on discipline-specific content.

* + - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
    - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.
    - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
    - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
    - Provide a concluding statement or section that follows from or supports the argument presented.

CC.3.6.11-12.B Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

* + - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
    - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
    - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
    - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.
    - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

CC.3.6.11-12.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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.

CC.3.6.11-12.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.F Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

CC.3.6.11-12.I Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11D Justify the selection of a career.

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, Self-Advocacy, 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.

### Instructional Activities:

* Anticipation guide
* Read the questions at the end of the chapter
* Read the summary information first
* Checking for Comparative Knowledge
* Read, listen, share, and question in a small group
* Oral reading
* Questioning while reading
* Demonstrate what was learned
* Test question list

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### 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

### Resources/Equipment:

* + - Modern Carpentry Chapter 2, The Carpenter's Workplace
    - Safety Work Sheet
    - SP/2 Testing

**Course Name:** Construction Trades

**Unit Name:** DEMONSTRATE PROPER USE OF HAND TOOLS

### Unit Number: 200

**Unit Description/Objectives:**

students will demonstrate proper use of hand tools

### Tasks:

PA201 - Identify and follow all basic safety rules for using hand tools. PA202 - Identify and demonstrate the proper use of layout tools.

PA203 - Identify and demonstrate the proper use cutting tools. PA204 - Identify and demonstrate the proper use shaping tools. PA205 - Identify and demonstrate the proper use fastening tools. PA206 - Identify and demonstrate the proper use dismantling tools.

### Standards / Assessment Anchors

*Focus Anchor/Standard #1:*

* + literacy

*Supporting Anchor/Standards:*

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*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.

13.1.11.D Justify the selection of a career.

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, Self-Advocacy, 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

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
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THEORY EVALUATION

* + - Traditional Tests – 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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    - Teacher evaluating student class participation
    - Peer evaluation of individual student• 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.
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    - Evaluate if students work without hindering other students’ progress.
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    - Tests read aloud
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    - Word bank with no more than 5 options
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    - Alternate assessment-project or presentation instead of written assessment

### Resources/Equipment:

* + - Modern Carpentry Chapter 4 Hand Tools
    - Fully equipped tool room with all basic hand tools

**Course Name:** Construction Trades

**Unit Name:** OPERATE PORTABLE POWER TOOLS AND EQUIPMENT

### Unit Number: 300

**Unit Description/Objectives:**

students will safely operate power tools

### Tasks:

PA301 - Operate a circular saw safely and accurately.

PA302 - Operate battery and electric drills safely and accurately PA303 - Operate belt and hand sanders safely and accurately PA304 - Operate reciprocating saws safely and accurately PA305 - Operate routers safely and accurately

PA306 - Operate a pneumatic nailer safely and accurately PA307 - Operate a power miter box safely and accurately PA308 - Operate a table saw safely and accurately.

PA309 - Operate an electric planer safely and accurately

### 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.

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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.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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.

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry, Chapter 5, Power Tools

**Course Name:** Construction Trades

**Unit Name:** READ PLANS AND BLUEPRINTS

### Unit Number: 400

**Unit Description/Objectives:**

students will demonstrate READ PLANS AND BLUEPRINTS

### Tasks:

PA401 - Demonstrate the ability to references building codes as needed. PA402 - Demonstrate a need to know zoning regulations.

PA403 - Read and interpret plans, sketches and blueprints.

PA404 - Recognize and identify basic blueprint terms, components, abbreviations and symbols.

PA405 - Interpret architectural specifications. PA406 - Use Architect scale.

PA407 - Identify structural components

### 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 domain-specific 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.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.1 Use geometric figures and their properties to represent transformations in the plane.

CC.2.3.HS.A.2 Apply rigid transformations to determine and explain congruence.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.5 Create justifications based on transformations to establish similarity of plane figures.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

CC.2.3.HS.A.8 Apply geometric theorems to verify properties of circles.

CC.2.3.HS.A.9 Extend the concept of similarity to determine arc lengths and areas of sectors of circles.

CC.2.3.HS.A.10 Translate between the geometric description and the equation for a conic section.

CC.2.3.HS.A.11 Apply coordinate geometry to prove simple geometric theorems algebraically.

CC.2.3.HS.A.12 Explain volume formulas and use them to solve problems.

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

CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.

CC.2.4.HS.B.1 Summarize, represent, and interpret data on a single count or measurement variable.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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.

13.2.11.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, Self-Advocacy, 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

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,3, Plans,Specifications,and Codes
    - Tool room and shop with all power equipment needed for proper instruction for safe use of power tools.

**Course Name:** Construction Trades

**Unit Name:** PERFORM SITE AND BUILDING LAYOUT

### Unit Number: 500

**Unit Description/Objectives:**

students will PERFORM SITE AND BUILDING LAYOUT

### Tasks:

PA501 - Use a builder’s level, transit and/or laser level to determine site and building elevations.

PA502 - Square a building using the three four five rule or cross tape method.

### 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 domain-specific 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.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.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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.

13.2.11.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, Self-Advocacy, 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

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

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### 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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    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• Evaluate the student’s ability to work within a team when teamwork is necessary.
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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
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    - 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,5, Building Layout
    - Laser level, transit
    - Hand and power tools required to complete the task

**Course Name:** Construction Trades

**Unit Name:** DEMONSTRATE SKILL IN PLACING CONCRETE

### Unit Number: 600

**Unit Description/Objectives:**

student will DEMONSTRATE SKILL IN PLACING CONCRETE

### Tasks:

PA601 - Describe modern concrete materials and renewal methods.

PA602 - Associate trade terms with the appropriate concrete finishing processes and equipment.

PA603 - Estimate the amount of concrete needed for footers and slabs. PA604 - Lay out and build concrete forms.

PA605 - Describe the use of equipment and tools for placing concrete.

PA606 - Describe the process of depositing, spreading, consolidating, and striking off concrete.

PA607 - Describe and demonstrate the basic concrete finishing processes. PA608 - Describe the tools used to edge, groove, and cut concrete.

### 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 domain-specific 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.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.1 Use geometric figures and their properties to represent transformations in the plane.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.6 Verify and apply theorems involving similarity as they relate to plane figures.

CC.2.3.HS.A.8 Apply geometric theorems to verify properties of circles.

CC.2.3.HS.A.11 Apply coordinate geometry to prove simple geometric theorems algebraically.

CC.2.3.HS.A.12 Explain volume formulas and use them to solve problems.

CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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.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

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
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### 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
    - Teacher observing and scoring each step of the process as a job is being completed
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    - Peer evaluation of individual student• 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.
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    - Evaluate if students work without hindering other students’ progress.
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SPECIAL NEEDS ASSESSMENT ADAPTATIONS

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    - Use of calculator
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    - 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,7, Footings and Foundations
    - Power screed and all hand tools required

**Course Name:** Construction Trades

**Unit Name:** LAY BLOCK AND BRICK MASONRY UNITS

### Unit Number: 700

**Unit Description/Objectives:**

students will LAY BLOCK AND BRICK MASONRY UNITS

### Tasks:

PA701 - Describe the most common types of masonry units. PA702 - Identify concrete block by size and type.

PA703 - Estimate masonry units needed for block construction PA704 - Demonstrate masonry cutting techniques.

PA705 - Lay out and construct a block laying project to specifications PA706 - Describe various masonry positions and bonds.

PA707 - Lay block to a line.

PA708 - Describe the function of wall ties. PA709 - Describe installation of anchor bolts.

PA710 - Mix mortar to proper proportions and consistency. PA711 - Describe different mortar types and applications. PA712 - Demonstrate proper brick and block laying techniques.

PA713 - Demonstrate the installation of lintels in block or brick walls.

### 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 domain-specific 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.3.6.11-12.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CC.3.6.11-12.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

CC.2.3.HS.A.11 Apply coordinate geometry to prove simple geometric theorems algebraically.

CC.2.3.HS.A.12 Explain volume formulas and use them to solve problems.

CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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.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

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
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    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,7
    - Mixer and all hand tools

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
| **Student Level** |  | **LEA TASK #** |  | **NeedsPractice** | **Met Standard** |  |
|  |  |  | **Secondary Competency Task List** |  |  |  |
|  |  |  | DUTY AREA - ORIENTATION |  |  |  |
|  |  |  | 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  | Modern Carpentry Unit 2 |
|  | BT- | 101 | 101 Explain the role that safety plays in the construction crafts. |  |  | Review Questions |
|  | BT- | 102 | 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. |  |  |  |
|  | BT- | 103 | 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. |  |  |  |
|  | BT- | 104 | 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. |  |  |  |
|  | BT- | 105 | 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. |  |  |  |
|  | BT- | 106 | 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. |  |  |  |
|  | BT- | 107 | 107 Interpret and practice OSHA subpart K - Electrical. |  |  |  |
|  | BT- | 108 | 108 Interpret and practice OSHA subpart L - Scaffolds. |  |  |  |
|  | BT- | 109 | 109 Interpret and practice OSHA subpart M - Fall Protection. |  |  |  |
|  | BT- | 110 | 110 Interpret and practice OSHA subpart P - Excavations. |  |  |  |
|  | BT- | 111 | 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. |  |  |  |
|  | BT- | 112 | 112 Interpret and practice OSHA subpart X - Stairways and Ladders. |  |  |  |
|  | BT- | 200 | 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  | Modern Carpentry Unit 3 |
|  | BT- | 201 | 201 Identify and follow all basic safety rules for using hand tools. |  |  | Hands-on Activities |
|  | BT- | 202 | 202 Identify and demonstrate the proper use of layout tools. |  |  | Review Questions |
|  | BT- | 203 | 203 Identify and demonstrate the proper use cutting tools. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 204 | 204 Identify and demonstrate the proper use shaping tools. |  |  |  |
|  | BT- | 205 | 205 Identify and demonstrate the proper use fastening tools. |  |  |  |
|  | BT- | 206 | 206 Identify and demonstrate the proper use dismantling tools. |  |  |  |
|  | BT- | 300 | 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  | Modern Carpentry Unit 4 |
|  | BT- | 301 | 301 Operate a circular saw safely and accurately. |  |  | Demonstration |
|  | BT- | 302 | 302 Operate battery and electric drills safely and accurately |  |  | Hands-on Activities |
|  | BT- | 303 | 303 Operate belt and hand sanders safely and accurately |  |  |  |
|  | BT- | 304 | 304 Operate reciprocating saws safely and accurately |  |  |  |
|  | BT- | 305 | 305 Operate routers safely and accurately |  |  |  |
|  | BT- | 306 | 306 Operate a pneumatic nailer safely and accurately |  |  |  |
|  | BT- | 307 | 307 Operate a power miter box safely and accurately |  |  |  |
|  | BT- | #REF! | 309 Operate an electric planer safely and accurately |  |  |  |
|  | BT- | 500 | 500 PERFORM SITE AND BUILDING LAYOUT |  |  | Modern Carpentry Unit 5&6 |
|  | BT- | 501 | 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. |  |  | Hands-on Activities |
|  | BT- | 502 | 502 Square a building using the "3-4-5 rule" or by measuring diagonals. |  |  | Demonstration |
|  | BT- | 600 | 600 DEMONSTRATE SKILL IN PLACING CONCRETE |  |  | Modern Carpentry Unit 7 |
|  | BT- | 601 | 601 Describe modern concrete materials and renewal methods. |  |  | Hands-on Activities |
|  | BT- | 602 | 602 Associate trade terms with the appropriate concrete finishing processes and equipment. |  |  | Demonstration |
|  | BT- | 603 | 603 Estimate the amount of concrete needed for footers and slabs. |  |  |  |
|  | BT- | 604 | 604 Lay out and build concrete forms. |  |  |  |
|  | BT- | 605 | 605 Describe the use of equipment and tools for placing concrete. |  |  |  |
|  | BT- | 606 | 606 Describe the process of depositing, spreading, consolidating, and striking off concrete. |  |  |  |
|  | BT- | 607 | 607 Describe and demonstrate the basic concrete finishing processes. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 608 | 608 Describe the tools used to edge, groove, and cut concrete. |  |  |  |
|  | BT- | 700 | 700 LAY BLOCK AND BRICK MASONRY UNITS |  |  |  |
|  | BT- | 701 | 701 Describe the most common types of masonry units. |  |  |  |
|  | BT- | 702 | 702 Identify concrete block by size and type. |  |  |  |
|  | BT- | 703 | 703 Estimate masonry units needed for block construction |  |  |  |
|  | BT- | 704 | 704 Demonstrate masonry cutting techniques. |  |  |  |
|  | BT- | 705 | 705 Lay out and construct a block laying project to specifications |  |  |  |
|  | BT- | 706 | 706 Describe various masonry positions and bonds. |  |  |  |
|  | BT- | 707 | 707 Lay block to a line. |  |  |  |
|  | BT- | 708 | 708 Describe the function of wall ties. |  |  |  |
|  | BT- | 709 | 709 Describe installation of anchor bolts. |  |  |  |
|  | BT- | 710 | 710 Mix mortar to proper proportions and consistency. |  |  |  |
|  | BT- | 711 | 711 Describe different mortar types and applications. |  |  |  |
|  | BT- | 712 | 712 Describe proper brick and block laying techniques. |  |  |  |
|  | BT- | 713 | 713 Describe the installation of lintels in block or brick walls. |  |  |  |
|  | BT- | 800 | 800 FRAME FLOORS |  |  | Modern Carpentry Unit 8 |
|  | BT- | 801 | 801 Identify different types of framing materials and systems. |  |  | Hands-on Activities |
|  | BT- | 802 | 802 Describe how to install girders and sills. |  |  | Demonstration |
|  | BT- | 803 | 803 Describe and perform layout of floor joists and openings. |  |  |  |
|  | BT- | 804 | 804 Describe how to install various floor joists and band joists. |  |  |  |
|  | BT- | 805 | 805 Describe how to install various types of bridging. |  |  |  |
|  | BT- | 806 | 806 Describe how to install various types of columns and supports. |  |  |  |
|  | BT- | 807 | 807 Describe how to install various types of subfloor materials. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 900 | 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  | Modern Carpentry Unit 9 |
|  | BT- | 901 | 901 Describe how to install various components of interior and exterior walls. |  |  | Hands-on Activities |
|  | BT- | 902 | 902 Describe how to install various ceiling joists. |  |  | Demonstration |
|  | BT- | 903 | 903 Describe how to install various steel framing components. |  |  |  |
|  | BT- | 1000 | 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  | Modern Carpentry Unit 10 |
|  | BT- | 1001 | 1001 Describe how to identify various roof types. |  |  | Hands-on Activities |
|  | BT- | 1002 | 1002 Describe how to install various roof components for gable roofs. |  |  | Demonstration |
|  | BT- | 1003 | 1003 Describe how to install various types of roof trusses. |  |  |  |
|  | BT- | 1004 | 1004 Describe how to install various types of roof sheathing materials. |  |  |  |
|  | BT- | 1005 | 1005 Estimate various roof component materials. |  |  |  |
|  | BT- | 1100 | 1100 INSTALL ROOF COVERINGS |  |  | Modern Carpentry Unit 10 |
|  | BT- | 1101 | 1101 Describe how to install various types of asphalt shingles. |  |  | Hands-on Activities |
|  | BT- | #REF! | 1104 Estimate various roof covering materials. |  |  | Demonstration |
|  | BT- | 1200 | 1200 INSTALL INSULATION MATERIALS |  |  | Modern Carpentry Unit 14 |
|  | BT- | 1201 | 1201 Describe how to install various types of insulation and ventilation. |  |  | Hands-on Activities |
|  | BT- | 1202 | 1202 Estimate quantities of insulation and ventilation materials. |  |  | Demonstration |
|  | BT- | 1300 | 1300 APPLY EXTERIOR FINISHES |  |  | Modern Carpentry Unit 13 |
|  | BT- | 1301 | 1301 Describe how to install various types of horizontal sidings. |  |  | Hands-on Activities |
|  | BT- | 1302 | 1302 Describe how to install various types of vertical sidings. |  |  | Demonstration |
|  | BT- | 1303 | 1303 Describe how to install various types of cornices. |  |  |  |
|  | BT- | 1304 | 1304 Estimate various exterior finish materials |  |  |  |
|  | BT- | 1305 | 1305 Identify how to install various types of windows. |  |  |  |
|  | BT- | 1306 | 1306 Identify how to install various types of exterior doors. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 1600 | 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  | Modern Carpentry Unit 15 |
|  | BT- | 1601 | 1601 Describe how to install various wall surfaces. |  |  | Hands-on Activities |
|  | BT- | 1602 | 1602 Describe how to install various interior moldings. |  |  | Demonstration |
|  | BT- | 1603 | 1603 Estimate various materials for wall surfaces. |  |  |  |
|  | BT- | 1604 | 1604 Estimate various types of interior moldings. |  |  |  |
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| **Student Level 1** | **LEA TASK #** | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **47-2031.01 - Construction Carpenters** | **49-9098.00 - Helpers--Installation, Maintenance, and Repair Workers** | **47-2061.00 - Construction Laborers** | **47-3019.00 - Helpers, Construction Trades, All Other** | **47-3012.00 - Helpers--Carpenters** | **47-3011.00 - Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters** | **47-3015.00 - Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters** | **47-3013.00 - Helpers--Electricians** |
|  |  | **Secondary Competency Task List** |  |  |  |  |  |  |  |  |
|  |  | DUTY AREA - ORIENTATION |  |  |  |  |  |  |  |  |
|  |  | 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  |  |  |  |  |  |  |
| BT- | 101 | 101 Explain the role that safety plays in the construction crafts. | X | X | X | X | X | X | X | X |
| BT- | 102 | 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. | X | X | X | X | X | X | X | X |
| BT- | 103 | 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. | X | X | X | X | X | X | X | X |
| BT- | 104 | 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. | X | X | X | X | X | X | X | X |
| BT- | 105 | 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. | X | X | X | X | X | X | X | X |
| BT- | 106 | 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. | X | X | X | X | X | X | X | X |
| BT- | 107 | 107 Interpret and practice OSHA subpart K - Electrical. | X | X | X | X | X | X | X | X |
| BT- | 108 | 108 Interpret and practice OSHA subpart L - Scaffolds. | X | X | X | X | X | X | X | X |
| BT- | 109 | 109 Interpret and practice OSHA subpart M - Fall Protection. | X | X | X | X | X | X | X | X |
| BT- | 110 | 110 Interpret and practice OSHA subpart P - Excavations. | X | X | X | X | X | X | X | X |
| BT- | 111 | 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. | X | X | X | X | X | X | X | X |
| BT- | 112 | 112 Interpret and practice OSHA subpart X - Stairways and Ladders. | X | X | X | X | X | X | X | X |
| BT- | 200 | 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  |  |  |  |  |  |  |
| BT- | 201 | 201 Identify and follow all basic safety rules for using hand tools. | X | X | X | X | X | X | X | X |
| BT- | 202 | 202 Identify and demonstrate the proper use of layout tools. | X | X | X | X | X | X | X | X |
| BT- | 203 | 203 Identify and demonstrate the proper use cutting tools. | X | X | X | X | X | X | X | X |
| BT- | 204 | 204 Identify and demonstrate the proper use shaping tools. | X | X | X | X | X | X | X | X |
| BT- | 205 | 205 Identify and demonstrate the proper use fastening tools. | X | X | X | X | X | X | X | X |
| BT- | 206 | 206 Identify and demonstrate the proper use dismantling tools. | X | X | X | X | X | X | X | X |
| BT- | 300 | 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  |  |  |  |  |  |  |
| BT- | 301 | 301 Operate a circular saw safely and accurately. | X | X | X | X | X | X | X | X |

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| **Student Level 1** | **LEA TASK #** | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **47-2031.01 - Construction Carpenters** | **49-9098.00 - Helpers--Installation, Maintenance, and Repair Workers** | **47-2061.00 - Construction Laborers** | **47-3019.00 - Helpers, Construction Trades, All Other** | **47-3012.00 - Helpers--Carpenters** | **47-3011.00 - Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters** | **47-3015.00 - Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters** | **47-3013.00 - Helpers--Electricians** |
| BT- | 302 | 302 Operate battery and electric drills safely and accurately | X | X | X | X | X | X | X | X |
| BT- | 303 | 303 Operate belt and hand sanders safely and accurately | X | X | X | X | X |  |  |  |
| BT- | 304 | 304 Operate reciprocating saws safely and accurately | X | X | X | X | X | X | X | X |
| BT- | 305 | 305 Operate routers safely and accurately | X | X | X | X | X |  |  |  |
| BT- | 306 | 306 Operate a pneumatic nailer safely and accurately | X | X | X | X | X | X | X |  |
| BT- | 307 | 307 Operate a power miter box safely and accurately | X | X | X | X | X | X | X | X |
| BT- | 308 | 309 Operate an electric planer safely and accurately |  |  | X | X | X |  |  |  |
| BT- | 500 | 500 PERFORM SITE AND BUILDING LAYOUT |  |  |  |  |  |  |  |  |
| BT- | 501 | 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. | X | X | X | X | X | X |  | X |
| BT- | 502 | 502 Square a building using the "3-4-5 rule" or by measuring diagonals. | X | X | X | X | X | X |  | X |
| BT- | 600 | 600 DEMONSTRATE SKILL IN PLACING CONCRETE |  |  |  |  |  |  |  | X |
| BT- | 601 | 601 Describe modern concrete materials and renewal methods. | X | X | X | X | X | X |  | X |
| BT- | 602 | 602 Associate trade terms with the appropriate concrete finishing processes and equipment. | X | X | X | X | X | X |  | X |
| BT- | 603 | 603 Estimate the amount of concrete needed for footers and slabs. | X | X | X | X | X | X |  | X |
| BT- | 604 | 604 Lay out and build concrete forms. | X | X | X | X | X | X |  | X |
| BT- | 605 | 605 Describe the use of equipment and tools for placing concrete. | X | X | X | X | X | X |  | X |
| BT- | 606 | 606 Describe the process of depositing, spreading, consolidating, and striking off concrete. | X | X | X | X | X | X |  | X |
| BT- | 607 | 607 Describe and demonstrate the basic concrete finishing processes. | X | X | X | X | X | X |  | X |
| BT- | 608 | 608 Describe the tools used to edge, groove, and cut concrete. | X | X | X | X | X | X |  | X |
| BT- | 700 | 700 LAY BLOCK AND BRICK MASONRY UNITS | X | X | X | X | X | X |  | X |
| BT- | 701 | 701 Describe the most common types of masonry units. | X | X | X | X | X | X |  | X |
| BT- | 702 | 702 Identify concrete block by size and type. | X | X | X | X | X | X |  | X |
| BT- | 703 | 703 Estimate masonry units needed for block construction | X | X | X | X | X | X |  | X |
| BT- | 704 | 704 Demonstrate masonry cutting techniques. | X | X | X | X | X | X |  | X |

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| **Student Level 1** | **LEA TASK #** | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **47-2031.01 - Construction Carpenters** | **49-9098.00 - Helpers--Installation, Maintenance, and Repair Workers** | **47-2061.00 - Construction Laborers** | **47-3019.00 - Helpers, Construction Trades, All Other** | **47-3012.00 - Helpers--Carpenters** | **47-3011.00 - Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters** | **47-3015.00 - Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters** | **47-3013.00 - Helpers--Electricians** |
| BT- | 705 | 705 Lay out and construct a block laying project to specifications | X | X | X | X | X | X |  | X |
| BT- | 706 | 706 Describe various masonry positions and bonds. | X | X | X | X | X | X |  | X |
| BT- | 707 | 707 Lay block to a line. | X | X | X | X | X | X |  | X |
| BT- | 708 | 708 Describe the function of wall ties. | X | X | X | X | X | X |  | X |
| BT- | 709 | 709 Describe installation of anchor bolts. | X | X | X | X | X | X |  | X |
| BT- | 710 | 710 Mix mortar to proper proportions and consistency. | X | X | X | X | X | X |  | X |
| BT- | 711 | 711 Describe different mortar types and applications. | X | X | X | X | X | X |  | X |
| BT- | 712 | 712 Describe proper brick and block laying techniques. | X | X | X | X | X | X |  | X |
| BT- | 713 | 713 Describe the installation of lintels in block or brick walls. | X | X | X | X | X | X |  | X |
| BT- | 800 | 800 FRAME FLOORS |  |  |  |  |  |  |  | X |
| BT- | 801 | 801 Identify different types of framing materials and systems. | X | X | X | X | X |  |  | X |
| BT- | 802 | 802 Describe how to install girders and sills. | X | X | X | X | X |  |  | X |
| BT- | 803 | 803 Describe and perform layout of floor joists and openings. | X | X | X | X | X |  |  | X |
| BT- | 804 | 804 Describe how to install various floor joists and band joists. | X | X | X | X | X |  |  | X |
| BT- | 805 | 805 Describe how to install various types of bridging. | X | X | X | X | X |  |  | X |
| BT- | 806 | 806 Describe how to install various types of columns and supports. | X | X | X | X | X |  |  | X |
| BT- | 807 | 807 Describe how to install various types of subfloor materials. | X | X | X | X | X |  |  | X |
| BT- | 900 | 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  |  |  |  |  |  | X |
| BT- | 901 | 901 Describe how to install various components of interior and exterior walls. | X | X | X | X | X |  |  | X |
| BT- | 902 | 902 Describe how to install various ceiling joists. | X | X | X | X | X |  |  | X |
| BT- | 903 | 903 Describe how to install various steel framing components. | X | X | X | X | X |  |  | X |
| BT- | 1000 | 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  |  |  |  |  |  | X |
| BT- | 1001 | 1001 Describe how to identify various roof types. | X | X | X | X | X |  |  | X |

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| **Student Level 1** | **LEA TASK #** | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **47-2031.01 - Construction Carpenters** | **49-9098.00 - Helpers--Installation, Maintenance, and Repair Workers** | **47-2061.00 - Construction Laborers** | **47-3019.00 - Helpers, Construction Trades, All Other** | **47-3012.00 - Helpers--Carpenters** | **47-3011.00 - Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters** | **47-3015.00 - Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters** | **47-3013.00 - Helpers--Electricians** |
| BT- | 1002 | 1002 Describe how to install various roof components for gable roofs. | X | X | X | X | X |  |  | X |
| BT- | 1003 | 1003 Describe how to install various types of roof trusses. | X | X | X | X | X |  |  | X |
| BT- | 1004 | 1004 Describe how to install various types of roof sheathing materials. | X | X | X | X | X |  |  | X |
| BT- | 1005 | 1005 Estimate various roof component materials. | X | X | X | X | X |  |  | X |
| BT- | 1100 | 1100 INSTALL ROOF COVERINGS |  |  |  |  |  |  |  | X |
| BT- | 1101 | 1101 Describe how to install various types of asphalt shingles. | X | X | X | X | X |  |  | X |
| BT- | #REF! | 1104 Estimate various roof covering materials. | X | X | X | X | X |  |  | X |
| BT- | 1200 | 1200 INSTALL INSULATION MATERIALS |  |  |  |  |  |  |  | X |
| BT- | 1201 | 1201 Describe how to install various types of insulation and ventilation. | X | X | X | X | X |  |  | X |
| BT- | 1202 | 1202 Estimate quantities of insulation and ventilation materials. | X | X | X | X | X |  |  | X |
| BT- | 1300 | 1300 APPLY EXTERIOR FINISHES |  |  |  |  |  |  |  | X |
| BT- | 1301 | 1301 Describe how to install various types of horizontal sidings. | X | X | X | X | X |  |  | X |
| BT- | 1302 | 1302 Describe how to install various types of vertical sidings. | X | X | X | X | X |  |  | X |
| BT- | 1303 | 1303 Describe how to install various types of cornices. | X | X | X | X | X |  |  | X |
| BT- | 1304 | 1304 Estimate various exterior finish materials | X | X | X | X | X |  |  | X |
| BT- | 1305 | 1305 Identify how to install various types of windows. | X | X | X | X | X |  |  | X |
| BT- | 1306 | 1306 Identify how to install various types of exterior doors. | X | X | X | X | X |  |  | X |
| BT- | 1600 | 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  |  |  |  |  |  | X |
| BT- | 1601 | 1601 Describe how to install various wall surfaces. | X | X | X | X | X |  |  | X |
| BT- | 1602 | 1602 Describe how to install various interior moldings. | X | X | X | X | X |  |  | X |
| BT- | 1603 | 1603 Estimate various materials for wall surfaces. | X | X | X | X | X |  |  | X |
| BT- | 1604 | 1604 Estimate various types of interior moldings. | X | X | X | X | X |  |  | X |
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| *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |
| **Secondary Competency Task List** |  |  |  |
| DUTY AREA - ORIENTATION |  |  |  |
| 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  |  |
| 101 Explain the role that safety plays in the construction crafts. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 107 Interpret and practice OSHA subpart K - Electrical. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 108 Interpret and practice OSHA subpart L - Scaffolds. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 109 Interpret and practice OSHA subpart M - Fall Protection. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 110 Interpret and practice OSHA subpart P - Excavations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |
| 112 Interpret and practice OSHA subpart X - Stairways and Ladders. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |

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| *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |
| 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  |  |
| 201 Identify and follow all basic safety rules for using hand tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 202 Identify and demonstrate the proper use of layout tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 203 Identify and demonstrate the proper use cutting tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 204 Identify and demonstrate the proper use shaping tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 205 Identify and demonstrate the proper use fastening tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 206 Identify and demonstrate the proper use dismantling tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  |  |
| 301 Operate a circular saw safely and accurately. | 1.1.11E&F/1.2.11A  1.6.11A&D R11 A 2 1 2 | 2.3.11A,B,C  M11.B.2.1.1 |  |
| 302 Operate battery and electric drills safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |
| 303 Operate belt and hand sanders safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |
| 304 Operate reciprocating saws safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |
| 305 Operate routers safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |
| 306 Operate a pneumatic nailer safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |

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| *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |
| 307 Operate a power miter box safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |
| 309 Operate an electric planer safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |
| 500 PERFORM SITE AND BUILDING LAYOUT |  |  |  |
| 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 502 Square a building using the "3-4-5 rule" or by measuring diagonals. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 600 DEMONSTRATE SKILL IN PLACING CONCRETE |  |  |  |
| 601 Describe modern concrete materials and renewal methods. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 602 Associate trade terms with the appropriate concrete finishing processes and equipment. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 603 Estimate the amount of concrete needed for footers and slabs. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 604 Lay out and build concrete forms. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 605 Describe the use of equipment and tools for placing concrete. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 606 Describe the process of depositing, spreading, consolidating, and striking off concrete. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 607 Describe and demonstrate the basic concrete finishing processes. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 608 Describe the tools used to edge, groove, and cut concrete. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |

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| *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |
| 700 LAY BLOCK AND BRICK MASONRY UNITS | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 701 Describe the most common types of masonry units. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 702 Identify concrete block by size and type. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 703 Estimate masonry units needed for block construction | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 704 Demonstrate masonry cutting techniques. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 705 Lay out and construct a block laying project to specifications | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 706 Describe various masonry positions and bonds. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 707 Lay block to a line. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 708 Describe the function of wall ties. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 709 Describe installation of anchor bolts. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 710 Mix mortar to proper proportions and consistency. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 711 Describe different mortar types and applications. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 712 Describe proper brick and block laying techniques. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |

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| *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |
| 713 Describe the installation of lintels in block or brick walls. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 800 FRAME FLOORS |  |  |  |
| 801 Identify different types of framing materials and systems. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 802 Describe how to install girders and sills. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 803 Describe and perform layout of floor joists and openings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 804 Describe how to install various floor joists and band joists. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 805 Describe how to install various types of bridging. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 806 Describe how to install various types of columns and supports. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 807 Describe how to install various types of subfloor materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11 A 2 1 2 |  | 3.7.10A&B |
| 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  |  |
| 901 Describe how to install various components of interior and exterior walls. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 902 Describe how to install various ceiling joists. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 903 Describe how to install various steel framing components. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  |  |
| 1001 Describe how to identify various roof types. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |

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| *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |
| 1002 Describe how to install various roof components for gable roofs. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 1003 Describe how to install various types of roof trusses. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 1004 Describe how to install various types of roof sheathing materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1005 Estimate various roof component materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 1100 INSTALL ROOF COVERINGS |  |  |  |
| 1101 Describe how to install various types of asphalt shingles. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1104 Estimate various roof covering materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 1200 INSTALL INSULATION MATERIALS |  |  |  |
| 1201 Describe how to install various types of insulation and ventilation. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1202 Estimate quantities of insulation and ventilation materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 1300 APPLY EXTERIOR FINISHES |  |  |  |
| 1301 Describe how to install various types of horizontal sidings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1302 Describe how to install various types of vertical sidings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1303 Describe how to install various types of cornices. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1304 Estimate various exterior finish materials | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |

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| *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |
| 1305 Identify how to install various types of windows. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1306 Identify how to install various types of exterior doors. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  |  |
| 1601 Describe how to install various wall surfaces. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1602 Describe how to install various interior moldings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |
| 1603 Estimate various materials for wall surfaces. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |
| 1604 Estimate various types of interior moldings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |

# Construction Trades Level 2

**Curriculum**

## DELAWARE VALLEY SCHOOL DISTRICT

**Planned Instruction**

**Title of Planned Instruction: Building Construction Occupations 2 Subject Area: CTE**

This program of study prepares individuals for a variety of trade areas, including carpentry, masonry, plumbing, heating, electrical, and painting and decorating.

•Carpenters construct, erect, install, and repair structures and fixtures made from wood and other materials. As part of a single job, they might frame walls and partitions, put in doors and windows, build stairs, install cabinets and molding, and complete many other tasks. Each carpentry task is somewhat different, but most involve the same basic steps. Working from blueprints or instructions from supervisors, carpenters first do the layout –measuring, marking, and arranging materials – in accordance with local building codes. They cut and shape wood, plastic, fiberglass, or drywall using hand and power tools and join the materials.

* Bricklayers build and repair walls, floors, partitions, and other structures with brick, precast masonry panels, concrete block, and other masonry materials. Workers cut or break the materials used to create walls, floors, and other structures.
* Plumbers install and repair the water, waste disposal, drainage, and gas systems in homes and commercial and industrial buildings. Plumbers also install plumbing fixtures.
* Electricians specializing in construction primarily install and maintain all of the electrical and power systems in homes and businesses. Electricians specializing in maintenance fix and upgrade existing electrical systems and repair electrical equipment. They install and maintain the wiring and control equipment through which electricity flows.
* Painters apply paint, stain, varnish, and other finishes to buildings and other structures. They select the right paint or finish for the surface to be covered, taking into account durability, ease of handling, method of application, and customers' wishes. Paperhangers cover walls with decorative coverings made of paper, vinyl, or fabric. When redecorating, they may first remove the old covering by soaking, steaming, or applying solvents. When necessary, they patch holes and take care of other imperfections before hanging the new wall covering.

**Time/Credit for the Course:** Full Year, 3 Periods Per Day, 3 Credits

**Curriculum Writing Committee:** William Tidridge

**Course Name:** Construction Trades

**Unit Name:** DEMONSTRATE SKILL IN FRAME FLOORS

### Unit Number: 800

**Unit Description/Objectives:**

students will DEMONSTRATE SKILL IN FRAME FLOORS

### Tasks:

PA801 - Identify different types of framing materials and systems. PA802 - Describe how to install girders and sills.

PA803 - Demonstrate and perform layout of floor joists and openings. PA804 - Demonstrate how to install various floor joists and band joists. PA805 - Demonstrate how to install various types of bridging.

PA806 - Demonstrate how to install various types of columns and supports. PA807 - Demonstrate how to install various types of subfloor materials.

### 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.

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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.3.6.11-12.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

CC.3.6.11-12.I Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.6 Verify and apply theorems involving similarity as they relate to plane figures.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
      4. 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.

13.3.11.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.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.

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

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,8, Floor Framing
    - All hand and power tools required for task

**Course Name:** Construction Trades

**Unit Name:** DEMONSTRATE SKILL IN WALL FRAMING

### Unit Number: 900

**Unit Description/Objectives:**

students will DEMONSTRATE SKILL IN WALL FRAMING

### Tasks:

PA901 - Describe and demonstrate how to install various components of interior and exterior walls.

PA902 - Describe and demonstrate how to install various ceiling joists.

PA903 - Describe and demonstrate how to install various steel framing components.

### 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.

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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.3.6.11-12.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CC.3.6.11-12.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

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CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
      4. 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.
      5. Justify the selection of a career.

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.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.

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

### Instructional Activities:

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* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

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### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
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    - 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
    - Peer evaluation of individual student• 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.
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    - Evaluate if students work without hindering other students’ progress.
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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

### Resources/Equipment:

* + - Modern Carpentry Chapter,9, Wall and Ceiling Framing
    - All hand and power tools required for tasks

**Course Name:** Construction Trades

**Unit Name:** DEMONSTRATE SKILL IN ROOF FRAMING

**Unit Number:** 1000

### Unit Description/Objectives:

student will DEMONSTRATE SKILL IN ROOF FRAMING

### Tasks:

PA1001 - Describe how to identify various roof types.

PA1002 - Describe how to install various roof components for gable roofs. PA1003 - Describe how to install various types of roof trusses.

PA1004 - Describe how to install various types of roof sheathing materials. PA1005 - Estimate various roof component materials.

### 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.

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CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

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CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

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CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.1 Use geometric figures and their properties to represent transformations in the plane.

CC.2.3.HS.A.2 Apply rigid transformations to determine and explain congruence.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.6 Verify and apply theorems involving similarity as they relate to plane figures.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

CC.2.3.HS.A.9 Extend the concept of similarity to determine arc lengths and areas of sectors of circles.

CC.2.3.HS.A.12 Explain volume formulas and use them to solve problems.

CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
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### Assessment:

THEORY EVALUATION

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SKILL EVALUATION

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    - Peer evaluation of individual student• Evaluate the student’s ability to work within a team when teamwork is necessary.
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SPECIAL NEEDS ASSESSMENT ADAPTATIONS

* + - Study guides provided prior to tests
    - Use of a scribe
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    - Multiple Choice will include 3 choices instead of 4
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    - 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,10, Roof Framing
    - All hand and power tools required for tasks

**Course Name:** Construction Trades

**Unit Name:** INSTALL ROOF COVERINGS

**Unit Number:** 1100

### Unit Description/Objectives:

Students will INSTALL ROOF COVERINGS

### Tasks:

PA1101 - Describe how to install various types of asphalt shingles.

PA1102 - Describe and demonstrate how to install various types of underlayment materials.

PA1103 - Describe how to install various types of flashing. PA1104 - Estimate various roof covering materials.

### Standards / Assessment Anchors

*Focus Anchor/Standard #1:*

* + literacy

*Supporting Anchor/Standards:*

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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.

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CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

CC.3.6.11-12.I Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.5 Create justifications based on transformations to establish similarity of plane figures.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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. 13.2.11.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, Self-Advocacy, 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

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,12, Roofing Materials and Methods
    - All hand and power tools required for tasks

**Course Name:** Construction Trades

**Unit Name:** INSTALL INSULATION MATERIALS

**Unit Number:** 1200

### Unit Description/Objectives:

Students will INSTALL INSULATION MATERIALS

### Tasks:

PA1201 - Describe how to install various types of insulation and ventilation. PA1202 - Estimate quantities of insulation and ventilation materials.

### 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 domain-specific 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.3.6.11-12.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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.

CC.3.6.11-12.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.F Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

CC.3.6.11-12.I Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.3.HS.A.1 Use geometric figures and their properties to represent transformations in the plane.

CC.2.3.HS.A.2 Apply rigid transformations to determine and explain congruence.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
      4. 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.

* + - 1. Justify the selection of a career.

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,15, Thermal and Sound Insulation
    - All hand and power tools required for tasks

**Course Name:** Construction Trades

**Unit Name:** APPLY EXTERIOR FINISHES

**Unit Number:** 1300

### Unit Description/Objectives:

Student will APPLY EXTERIOR FINISHES

### Tasks:

PA1301 - Demonstrate how to install various types of horizontal sidings.

PA1302 - Demonstrate how to install various types of vertical sidings.

PA1303 - Demonstrate how to install various types of cornices.

PA1304 - Estimate various exterior finish materials PA1305 - Identify how to install various types of windows.

PA1306 - Identify how to install various types of exterior doors.

PA1307 - Describe and demonstrate how to install various types of soffit and fascia/windows and doors.

### 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.

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other domain-specific 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.3.6.11-12.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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.

CC.3.6.11-12.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.F Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

CC.3.6.11-12.I Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

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CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.1 Use geometric figures and their properties to represent transformations in the plane.

CC.2.3.HS.A.2 Apply rigid transformations to determine and explain congruence.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.5 Create justifications based on transformations to establish similarity of plane figures.

CC.2.3.HS.A.6 Verify and apply theorems involving similarity as they relate to plane figures.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

CC.2.3.HS.A.11 Apply coordinate geometry to prove simple geometric theorems algebraically.

CC.2.3.HS.A.12 Explain volume formulas and use them to solve problems.

CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
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    - 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,14,Exterior Wall Finish
    - All hand and power tools required for tasks

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| **Student Level 1** | **LEA TASK #** | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **47-2031.01 - Construction Carpenters** | **49-9098.00 - Helpers-- Installation, Maintenance, and Repair Workers** | **47-2061.00 - Construction Laborers** | **47-3019.00 - Helpers, Construction Trades, All Other** | **47-3012.00 - Helpers-- Carpenters** | **47-3011.00 - Helpers--**  **Brickmasons, Blockmasons, Stonemasons, and Tile and** | **47-3015.00 - Helpers--**  **Pipelayers, Plumbers, Pipefitters, and Steamfitters** | **47-3013.00 - Helpers-- Electricians** |  |  |
|  |  | **Secondary Competency Task List** |  |  |  |  |  |  |  |  |  |  |
|  |  | DUTY AREA - ORIENTATION |  |  |  |  |  |  |  |  |  |  |
|  |  | 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  |  |  |  |  |  |  |  |  |
| BT- | 101 | 101 Explain the role that safety plays in the construction crafts. | X | X | X | X | X | X | X | X |  |  |
| BT- | 102 | 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. | X | X | X | X | X | X | X | X |  |  |
| BT- | 103 | 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. | X | X | X | X | X | X | X | X |  |  |
| BT- | 104 | 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. | X | X | X | X | X | X | X | X |  |  |
| BT- | 105 | 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. | X | X | X | X | X | X | X | X |  |  |
| BT- | 106 | 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. | X | X | X | X | X | X | X | X |  |  |
| BT- | 107 | 107 Interpret and practice OSHA subpart K - Electrical. | X | X | X | X | X | X | X | X |  |  |
| BT- | 108 | 108 Interpret and practice OSHA subpart L - Scaffolds. | X | X | X | X | X | X | X | X |  |  |
| BT- | 109 | 109 Interpret and practice OSHA subpart M - Fall Protection. | X | X | X | X | X | X | X | X |  |  |
| BT- | 110 | 110 Interpret and practice OSHA subpart P - Excavations. | X | X | X | X | X | X | X | X |  |  |
| BT- | 111 | 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. | X | X | X | X | X | X | X | X |  |  |
| BT- | 112 | 112 Interpret and practice OSHA subpart X - Stairways and Ladders. | X | X | X | X | X | X | X | X |  |  |
| BT- | 200 | 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  |  |  |  |  |  |  |  |  |
| BT- | 201 | 201 Identify and follow all basic safety rules for using hand tools. | X | X | X | X | X | X | X | X |  |  |
| BT- | 202 | 202 Identify and demonstrate the proper use of layout tools. | X | X | X | X | X | X | X | X |  |  |
| BT- | 203 | 203 Identify and demonstrate the proper use cutting tools. | X | X | X | X | X | X | X | X |  |  |
| BT- | 204 | 204 Identify and demonstrate the proper use shaping tools. | X | X | X | X | X | X | X | X |  |  |
| BT- | 205 | 205 Identify and demonstrate the proper use fastening tools. | X | X | X | X | X | X | X | X |  |  |
| BT- | 206 | 206 Identify and demonstrate the proper use dismantling tools. | X | X | X | X | X | X | X | X |  |  |
| BT- | 300 | 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  |  |  |  |  |  |  |  |  |
| BT- | 301 | 301 Operate a circular saw safely and accurately. | X | X | X | X | X | X | X | X |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BT- | 302 | 302 Operate battery and electric drills safely and accurately | X | X | X | X | X | X | X | X |  |  |
| BT- | 303 | 303 Operate belt and hand sanders safely and accurately | X | X | X | X | X |  |  | X |  |  |
| BT- | 304 | 304 Operate reciprocating saws safely and accurately | X | X | X | X | X | X | X | X |  |  |
| BT- | 305 | 305 Operate routers safely and accurately | X | X | X | X | X |  |  | X |  |  |
| BT- | 306 | 306 Operate a pneumatic nailer safely and accurately | X | X | X | X |  |  | X |  |  |  |
| BT- | 307 | 307 Operate a power miter box safely and accurately | X | X | X | X | X | X | X | X |  |  |
| BT- | 308 | 308 Operate a table saw safely and accurately. | X | X | X | X | X |  | X | X |  |  |
| BT- | 309 | 309 Operate an electric planer safely and accurately | X | X | X | X |  |  |  |  |  |  |
| BT- | 400 | 400 READ PLANS AND BLUEPRINTS |  |  |  |  |  |  |  |  |  |  |
| BT- | 401 | 401 Demonstrate the ability to references building codes as needed. | X | X |  |  | X | X | X | X |  |  |
| BT- | 402 | 402 Demonstrate a need to know zoning regulations. | X | X |  |  | X | X | X | X |  |  |
| BT- | 403 | 403 Read and interpret plans, sketches and blueprints. | X | X | X | X | X | X | X | X |  |  |
| BT- | 404 | 404 Recognize and identify basic blueprint terms, components, abbreviations and symbols. | X | X | X | X | X | X | X | X |  |  |
| BT- | 405 | 405 Interpret architectural specifications. | X | X |  | X | X | X | X | X |  |  |
| BT- | 406 | 406 Use Architect scale. | X | X | X | X | X | X | X | X |  |  |
| BT- | 407 | 407 Identify structural components | X | X | X | X | X | X | X | X |  |  |
| BT- | 500 | 500 PERFORM SITE AND BUILDING LAYOUT |  |  |  |  |  |  |  |  |  |  |
| BT- | 501 | 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. | X | X | X | X | X | X | X |  |  |  |
| BT- | 502 | 502 Square a building using the "3-4-5 rule" or by measuring diagonals. | X | X | X | X | X | X | X |  |  |  |
| BT- | 800 | 800 FRAME FLOORS |  |  |  |  |  |  |  |  |  |  |
| BT- | 801 | 801 Identify different types of framing materials and systems. | X | X | X | X | X | X |  |  |  |  |
| BT- | 802 | 802 Describe how to install girders and sills. | X | X | X | X | X | X |  |  |  |  |
| BT- | 803 | 803 Describe and perform layout of floor joists and openings. | X | X | X | X | X |  |  |  |  |  |
| BT- | 804 | 804 Describe how to install various floor joists and band joists. | X | X | X | X | X |  |  |  |  |  |
| BT- | 805 | 805 Describe how to install various types of bridging. | X | X | X | X | X |  |  |  |  |  |
| BT- | 806 | 806 Describe how to install various types of columns and supports. | X | X | X | X | X | X |  |  |  |  |
| BT- | 807 | 807 Describe how to install various types of subfloor materials. | X | X | X | X | X |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BT- | 900 | 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  |  |  |  |  |  |  |  |  |
| BT- | 901 | 901 Describe how to install various components of interior and exterior walls. | X | X | X | X | X |  |  |  |  |  |
| BT- | 902 | 902 Describe how to install various ceiling joists. | X | X | X | X | X |  |  |  |  |  |
| BT- | 903 | 903 Describe how to install various steel framing components. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1000 | 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  |  |  |  |  |  |  |  |  |
| BT- | 1001 | 1001 Describe how to identify various roof types. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1002 | 1002 Describe how to install various roof components for gable roofs. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1003 | 1003 Describe how to install various types of roof trusses. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1004 | 1004 Describe how to install various types of roof sheathing materials. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1005 | 1005 Estimate various roof component materials. | X | X |  |  |  |  |  |  |  |  |
| BT- | 1100 | 1100 INSTALL ROOF COVERINGS |  |  |  |  |  |  |  |  |  |  |
| BT- | 1101 | 1101 Describe how to install various types of asphalt shingles. | X | X |  | X | X |  |  |  |  |  |
| BT- | 1102 | 1102 Describe how to install various types of underlayment materials. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1103 | 1103 Describe how to install various types of flashing. | X | X | X | X | X | X | X |  |  |  |
| BT- | 1104 | 1104 Estimate various roof covering materials. | X | X |  |  |  |  |  |  |  |  |
| BT- | 1200 | 1200 INSTALL INSULATION MATERIALS |  |  |  |  |  |  |  |  |  |  |
| BT- | 1201 | 1201 Describe how to install various types of insulation and ventilation. | X | X | X | X | X | X |  |  |  |  |
| BT- | 1202 | 1202 Estimate quantities of insulation and ventilation materials. | X | X |  |  | X |  |  |  |  |  |
| BT- | 1300 | 1300 APPLY EXTERIOR FINISHES |  |  |  |  |  |  |  |  |  |  |
| BT- | 1301 | 1301 Describe how to install various types of horizontal sidings. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1302 | 1302 Describe how to install various types of vertical sidings. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1303 | 1303 Describe how to install various types of cornices. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1304 | 1304 Estimate various exterior finish materials | X | X | X |  |  |  |  |  |  |  |
| BT- | 1305 | 1305 Identify how to install various types of windows. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1306 | 1306 Identify how to install various types of exterior doors. | X | X | X | X | X |  |  |  |  |  |
| BT- | 1500 | 1500 INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTS |  |  |  |  |  |  |  |  |  |  |
| BT- | 1501 | 1501 Identify electrical hazards and practice electrical safety. | X | X | X | X |  |  |  | X |  |  |
| BT- | 1502 | 1502 Apply the National Electric Code (NEC) to common residential installations. |  | X |  |  |  |  |  | X |  |  |

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| BT- | 1503 | 1503 Read and interpret electrical drawings. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1504 | 1504 Understand and apply electrical theory. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1505 | 1505 Describe basic electrical circuits. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1506 | 1506 Describe and identify various wire types and sizes. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1507 | 1507 Identify and use electrical tools. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1508 | 1508 Identify and install ground fault circuit interrupters. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1509 | 1509 Identify and install arc fault circuit interrupters. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1510 | 1510 Identify and install over current protection devices. |  | X |  |  |  |  |  |  |  |  |
| BT- | 1511 | 1511 Install a junction box. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1512 | 1512 Rough in a ceiling fan box. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1513 | 1513 Install light fixtures. |  | X |  | X |  |  |  | X |  |  |
| BT- | 1514 | 1514 Install various receptacle circuits. |  | X |  | X |  |  |  | X |  |  |
| BT- | 1515 | 1515 Install various switch circuits. |  | X |  | X |  |  |  | X |  |  |
| BT- | 1516 | 1516 Install a 220-volt circuit. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1517 | 1517 Install a recessed light. |  | X |  | X |  |  |  |  |  |  |
| BT- | 1518 | 1518 Trim out and finish electrical circuits. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1519 | 1519 Describe service entrance installation. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1520 | 1520 Describe low voltage electrical circuits. |  | X |  | X |  |  | X | X |  |  |
| BT- | 1521 | 1521 Describe panel installation. |  | X |  |  |  |  |  | X |  |  |
| BT- | 1600 | 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  |  |  |  |  |  |  |  |  |
| BT- | 1601 | 1601 Describe how to install various wall surfaces. | X | X | X | X | X | X |  |  |  |  |
| BT- | 1602 | 1602 Describe how to install various interior moldings. | X | X | X | X | X | X |  |  |  |  |
| BT- | 1603 | 1603 Estimate various materials for wall surfaces. | X | X |  |  |  | X |  |  |  |  |
| BT- | 1604 | 1604 Estimate various types of interior moldings. | X | X |  |  |  |  |  |  |  |  |
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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
| **Student Level** |  | **LEA TASK #** |  | **NeedsPractice** | **Met Standard** |  |
|  |  |  | **Secondary Competency Task List** |  |  |  |
|  |  |  | DUTY AREA - ORIENTATION |  |  |  |
|  |  |  | 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  | Moderm Carpentry Unit 2 |
|  | BT- | 101 | 101 Explain the role that safety plays in the construction crafts. |  |  | Review Questions |
|  | BT- | 102 | 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. |  |  | Hands-on Activities |
|  | BT- | 103 | 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. |  |  |  |
|  | BT- | 104 | 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. |  |  |  |
|  | BT- | 105 | 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. |  |  |  |
|  | BT- | 106 | 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. |  |  |  |
|  | BT- | 107 | 107 Interpret and practice OSHA subpart K - Electrical. |  |  |  |
|  | BT- | 108 | 108 Interpret and practice OSHA subpart L - Scaffolds. |  |  |  |
|  | BT- | 109 | 109 Interpret and practice OSHA subpart M - Fall Protection. |  |  |  |
|  | BT- | 110 | 110 Interpret and practice OSHA subpart P - Excavations. |  |  |  |
|  | BT- | 111 | 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. |  |  |  |
|  | BT- | 112 | 112 Interpret and practice OSHA subpart X - Stairways and Ladders. |  |  |  |
|  | BT- | 200 | 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  | Moderm Carpentry Unit 3 |
|  | BT- | 201 | 201 Identify and follow all basic safety rules for using hand tools. |  |  | Review Questions |
|  | BT- | 202 | 202 Identify and demonstrate the proper use of layout tools. |  |  | Hands-on Activities |
|  | BT- | 203 | 203 Identify and demonstrate the proper use cutting tools. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 204 | 204 Identify and demonstrate the proper use shaping tools. |  |  |  |
|  | BT- | 205 | 205 Identify and demonstrate the proper use fastening tools. |  |  |  |
|  | BT- | 206 | 206 Identify and demonstrate the proper use dismantling tools. |  |  |  |
|  | BT- | 300 | 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  | Moderm Carpentry Unit 4 |
|  | BT- | 301 | 301 Operate a circular saw safely and accurately. |  |  | Review Questions |
|  | BT- | 302 | 302 Operate battery and electric drills safely and accurately |  |  | Hands-on Activities |
|  | BT- | 303 | 303 Operate belt and hand sanders safely and accurately |  |  |  |
|  | BT- | 304 | 304 Operate reciprocating saws safely and accurately |  |  |  |
|  | BT- | 305 | 305 Operate routers safely and accurately |  |  |  |
|  | BT- | 306 | 306 Operate a pneumatic nailer safely and accurately |  |  |  |
|  | BT- | 307 | 307 Operate a power miter box safely and accurately |  |  |  |
|  | BT- | 308 | 308 Operate a table saw safely and accurately. |  |  |  |
|  | BT- | 309 | 309 Operate an electric planer safely and accurately |  |  |  |
|  | BT- | 400 | 400 READ PLANS AND BLUEPRINTS |  |  | Moderm Carpentry Unit 6 |
|  | BT- | 401 | 401 Demonstrate the ability to references building codes as needed. |  |  | Review Questions |
|  | BT- | 402 | 402 Demonstrate a need to know zoning regulations. |  |  | Hands-on Activities |
|  | BT- | 403 | 403 Read and interpret plans, sketches and blueprints. |  |  |  |
|  | BT- | 404 | 404 Recognize and identify basic blueprint terms, components, abbreviations and symbols. |  |  |  |
|  | BT- | 405 | 405 Interpret architectural specifications. |  |  |  |
|  | BT- | 406 | 406 Use Architect scale. |  |  |  |
|  | BT- | 407 | 407 Identify structural components |  |  |  |
|  | BT- | 500 | 500 PERFORM SITE AND BUILDING LAYOUT |  |  | Moderm Carpentry Unit 7 |
|  | BT- | 501 | 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. |  |  | Review Questions |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 502 | 502 Square a building using the "3-4-5 rule" or by measuring diagonals. |  |  | Hands-on Activities |
|  | BT- | 800 | 800 FRAME FLOORS |  |  | Moderm Carpentry Unit 8 |
|  | BT- | 801 | 801 Identify different types of framing materials and systems. |  |  | Review Questions |
|  | BT- | 802 | 802 Describe how to install girders and sills. |  |  | Hands-on Activities |
|  | BT- | 803 | 803 Describe and perform layout of floor joists and openings. |  |  |  |
|  | BT- | 804 | 804 Describe how to install various floor joists and band joists. |  |  |  |
|  | BT- | 805 | 805 Describe how to install various types of bridging. |  |  |  |
|  | BT- | 806 | 806 Describe how to install various types of columns and supports. |  |  |  |
|  | BT- | 807 | 807 Describe how to install various types of subfloor materials. |  |  |  |
|  | BT- | 900 | 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  | Moderm Carpentry Unit 9 |
|  | BT- | 901 | 901 Describe how to install various components of interior and exterior walls. |  |  | Review Questions |
|  | BT- | 902 | 902 Describe how to install various ceiling joists. |  |  | Hands-on Activities |
|  | BT- | 903 | 903 Describe how to install various steel framing components. |  |  |  |
|  | BT- | 1000 | 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  | Moderm Carpentry Unit 10 |
|  | BT- | 1001 | 1001 Describe how to identify various roof types. |  |  | Review Questions |
|  | BT- | 1002 | 1002 Describe how to install various roof components for gable roofs. |  |  | Hands-on Activities |
|  | BT- | 1003 | 1003 Describe how to install various types of roof trusses. |  |  |  |
|  | BT- | 1004 | 1004 Describe how to install various types of roof sheathing materials. |  |  |  |
|  | BT- | 1005 | 1005 Estimate various roof component materials. |  |  |  |
|  | BT- | 1100 | 1100 INSTALL ROOF COVERINGS |  |  | Moderm Carpentry Unit 12 |
|  | BT- | 1101 | 1101 Describe how to install various types of asphalt shingles. |  |  | Review Questions |
|  | BT- | 1102 | 1102 Describe how to install various types of underlayment materials. |  |  | Hands-on Activities |
|  | BT- | 1103 | 1103 Describe how to install various types of flashing. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 1104 | 1104 Estimate various roof covering materials. |  |  |  |
|  | BT- | 1200 | 1200 INSTALL INSULATION MATERIALS |  |  | Moderm Carpentry Unit 15 |
|  | BT- | 1201 | 1201 Describe how to install various types of insulation and ventilation. |  |  | Review Questions |
|  | BT- | 1202 | 1202 Estimate quantities of insulation and ventilation materials. |  |  | Hands-on Activities |
|  | BT- | 1300 | 1300 APPLY EXTERIOR FINISHES |  |  | Moderm Carpentry Unit 14 |
|  | BT- | 1301 | 1301 Describe how to install various types of horizontal sidings. |  |  | Review Questions |
|  | BT- | 1302 | 1302 Describe how to install various types of vertical sidings. |  |  | Hands-on Activities |
|  | BT- | 1303 | 1303 Describe how to install various types of cornices. |  |  |  |
|  | BT- | 1304 | 1304 Estimate various exterior finish materials |  |  |  |
|  | BT- | 1305 | 1305 Identify how to install various types of windows. |  |  |  |
|  | BT- | 1306 | 1306 Identify how to install various types of exterior doors. |  |  |  |
|  | BT- | 1500 | 1500 INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTS |  |  | Moderm Carpentry Unit 28 |
|  | BT- | 1501 | 1501 Identify electrical hazards and practice electrical safety. |  |  | Review Questions |
|  | BT- | 1502 | 1502 Apply the National Electric Code (NEC) to common residential installations. |  |  | Hands-on Activities |
|  | BT- | 1503 | 1503 Read and interpret electrical drawings. |  |  |  |
|  | BT- | 1504 | 1504 Understand and apply electrical theory. |  |  |  |
|  | BT- | 1505 | 1505 Describe basic electrical circuits. |  |  |  |
|  | BT- | 1506 | 1506 Describe and identify various wire types and sizes. |  |  |  |
|  | BT- | 1507 | 1507 Identify and use electrical tools. |  |  |  |
|  | BT- | 1508 | 1508 Identify and install ground fault circuit interrupters. |  |  |  |
|  | BT- | 1509 | 1509 Identify and install arc fault circuit interrupters. |  |  |  |
|  | BT- | 1510 | 1510 Identify and install over current protection devices. |  |  |  |
|  | BT- | 1511 | 1511 Install a junction box. |  |  |  |
|  | BT- | 1512 | 1512 Rough in a ceiling fan box. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 1513 | 1513 Install light fixtures. |  |  |  |
|  | BT- | 1514 | 1514 Install various receptacle circuits. |  |  |  |
|  | BT- | 1515 | 1515 Install various switch circuits. |  |  |  |
|  | BT- | 1516 | 1516 Install a 220-volt circuit. |  |  |  |
|  | BT- | 1517 | 1517 Install a recessed light. |  |  |  |
|  | BT- | 1518 | 1518 Trim out and finish electrical circuits. |  |  |  |
|  | BT- | 1519 | 1519 Describe service entrance installation. |  |  |  |
|  | BT- | 1520 | 1520 Describe low voltage electrical circuits. |  |  |  |
|  | BT- | 1521 | 1521 Describe panel installation. |  |  |  |
|  | BT- | 1600 | 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  | Moderm Carpentry Unit 16 |
|  | BT- | 1601 | 1601 Describe how to install various wall surfaces. |  |  | Review Questions |
|  | BT- | 1602 | 1602 Describe how to install various interior moldings. |  |  | Hands-on Activities |
|  | BT- | 1603 | 1603 Estimate various materials for wall surfaces. |  |  |  |
|  | BT- | 1604 | 1604 Estimate various types of interior moldings. |  |  |  |
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**Career Ed & Work Standards/Grade 10 & 12 Eligible Content**

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|  |  |  | *Delaware Valley High School - Vocational*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |  |
|  |  |  | **Secondary Competency Task List** |  |  |  |  |
|  |  |  | DUTY AREA - ORIENTATION |  |  |  |  |
|  |  |  | 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  |  |  |
|  | BT- | 101 | 101 Explain the role that safety plays in the construction crafts. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 102 | 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 103 | 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 104 | 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 105 | 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 106 | 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 107 | 107 Interpret and practice OSHA subpart K - Electrical. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 108 | 108 Interpret and practice OSHA subpart L - Scaffolds. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 109 | 109 Interpret and practice OSHA subpart M - Fall Protection. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 110 | 110 Interpret and practice OSHA subpart P - Excavations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 111 | 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 112 | 112 Interpret and practice OSHA subpart X - Stairways and Ladders. |  |  |  |  |
|  | BT- | 200 | 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  |  |  |
|  | BT- | 201 | 201 Identify and follow all basic safety rules for using hand tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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**Career Ed & Work Standards/Grade 10 & 12 Eligible Content**

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|  |  |  | *Delaware Valley High School - Vocational*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |  |
|  | BT- | 202 | 202 Identify and demonstrate the proper use of layout tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 203 | 203 Identify and demonstrate the proper use cutting tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 204 | 204 Identify and demonstrate the proper use shaping tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 205 | 205 Identify and demonstrate the proper use fastening tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 206 | 206 Identify and demonstrate the proper use dismantling tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 300 | 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  |  |  |
|  | BT- | 301 | 301 Operate a circular saw safely and accurately. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 302 | 302 Operate battery and electric drills safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 303 | 303 Operate belt and hand sanders safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 304 | 304 Operate reciprocating saws safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 305 | 305 Operate routers safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 306 | 306 Operate a pneumatic nailer safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 307 | 307 Operate a power miter box safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 308 | 308 Operate a table saw safely and accurately. |  |  |  |  |
|  | BT- | 309 | 309 Operate an electric planer safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 400 | 400 READ PLANS AND BLUEPRINTS |  |  |  |  |
|  | BT- | 401 | 401 Demonstrate the ability to references building codes as needed. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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**Career Ed & Work Standards/Grade 10 & 12 Eligible Content**

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|  |  |  | *Delaware Valley High School - Vocational*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |  |
|  | BT- | 402 | 402 Demonstrate a need to know zoning regulations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 403 | 403 Read and interpret plans, sketches and blueprints. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 404 | 404 Recognize and identify basic blueprint terms, components, abbreviations and symbols. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 405 | 405 Interpret architectural specifications. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 406 | 406 Use Architect scale. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 407 | 407 Identify structural components | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 500 | 500 PERFORM SITE AND BUILDING LAYOUT |  |  |  |  |
|  | BT- | 501 | 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 502 | 502 Square a building using the "3-4-5 rule" or by measuring diagonals. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 800 | 800 FRAME FLOORS |  |  |  |  |
|  | BT- | 801 | 801 Identify different types of framing materials and systems. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 802 | 802 Describe how to install girders and sills. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 803 | 803 Describe and perform layout of floor joists and openings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 804 | 804 Describe how to install various floor joists and band joists. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 805 | 805 Describe how to install various types of bridging. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 806 | 806 Describe how to install various types of columns and supports. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 807 | 807 Describe how to install various types of subfloor materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |

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**Career Ed & Work Standards/Grade 10 & 12 Eligible Content**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | *Delaware Valley High School - Vocational*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |  |
|  | BT- | 900 | 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  |  |  |
|  | BT- | 901 | 901 Describe how to install various components of interior and exterior walls. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 902 | 902 Describe how to install various ceiling joists. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 903 | 903 Describe how to install various steel framing components. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1000 | 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  |  |  |
|  | BT- | 1001 | 1001 Describe how to identify various roof types. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1002 | 1002 Describe how to install various roof components for gable roofs. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1003 | 1003 Describe how to install various types of roof trusses. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1004 | 1004 Describe how to install various types of roof sheathing materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1005 | 1005 Estimate various roof component materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1100 | 1100 INSTALL ROOF COVERINGS |  |  |  |  |
|  | BT- | 1101 | 1101 Describe how to install various types of asphalt shingles. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1102 | 1102 Describe how to install various types of underlayment materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1103 | 1103 Describe how to install various types of flashing. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 1104 | 1104 Estimate various roof covering materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1200 | 1200 INSTALL INSULATION MATERIALS | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1201 | 1201 Describe how to install various types of insulation and ventilation. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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**Career Ed & Work Standards/Grade 10 & 12 Eligible Content**

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|  |  |  | *Delaware Valley High School - Vocational*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |  |
|  | BT- | 1202 | 1202 Estimate quantities of insulation and ventilation materials. |  |  |  |  |
|  | BT- | 1300 | 1300 APPLY EXTERIOR FINISHES |  |  |  |  |
|  | BT- | 1301 | 1301 Describe how to install various types of horizontal sidings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1302 | 1302 Describe how to install various types of vertical sidings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1303 | 1303 Describe how to install various types of cornices. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1304 | 1304 Estimate various exterior finish materials | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1305 | 1305 Identify how to install various types of windows. |  |  |  |  |
|  | BT- | 1306 | 1306 Identify how to install various types of exterior doors. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1500 | 1500 INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTS |  |  |  |  |
|  | BT- | 1501 | 1501 Identify electrical hazards and practice electrical safety. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1502 | 1502 Apply the National Electric Code (NEC) to common residential installations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1503 | 1503 Read and interpret electrical drawings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1504 | 1504 Understand and apply electrical theory. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1505 | 1505 Describe basic electrical circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1506 | 1506 Describe and identify various wire types and sizes. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1507 | 1507 Identify and use electrical tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1508 | 1508 Identify and install ground fault circuit interrupters. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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**Career Ed & Work Standards/Grade 10 & 12 Eligible Content**

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|  |  |  | *Delaware Valley High School - Vocational*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |  |
|  | BT- | 1509 | 1509 Identify and install arc fault circuit interrupters. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1510 | 1510 Identify and install over current protection devices. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1511 | 1511 Install a junction box. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1512 | 1512 Rough in a ceiling fan box. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1513 | 1513 Install light fixtures. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1514 | 1514 Install various receptacle circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1515 | 1515 Install various switch circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1516 | 1516 Install a 220-volt circuit. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1517 | 1517 Install a recessed light. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1518 | 1518 Trim out and finish electrical circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1519 | 1519 Describe service entrance installation. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1520 | 1520 Describe low voltage electrical circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1521 | 1521 Describe panel installation. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1600 | 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  |  |  |
|  | BT- | 1601 | 1601 Describe how to install various wall surfaces. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1602 | 1602 Describe how to install various interior moldings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1603 | 1603 Estimate various materials for wall surfaces. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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**Career Ed & Work Standards/Grade 10 & 12 Eligible Content**

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|  |  |  | *Delaware Valley High School - Vocational*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** |  |
|  | BT- | 1604 | 1604 Estimate various types of interior moldings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
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# Construction Trades

**Level 3 Curriculum**

## DELAWARE VALLEY SCHOOL DISTRICT

**Planned Instruction**

**Title of Planned Instruction: Building Construction Occupations 3 Subject Area: CTE**

This program of study prepares individuals for a variety of trade areas, including carpentry, masonry, plumbing, heating, electrical, and painting and decorating.

•Carpenters construct, erect, install, and repair structures and fixtures made from wood and other materials. As part of a single job, they might frame walls and partitions, put in doors and windows, build stairs, install cabinets and molding, and complete many other tasks. Each carpentry task is somewhat different, but most involve the same basic steps. Working from blueprints or instructions from supervisors, carpenters first do the layout –measuring, marking, and arranging materials – in accordance with local building codes. They cut and shape wood, plastic, fiberglass, or drywall using hand and power tools and join the materials.

* Bricklayers build and repair walls, floors, partitions, and other structures with brick, precast masonry panels, concrete block, and other masonry materials. Workers cut or break the materials used to create walls, floors, and other structures.
* Plumbers install and repair the water, waste disposal, drainage, and gas systems in homes and commercial and industrial buildings. Plumbers also install plumbing fixtures.
* Electricians specializing in construction primarily install and maintain all of the electrical and power systems in homes and businesses. Electricians specializing in maintenance fix and upgrade existing electrical systems and repair electrical equipment. They install and maintain the wiring and control equipment through which electricity flows.
* Painters apply paint, stain, varnish, and other finishes to buildings and other structures. They select the right paint or finish for the surface to be covered, taking into account durability, ease of handling, method of application, and customers' wishes. Paperhangers cover walls with decorative coverings made of paper, vinyl, or fabric. When redecorating, they may first remove the old covering by soaking, steaming, or applying solvents. When necessary, they patch holes and take care of other imperfections before hanging the new wall covering.
* Students are introduced to statewide articulations for college credits thru the SOAR program and are guided in filling out all necessary forms to receive such services.

**Time/Credit for the Course:** Full Year, 3 Periods Per Day, 3 Credits

**Curriculum Writing Committee:** William Tidridge

**Course Name:** Construction Trades

**Unit Name:** INSTALL BASIC PLUMBING

**Unit Number:** 1400

### Unit Description/Objectives:

students will INSTALL BASIC PLUMBING

### Tasks:

PA1401 - Describe and demonstrate plumbing hand tools and basic safe use. PA1402 - Identify and demonstrate plumbing power tools and basic safe use. PA1403 - Identify various types of pipe

PA1404 - Identify various types of fittings.

PA1405 - Describe how to install various types of valves and devices. PA1406 - Describe how to install faucets and drain assemblies.

PA1407 - Describe how to install various appliances.

PA1408 - Describe how to interpret blueprints and specifications. PA1409 - Describe how to install water distribution systems.

PA1410 - Describe how to correctly size drain, waste and vent systems. PA1411 - Describe how to install fixtures and equipment.

PA1412 - Describe how to troubleshoot and repair various common plumbing problems.

### 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 domain-specific 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.3.6.11-12.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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.

CC.3.6.11-12.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.F Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

CC.3.6.11-12.I Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.1 Use geometric figures and their properties to represent transformations in the plane.

CC.2.3.HS.A.2 Apply rigid transformations to determine and explain congruence.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.5 Create justifications based on transformations to establish similarity of plane figures.

CC.2.3.HS.A.6 Verify and apply theorems involving similarity as they relate to plane figures.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

CC.2.3.HS.A.8 Apply geometric theorems to verify properties of circles.

CC.2.3.HS.A.9 Extend the concept of similarity to determine arc lengths and areas of sectors of circles.

CC.2.3.HS.A.10 Translate between the geometric description and the equation for a conic section.

CC.2.3.HS.A.11 Apply coordinate geometry to prove simple geometric theorems algebraically.

CC.2.3.HS.A.12 Explain volume formulas and use them to solve problems.

CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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. 13.2.11.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, Self-Advocacy, 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.

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,29, Plumbing Systems
    - Pro press power equipment
    - Propane/acetylene torches
    - All hand and power tools to complete tasks

**Course Name:** Construction Trades

**Unit Name:** INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTS

**Unit Number:** 1500

### Unit Description/Objectives:

students will INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTS

### Tasks:

PA1501 - Identify electrical hazards and practice electrical safety.

PA1502 - Apply the National Electric Code (NEC) to common residential installations.

PA1503 - Read and interpret electrical drawings. PA1504 - Understand and apply electrical theory. PA1505 - Describe basic electrical circuits.

PA1506 - Describe and identify various wire types and sizes. PA1507 - Identify and use electrical tools.

PA1508 - Identify and install ground fault circuit interrupters. PA1509 - Identify and install arc fault circuit interrupters.

PA1510 - Identify and install over current protection devices. PA1511 - Install a junction box.

PA1512 - Rough in a ceiling fan box. PA1513 - Install light fixtures.

PA1514 - Install various receptacle circuits. PA1515 - Install various switch circuits.

PA1516 - Install a 220-volt circuit. PA1517 - Install a recessed light.

PA1518 - Trim out and finish electrical circuits. PA1519 - Describe service entrance installation. PA1520 - Describe low voltage electrical circuits. PA1521 - Describe panel installation.

### 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 domain-specific 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.3.6.11-12.C Produce clear and coherent writing in which the

development, organization, and style are appropriate to task, purpose, and audience.

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.

CC.3.6.11-12.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.F Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

CC.3.6.11-12.I Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on

measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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. 13.2.11.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, Self-Advocacy, 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.

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,28, Electrical Wiring
    - Meters and all hand and power tools needed to complete tasks

**Course Name:** Construction Trades

**Unit Name:** DEMONSTRATE KNOWLEDGE AND SKILL IN WALL INTERIOR FINISHES

**Unit Number:** 1600

### Unit Description/Objectives:

students will DEMONSTRATE KNOWLEDGE AND SKILL IN WALL INTERIOR FINISHES

### Tasks:

PA1601 - Demonstrate how to install various wall surfaces.

PA1602 - Describe and demonstrate how to install various interior moldings. PA1603 - Estimate various materials for wall surfaces.

PA1604 - Estimate various types of interior moldings.

### 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 domain-specific 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.3.6.11-12.C Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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.

CC.3.6.11-12.E Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.F Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

CC.3.6.11-12.H Draw evidence from informational texts to support analysis, reflection, and research.

CC.3.6.11-12.I Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.2 Apply rigid transformations to determine and explain congruence.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.4 Apply the concept of congruence to create geometric constructions.

CC.2.3.HS.A.5 Create justifications based on transformations to establish similarity of plane figures.

CC.2.3.HS.A.6 Verify and apply theorems involving similarity as they relate to plane figures.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

CC.2.3.HS.A.14 Apply geometric concepts to model and solve real world problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
      3. 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. 13.2.11.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, Self-Advocacy, 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.G Evaluate the impact of lifelong learning on career retention and advancement.

13.4.11.A Analyze entrepreneurship as it relates to personal career goals and corporate opportunities

13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,16, Interior Wall and Ceiling Finish
    - All hand and power tool required to complete tasks

**Course Name:** Construction Trades

**Unit Name:** DEMONSTRATE KNOWLEDGE OF INTERIOR FINISHES

**Unit Number:** 1700

### Unit Description/Objectives:

Students will DEMONSTRATE KNOWLEDGE OF INTERIOR FINISHES

### Tasks:

PA1701 - Demonstrate how to apply different types of paints and their uses.

PA1702 - Demonstrate how to apply different paints and stains to different surfaces.

PA1703 - Clean painting tools.

PA1705 - Describe and apply various types of caulking. PA1706 - Describe and demonstrate how to install ceramic tile.

### 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.

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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.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.

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.

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,21, Painting,Finishing,and Decorating
    - All hand and power tools required to complete tasks

**Course Name:** Construction Trades

**Unit Name:** INSTALL STAIRWAYS

**Unit Number:** 1800

### Unit Description/Objectives:

students will Describe and Calculate stair

### Tasks:

PA1801 - Describe various types of stairways and components. PA1802 - Calculate, layout and cut stair stringers.

### 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 domain-specific 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.

*Focus Anchor/Standard #2:*

* + math/science

*Supporting Anchor/Standards:*

CC.2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents.

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays.

CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.

CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

CC.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

CC.2.1.HS.F.7 Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.

CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.

CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.

CC.2.4.HS.B.1 Summarize, represent, and interpret data on a single count or measurement variable.

*Connecting Anchor/Standard:*

* + CEW

*Supporting Anchor/Standards:*

* + - 1. Relate careers to individual interests, abilities, and aptitudes.
      2. Analyze career options based on personal interests, abilities, aptitudes, achievements and goals. 13.3.11.E Evaluate time management strategies and their application to both personal and work situations

### Instructional Activities:

* Read the questions at the end of the chapter
* Questioning while reading
* Small Group Oral Reading/Questioning
* Demonstrate what was learned

### Safety:

* + - Safety glasses must be worn in the Building Shop.
    - A work uniform must be worm at all times in the Building Shop.
    - Work shoes must be worn at all times in the Building Shop.
    - Students will follow the safety rules as they apply to each tool or piece of equipment.
    - Students will conduct themselves in a safe and professional manner.

### Assessment:

THEORY EVALUATION

* + - Traditional Tests – multiple choice, matching, true/false, short answer completion
    - Traditional Quizzes - multiple choice, matching, true/false, short answer completion
    - Graded Writing assignments
    - Graded Math practice assignments
    - Graded Reading assignments
    - Completed and Turned-in Make Up work
    - Class oral responses
    - Business and Industry Credentialing Tests
    - Exit Slips/time cards
    - 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
    - Peer evaluation of individual student• 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

### Resources/Equipment:

* + - Modern Carpentry Chapter,18, Stair Construction
    - All hand and power tools required for tasks

Course: Construction Trades

Unit Name: STATEWIDE ARTICULATION TRAINING

Number: 00

Description/Objectives:

Given direct instruction, handouts, and internet access, the student:

• will examine web-based information related to articulated college credit,

• will review the requirements to obtain advanced college credit,

• and will investigate SOAR concepts and other PDE resources related to exercising an articulation agreement.

Following the above experiences, the student will complete a written assessment to identify:

• the four specific qualifications necessary to obtain advanced college standing;

• define what the SOAR acronym stands for;

• define what the purpose of SOAR is;

• identify what the SOAR mission is;

• identify what the five benefits of SOAR are;

• identify what Bureau within PDE where SOAR exists;

• identify where to locate articulated credit information for SOAR programs.

The student will complete the written assessment with a minimum of 85% accuracy.

Tasks:

1. Identify what the Students Occupationally and Academically Ready (SOAR) program is.

2. Explain the purpose of the SOAR program.

3. Explain advanced credit transfer to post-secondary institutions.

4. Explain the purpose of the SOAR mission.

5. Identify the benefits of SOAR.

6. Discuss college transfer.net

7. Navigate to the SOAR website. (www.education.state.pa.us)

Standards / Assessment Anchors

Focus Anchor/Standard #1:

CAREER, EDUCATION, AND WORK

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

Focus Anchor/Standard #2:

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.

Instructional Activities:

The teacher will follow Document 1: SOAR handout. This document is attached to this Learning Guide.

Special Adaptations:

Utilize all adaptations as directed in student IEP's.

Safety:

Utilize all classroom management techniques and monitor classroom safety expectations.

Assessment:

Quiz attached to this Learning Guide. 10th Grade SOAR Quiz

Review all uploaded material attached to this Learning Guide.

Resources/Equipment:

• DOCUMENT 1 SOAR (DOCUMENT 1).pdf

• DOCUMENT 2 Articulation Agreement Coversheet 041216.pdf

• DOCUMENT 3 Frequently Asked Questions about SOAR Programs.docx

• DOCUMENT 4 Perkins Statewide Articulation Agreement 041216.pdf

• DOCUMENT 5 Secondary Competency TaskList Coversheet 041216.pdf

• DOCUMENT 6 SOAR Search Guide 041216.pdf

• 10th Grade SOAR quiz.

Hyperlinks:

Find Schools That Articulate With the POS

**Course:** Construction Trades

**Unit Name:**   INVESTIGATING POS ARTICULATION AGREEMENTS

**Number:** 01

**Description/Objectives:**

Given direct instruction, handouts and internet access, the student will:   
• examine web-based information related to articulated college credit,   
• review the requirements to obtain advanced college credit,   
• will investigate SOAR concepts, and other PDE resources related to exercising an articulation agreement.  
  
Following these experiences the student will:  
• be able to utilize CollegeTransfer.net in order to follow a sequence of steps that demonstrate the ability to access, as well as search for, articulated college programs associated with the student's CTE Program of Study.  
  
The student will complete the above experience to a minimum of 83% accuracy on the checklist criteria found on a rubric attached to this Learning Guide.

**Tasks:**

1. Locate PA BCTE SOAR Programs  
  
2. Student Selected the appropriate course title or CIP code  
  
3. The student Correctly entered their year of graduation  
  
4. Student clicked “Search” button  
  
5. Student will be able to identify the post-secondary institution(s) that provide articulated credit for their POS   
  
6. The student was able to identify the number of articulated credits that are available for that/each institution.  
  
7. The student was able to click on the institution(s) and retrieve and print each fact sheet available.  
  
8. Click on the Course Title to see information about the course.  
  
9. Click on the View Detail button to see the complete articulation.  
  
10. Student will able to identify the business hours for support from AcademyOne.   
  
11. Student will be able to identify the E-MAIL address for support from AcademyOne. support@academyone.com  
  
12. Student will be able to identify the phone number for support from AcademyOne  
TELEPHONE (484) 318-7100

**Standards / Assessment Anchors**

*Focus Anchor/Standard #1:*

* + CAREER, EDUCATION, WORK

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

*Focus Anchor/Standard #2:*

* + LITERACY

*Supporting Anchor/Standards:*

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.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.

**Instructional Activities:**

The teacher will direct students to use the Internet to access collegetransfer.net.  
  
The teacher will direct and guide students through a process to identify post-secondary institutions that have articulation credits available for a respective Program of Study.

**Special Adaptations:**

Utilize all adaptations as directed in student IEP's.

**Safety:**

Utilize all classroom management techniques and monitor classroom safety expectations.

**Assessment:**

Utilize the 11th Grade Articulation Rubric/Checklist to assess student activity. The rubric is attached to this Learning Guide.

**Resources/Equipment:**

11th Grade Articulation Rubric  
  
Internet  
  
collegetransfer.net  
  
http://www.collegetransfer.net/Default.aspx?tabid=943&from=4067  
Hyperlinks:   
<https://patrac.org/>

**Course:** Construction Trades

**Unit Name:**   COMPLETING THE ARTICULATION AGREEMENT COVER SHEET

**Number:** 02

**Description/Objectives:**

Given direct instruction, handouts and internet access, students will  
• examine web-based information related to articulated college credit,   
• review the requirements to obtain advanced college credit,   
• investigate SOAR concepts and other PDE resources related to exercising an articulation agreement  
  
Following the above experience, the student will be able to complete the required student sections of the POS Perkins Statewide Articulation Documentation Coversheet with 100% accuracy.

**Tasks:**

1. Correctly identify the full school name on the form.  
  
2, Correctly list the school address on the form  
  
3. Successfully complete each task in the CTE Program of Study  
  
4. Correctly identify the Program CIP Code.  
  
5. Correctly complete section one of the Articulation Document with the appropriate program information for grade level (9th)  
6. Correctly complete section one of the Articulation Document with the appropriate program information for grade level (10th).  
  
7. Correctly complete section one of the Articulation Document with the appropriate program information for grade level (11th).  
  
8. Correctly complete section one of the Articulation Document with the appropriate program information for grade level (12th).  
  
9. Correctly list the GPA out of a 4.0 scale.  
  
10. Make arrangements to obtain a copy of your personal transcript by meeting with your CWCTC guidance counselor.   
  
11. Make arrangements to secure a copy of your high school diploma.  
  
12. Obtain a copy of your NOCTI scores and through US Mail from CWCTC, secure the appropriate Pennsylvania Skills Certificate or Pennsylvania Certificate of Competency that is based on your NOCTI scores.  
  
13. Obtain an official copy of your completed task list signed by your teacher.  
  
14. Obtain a copy of any and all industry certifications that you have obtained.  
  
15. Complete the process of obtaining a guidance counselor signature on the coversheet.

**Standards / Assessment Anchors**

*Focus Anchor/Standard #1:*

* + COLLEGE, EDUCATION, WORK

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

*Focus Anchor/Standard #2:*

* + 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.

**Instructional Activities:**

Instructional Activities:  
Through guided practice, the teacher will facilitate a process so that students go through each step of this 12th grade activity.

**Special Adaptations:**

Utilize all adaptations as directed in student IEP's.

**Safety:**

Utilize all classroom management techniques and monitor classroom safety expectations.

**Assessment:**

The teacher will determine if students have completed each step of the process found on the 12th Grade POS Perkins Statewide Articulation Agreement Documentation Coversheet as defined in the rubric/checklist attached to this Learning Guide.

**Resources/Equipment:**

12th Grade POS Perkins Statewide Articulation Agreement Documentation Coversheet  
  
12th Grade POS Perkins Statewide Articulation Rubric  
  
Hyperlinks:

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Student Level 1** | **LEA TASK #** | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **47-2031.01 - Construction Carpenters** | **49-9098.00 - Helpers-- Installation, Maintenance, and Repair Workers** | **47-2061.00 - Construction Laborers** | **47-3019.00 - Helpers, Construction Trades, All Other** | **47-3012.00 - Helpers-- Carpenters** | **47-3011.00 - Helpers--**  **Brickmasons, Blockmasons, Stonemasons, and Tile and** | **47-3015.00 - Helpers--**  **Pipelayers, Plumbers, Pipefitters, and Steamfitters** | **47-3013.00 - Helpers-- Electricians** |
|  |  | **Secondary Competency Task List** |  |  |  |  |  |  |  |  |
|  |  | DUTY AREA - ORIENTATION |  |  |  |  |  |  |  |  |
|  |  | 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  |  |  |  |  |  |  |
| BT- | 101 | 101 Explain the role that safety plays in the construction crafts. | X | X | X | X | X | X | X | X |
| BT- | 102 | 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. | X | X | X | X | X | X | X | X |
| BT- | 103 | 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. | X | X | X | X | X | X | X | X |
| BT- | 104 | 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. | X | X | X | X | X | X | X | X |
| BT- | 105 | 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. | X | X | X | X | X | X | X | X |
| BT- | 106 | 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. | X | X | X | X | X | X | X | X |
| BT- | 107 | 107 Interpret and practice OSHA subpart K - Electrical. | X | X | X | X | X | X | X | X |
| BT- | 108 | 108 Interpret and practice OSHA subpart L - Scaffolds. | X | X | X | X | X | X | X | X |
| BT- | 109 | 109 Interpret and practice OSHA subpart M - Fall Protection. | X | X | X | X | X | X | X | X |
| BT- | 110 | 110 Interpret and practice OSHA subpart P - Excavations. | X | X | X | X | X | X | X | X |
| BT- | 111 | 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. | X | X | X | X | X | X | X | X |
| BT- | 112 | 112 Interpret and practice OSHA subpart X - Stairways and Ladders. | X | X | X | X | X | X | X | X |
| BT- | 200 | 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  |  |  |  |  |  |  |
| BT- | 201 | 201 Identify and follow all basic safety rules for using hand tools. | X | X | X | X | X | X | X | X |
| BT- | 202 | 202 Identify and demonstrate the proper use of layout tools. | X | X | X | X | X | X | X | X |
| BT- | 203 | 203 Identify and demonstrate the proper use cutting tools. | X | X | X | X | X | X | X | X |
| BT- | 204 | 204 Identify and demonstrate the proper use shaping tools. | X | X | X | X | X | X | X | X |
| BT- | 205 | 205 Identify and demonstrate the proper use fastening tools. | X | X | X | X | X | X | X | X |
| BT- | 206 | 206 Identify and demonstrate the proper use dismantling tools. | X | X | X | X | X | X | X | X |
| BT- | 300 | 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  |  |  |  |  |  |  |
| BT- | 301 | 301 Operate a circular saw safely and accurately. | X | X | X | X | X | X | X | X |

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| BT- | 302 | 302 Operate battery and electric drills safely and accurately | X | X | X | X | X | X | X | X |
| BT- | 303 | 303 Operate belt and hand sanders safely and accurately | X | X | X | X | X |  |  | X |
| BT- | 304 | 304 Operate reciprocating saws safely and accurately | X | X | X | X | X | X | X | X |
| BT- | 305 | 305 Operate routers safely and accurately | X | X | X | X | X |  |  | X |
| BT- | 306 | 306 Operate a pneumatic nailer safely and accurately | X | X | X | X | X |  | X | X |
| BT- | 307 | 307 Operate a power miter box safely and accurately | X | X | X | X | X | X | X | X |
| BT- | 308 | 308 Operate a table saw safely and accurately. | X | X | X | X | X |  | X | X |
| BT- | 309 | 309 Operate an electric planer safely and accurately | X | X | X | X |  |  |  |  |
| BT- | 400 | 400 READ PLANS AND BLUEPRINTS |  |  |  |  |  |  |  |  |
| BT- | 401 | 401 Demonstrate the ability to references building codes as needed. | X | X |  |  | X | X | X | X |
| BT- | 402 | 402 Demonstrate a need to know zoning regulations. | X | X |  |  | X | X | X | X |
| BT- | 403 | 403 Read and interpret plans, sketches and blueprints. | X | X | X | X | X | X | X | X |
| BT- | 404 | 404 Recognize and identify basic blueprint terms, components, abbreviations and symbols. | X | X |  | X | X | X | X | X |
| BT- | 405 | 405 Interpret architectural specifications. | X | X | X | X | X | X | X | X |
| BT- | 406 | 406 Use Architect scale. | X | X | X | X | X | X | X | X |
| BT- | 407 | 407 Identify structural components | X | X | X | X | X | X | X | X |
| BT- | 500 | 500 PERFORM SITE AND BUILDING LAYOUT |  |  |  |  |  |  |  |  |
| BT- | 501 | 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. | X | X | X | X | X | X | X |  |
| BT- | 502 | 502 Square a building using the "3-4-5 rule" or by measuring diagonals. | X | X | X | X | X | X | X |  |
| BT- | 600 | 600 DEMONSTRATE SKILL IN PLACING CONCRETE |  |  |  |  |  |  |  |  |
| BT- | 601 | 601 Describe modern concrete materials and renewal methods. | X | X | X | X | X | X |  |  |
| BT- | 602 | 602 Associate trade terms with the appropriate concrete finishing processes and equipment. | X | X | X | X | X | X |  |  |
| BT- | 603 | 603 Estimate the amount of concrete needed for footers and slabs. | X | X | X | X | X |  |  |  |
| BT- | 604 | 604 Lay out and build concrete forms. | X | X | X | X | X |  |  |  |
| BT- | 605 | 605 Describe the use of equipment and tools for placing concrete. | X | X | X | X | X |  |  |  |
| BT- | 606 | 606 Describe the process of depositing, spreading, consolidating, and striking off concrete. | X | X | X | X | X | X |  |  |
| BT- | 607 | 607 Describe and demonstrate the basic concrete finishing processes. | X | X | X | X | X |  |  |  |
| BT- | 608 | 608 Describe the tools used to edge, groove, and cut concrete. | X | X | X | X | X |  |  |  |

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| BT- | 700 | 700 LAY BLOCK AND BRICK MASONRY UNITS | X | X | X | X | X |  |  |  |
| BT- | 701 | 701 Describe the most common types of masonry units. | X | X | X | X | X |  |  |  |
| BT- | 702 | 702 Identify concrete block by size and type. | X | X | X | X | X |  |  |  |
| BT- | 703 | 703 Estimate masonry units needed for block construction | X | X | X | X | X |  |  |  |
| BT- | 704 | 704 Demonstrate masonry cutting techniques. | X | X | X | X | X |  |  |  |
| BT- | 705 | 705 Lay out and construct a block laying project to specifications | X | X | X | X | X |  |  |  |
| BT- | 706 | 706 Describe various masonry positions and bonds. | X | X | X | X | X |  |  |  |
| BT- | 707 | 707 Lay block to a line. | X | X | X | X | X |  |  |  |
| BT- | 708 | 708 Describe the function of wall ties. | X | X | X | X | X |  |  |  |
| BT- | 709 | 709 Describe installation of anchor bolts. | X | X | X | X | X |  |  |  |
| BT- | 710 | 710 Mix mortar to proper proportions and consistency. | X | X | X | X | X |  |  |  |
| BT- | 711 | 711 Describe different mortar types and applications. | X | X | X | X | X |  |  |  |
| BT- | 712 | 712 Describe proper brick and block laying techniques. | X | X | X | X | X |  |  |  |
| BT- | 713 | 713 Describe the installation of lintels in block or brick walls. | X | X | X | X | X |  |  |  |
| BT- | 800 | 800 FRAME FLOORS |  |  |  |  |  |  |  |  |
| BT- | 801 | 801 Identify different types of framing materials and systems. | X | X | X | X | X | X |  |  |
| BT- | 802 | 802 Describe how to install girders and sills. | X | X | X | X | X | X |  |  |
| BT- | 803 | 803 Describe and perform layout of floor joists and openings. | X | X | X | X | X |  |  |  |
| BT- | 804 | 804 Describe how to install various floor joists and band joists. | X | X | X | X | X |  |  |  |
| BT- | 805 | 805 Describe how to install various types of bridging. | X | X | X | X | X |  |  |  |
| BT- | 806 | 806 Describe how to install various types of columns and supports. | X | X | X | X | X | X |  |  |
| BT- | 807 | 807 Describe how to install various types of subfloor materials. | X | X | X | X | X |  |  |  |
| BT- | 900 | 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  |  |  |  |  |  |  |
| BT- | 901 | 901 Describe how to install various components of interior and exterior walls. | X | X | X | X | X |  |  |  |
| BT- | 902 | 902 Describe how to install various ceiling joists. | X | X | X | X | X |  |  |  |
| BT- | 903 | 903 Describe how to install various steel framing components. | X | X | X | X | X |  |  |  |
| BT- | 1000 | 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  |  |  |  |  |  |  |
| BT- | 1001 | 1001 Describe how to identify various roof types. | X | X | X | X | X |  |  |  |

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| BT- | 1002 | 1002 Describe how to install various roof components for gable roofs. | X | X | X | X | X |  |  |  |
| BT- | 1003 | 1003 Describe how to install various types of roof trusses. | X | X | X | X | X |  |  |  |
| BT- | 1004 | 1004 Describe how to install various types of roof sheathing materials. | X | X | X | X | X |  |  |  |
| BT- | 1005 | 1005 Estimate various roof component materials. | X | X |  |  |  |  |  |  |
| BT- | 1100 | 1100 INSTALL ROOF COVERINGS |  |  |  |  |  |  |  |  |
| BT- | 1101 | 1101 Describe how to install various types of asphalt shingles. | X | X |  | X | X |  |  |  |
| BT- | 1102 | 1102 Describe how to install various types of underlayment materials. | X | X | X | X | X |  |  |  |
| BT- | 1103 | 1103 Describe how to install various types of flashing. | X | X | X | X | X |  |  |  |
| BT- | 1104 | 1104 Estimate various roof covering materials. | X | X | X | X | X | X | X |  |
| BT- | 1200 | 1200 INSTALL INSULATION MATERIALS |  |  |  |  |  |  |  |  |
| BT- | 1201 | 1201 Describe how to install various types of insulation and ventilation. | X | X | X | X | X | X |  |  |
| BT- | 1202 | 1202 Estimate quantities of insulation and ventilation materials. | X | X |  |  | X |  |  |  |
| BT- | 1300 | 1300 APPLY EXTERIOR FINISHES |  |  |  |  |  |  |  |  |
| BT- | 1301 | 1301 Describe how to install various types of horizontal sidings. | X | X | X | X | X |  |  |  |
| BT- | 1302 | 1302 Describe how to install various types of vertical sidings. | X | X | X | X | X |  |  |  |
| BT- | 1303 | 1303 Describe how to install various types of cornices. | X | X | X | X | X |  |  |  |
| BT- | 1304 | 1304 Estimate various exterior finish materials | X | X | X | X | X |  |  |  |
| BT- | 1305 | 1305 Identify how to install various types of windows. | X | X | X | X | X |  |  |  |
| BT- | 1306 | 1306 Identify how to install various types of exterior doors. | X | X | X | X | X |  |  |  |
| BT- | 1400 | 1400 INSTALL BASIC PLUMBING |  |  |  |  |  |  |  |  |
| BT- | 1401 | 1401 Describe and demonstrate plumbing hand tools and basic safe use. |  |  |  | X |  |  | X | X |
| BT- | 1402 | 1402 Identify and demonstrate plumbing power tools and basic safe use. |  |  |  | X |  |  | X | X |
| BT- | 1403 | 1403 Identify various types of pipe |  |  |  | X |  |  | X | X |
| BT- | 1404 | 1404 Identify various types of fittings. |  |  |  | X |  |  | X | X |
| BT- | 1405 | 1405 Describe how to install various types of valves and devices. |  |  |  | X |  |  | X | X |
| BT- | 1406 | 1406 Describe how to install faucets and drain assemblies. |  |  |  | X |  |  | X | X |
| BT- | 1407 | 1407 Describe how to install various appliances. |  |  |  | X |  |  | X | X |
| BT- | 1408 | 1408 Describe how to interpret blueprints and specifications. |  |  |  | X |  |  | X | X |

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| BT- | 1409 | 1409 Describe how to install water distribution systems. |  |  |  | X |  |  | X | X |
| BT- | 1410 | 1410 Describe how to correctly size drain, waste and vent systems. |  |  |  | X |  |  | X | X |
| BT- | 1411 | 1411 Describe how to install fixtures and equipment. |  |  |  | X |  |  | X | X |
| BT- | 1412 | 1412 Describe how to troubleshoot and repair various common plumbing problems. |  |  |  | X |  |  | X | X |
| BT- | 1500 | 1500 INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTS |  |  |  |  |  |  |  |  |
| BT- | 1501 | 1501 Identify electrical hazards and practice electrical safety. | X | X | X | X |  |  |  | X |
| BT- | 1502 | 1502 Apply the National Electric Code (NEC) to common residential installations. |  | X |  |  |  |  |  | X |
| BT- | 1503 | 1503 Read and interpret electrical drawings. |  | X |  |  |  |  |  | X |
| BT- | 1504 | 1504 Understand and apply electrical theory. |  | X |  |  |  |  |  | X |
| BT- | 1505 | 1505 Describe basic electrical circuits. |  | X |  |  |  |  |  | X |
| BT- | 1506 | 1506 Describe and identify various wire types and sizes. |  | X |  |  |  |  |  | X |
| BT- | 1507 | 1507 Identify and use electrical tools. |  | X |  |  |  |  | X | X |
| BT- | 1508 | 1508 Identify and install ground fault circuit interrupters. |  | X |  |  |  |  | X | X |
| BT- | 1509 | 1509 Identify and install arc fault circuit interrupters. |  | X |  |  |  |  | X | X |
| BT- | 1510 | 1510 Identify and install over current protection devices. |  | X | X |  |  |  | X | X |
| BT- | 1511 | 1511 Install a junction box. |  | X | X |  |  |  | X | X |
| BT- | 1512 | 1512 Rough in a ceiling fan box. |  | X | X |  |  |  | X | X |
| BT- | 1513 | 1513 Install light fixtures. |  | X |  |  |  |  | X | X |
| BT- | 1514 | 1514 Install various receptacle circuits. |  | X | X |  |  |  | X | X |
| BT- | 1515 | 1515 Install various switch circuits. |  | X |  |  |  |  | X | X |
| BT- | 1516 | 1516 Install a 220-volt circuit. |  | X |  |  |  |  | X | X |
| BT- | 1517 | 1517 Install a recessed light. |  | X | X |  |  |  |  | X |
| BT- | 1518 | 1518 Trim out and finish electrical circuits. |  | X |  |  |  |  | X | X |
| BT- | 1519 | 1519 Describe service entrance installation. |  | X |  |  |  |  | X | X |
| BT- | 1520 | 1520 Describe low voltage electrical circuits. |  | X | X |  |  | X | X | X |
| BT- | 1521 | 1521 Describe panel installation. |  | X |  |  |  |  | X | X |
| BT- | 1600 | 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  |  |  |  |  |  |  |
| BT- | 1601 | 1601 Describe how to install various wall surfaces. | X | X | X | X | X |  |  |  |

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| BT- | 1602 | 1602 Describe how to install various interior moldings. | X | X | X | X | X |  |  |  |
| BT- | 1603 | 1603 Estimate various materials for wall surfaces. | X | X | X | X | X |  |  |  |
| BT- | 1604 | 1604 Estimate various types of interior moldings. | X | X | X | X | X |  |  |  |
| BT- | 1700 | 1700 APPLY PAINT, WALLPAPER, AND INSTALL CERAMIC TILE |  |  |  |  |  |  |  |  |
| BT- | 1701 | 1701 Describe how to apply different types of paints and their uses. | X | X | X | X | X | X |  |  |
| BT- | 1702 | 1702 Describe how to apply different paints and stains to different surfaces. | X | X | X | X | X | X |  |  |
| BT- | 1703 | 1703 Clean painting tools. | X | X |  |  |  | X |  |  |
| BT- | 1704 | 1705 Describe and apply various types of caulking. | X | X |  |  |  |  |  |  |
| BT- | 1800 | 1800 BUILD STAIRS |  |  |  |  |  |  |  |  |
| BT- | 1801 | 1801 Describe various types of stairways and components. | X | X | X | X | X | X | X |  |
| BT- | 1802 | 1802 Calculate, layout and cut stair stringers. | X | X | X | X |  |  |  |  |
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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
| **Student Level** |  | **LEA TASK #** |  | **NeedsPractice** | **Met Standard** |  |
|  |  |  | **Secondary Competency Task List** |  |  |  |
|  |  |  | DUTY AREA - ORIENTATION |  |  |  |
|  |  |  | 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  | Moderm Carpentry Unit 2 |
|  | BT- | 101 | 101 Explain the role that safety plays in the construction crafts. |  |  | Review Questions |
|  | BT- | 102 | 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. |  |  | Hands-on Activities |
|  | BT- | 103 | 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. |  |  |  |
|  | BT- | 104 | 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. |  |  |  |
|  | BT- | 105 | 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. |  |  |  |
|  | BT- | 106 | 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. |  |  |  |
|  | BT- | 107 | 107 Interpret and practice OSHA subpart K - Electrical. |  |  |  |
|  | BT- | 108 | 108 Interpret and practice OSHA subpart L - Scaffolds. |  |  |  |
|  | BT- | 109 | 109 Interpret and practice OSHA subpart M - Fall Protection. |  |  |  |
|  | BT- | 110 | 110 Interpret and practice OSHA subpart P - Excavations. |  |  |  |
|  | BT- | 111 | 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. |  |  |  |
|  | BT- | 112 | 112 Interpret and practice OSHA subpart X - Stairways and Ladders. |  |  |  |
|  | BT- | 200 | 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  | Moderm Carpentry Unit 3 |
|  | BT- | 201 | 201 Identify and follow all basic safety rules for using hand tools. |  |  | Review Questions |
|  | BT- | 202 | 202 Identify and demonstrate the proper use of layout tools. |  |  | Hands-on Activities |
|  | BT- | 203 | 203 Identify and demonstrate the proper use cutting tools. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 204 | 204 Identify and demonstrate the proper use shaping tools. |  |  |  |
|  | BT- | 205 | 205 Identify and demonstrate the proper use fastening tools. |  |  |  |
|  | BT- | 206 | 206 Identify and demonstrate the proper use dismantling tools. |  |  |  |
|  | BT- | 300 | 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  | Moderm Carpentry Unit 4 |
|  | BT- | 301 | 301 Operate a circular saw safely and accurately. |  |  | Review Questions |
|  | BT- | 302 | 302 Operate battery and electric drills safely and accurately |  |  | Hands-on Activities |
|  | BT- | 303 | 303 Operate belt and hand sanders safely and accurately |  |  |  |
|  | BT- | 304 | 304 Operate reciprocating saws safely and accurately |  |  |  |
|  | BT- | 305 | 305 Operate routers safely and accurately |  |  |  |
|  | BT- | 306 | 306 Operate a pneumatic nailer safely and accurately |  |  |  |
|  | BT- | 307 | 307 Operate a power miter box safely and accurately |  |  |  |
|  | BT- | 308 | 308 Operate a table saw safely and accurately. |  |  |  |
|  | BT- | 309 | 309 Operate an electric planer safely and accurately |  |  |  |
|  | BT- | 400 | 400 READ PLANS AND BLUEPRINTS |  |  | Moderm Carpentry Unit 6 |
|  | BT- | 401 | 401 Demonstrate the ability to references building codes as needed. |  |  | Review Questions |
|  | BT- | 402 | 402 Demonstrate a need to know zoning regulations. |  |  | Hands-on Activities |
|  | BT- | 403 | 403 Read and interpret plans, sketches and blueprints. |  |  |  |
|  | BT- | 404 | 404 Recognize and identify basic blueprint terms, components, abbreviations and symbols. |  |  |  |
|  | BT- | 405 | 405 Interpret architectural specifications. |  |  |  |
|  | BT- | 406 | 406 Use Architect scale. |  |  |  |
|  | BT- | 407 | 407 Identify structural components |  |  |  |
|  | BT- | 500 | 500 PERFORM SITE AND BUILDING LAYOUT |  |  | Moderm Carpentry Unit 7 |
|  | BT- | 501 | 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. |  |  | Review Questions |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 502 | 502 Square a building using the "3-4-5 rule" or by measuring diagonals. |  |  | Hands-on Activities |
|  | BT- | 600 | 600 DEMONSTRATE SKILL IN PLACING CONCRETE |  |  | Moderm Carpentry Unit 7 |
|  | BT- | 601 | 601 Describe modern concrete materials and renewal methods. |  |  | Review Questions |
|  | BT- | 602 | 602 Associate trade terms with the appropriate concrete finishing processes and equipment. |  |  | Hands-on Activities |
|  | BT- | 603 | 603 Estimate the amount of concrete needed for footers and slabs. |  |  |  |
|  | BT- | 604 | 604 Lay out and build concrete forms. |  |  |  |
|  | BT- | 605 | 605 Describe the use of equipment and tools for placing concrete. |  |  |  |
|  | BT- | 606 | 606 Describe the process of depositing, spreading, consolidating, and striking off concrete. |  |  |  |
|  | BT- | 607 | 607 Describe and demonstrate the basic concrete finishing processes. |  |  |  |
|  | BT- | 608 | 608 Describe the tools used to edge, groove, and cut concrete. |  |  |  |
|  | BT- | 700 | 700 LAY BLOCK AND BRICK MASONRY UNITS |  |  |  |
|  | BT- | 701 | 701 Describe the most common types of masonry units. |  |  |  |
|  | BT- | 702 | 702 Identify concrete block by size and type. |  |  |  |
|  | BT- | 703 | 703 Estimate masonry units needed for block construction |  |  |  |
|  | BT- | 704 | 704 Demonstrate masonry cutting techniques. |  |  |  |
|  | BT- | 705 | 705 Lay out and construct a block laying project to specifications |  |  |  |
|  | BT- | 706 | 706 Describe various masonry positions and bonds. |  |  |  |
|  | BT- | 707 | 707 Lay block to a line. |  |  |  |
|  | BT- | 708 | 708 Describe the function of wall ties. |  |  |  |
|  | BT- | 709 | 709 Describe installation of anchor bolts. |  |  |  |
|  | BT- | 710 | 710 Mix mortar to proper proportions and consistency. |  |  |  |
|  | BT- | 711 | 711 Describe different mortar types and applications. |  |  |  |
|  | BT- | 712 | 712 Describe proper brick and block laying techniques. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 713 | 713 Describe the installation of lintels in block or brick walls. |  |  |  |
|  | BT- | 800 | 800 FRAME FLOORS |  |  | Moderm Carpentry Unit 8 |
|  | BT- | 801 | 801 Identify different types of framing materials and systems. |  |  | Review Questions |
|  | BT- | 802 | 802 Describe how to install girders and sills. |  |  | Hands-on Activities |
|  | BT- | 803 | 803 Describe and perform layout of floor joists and openings. |  |  |  |
|  | BT- | 804 | 804 Describe how to install various floor joists and band joists. |  |  |  |
|  | BT- | 805 | 805 Describe how to install various types of bridging. |  |  |  |
|  | BT- | 806 | 806 Describe how to install various types of columns and supports. |  |  |  |
|  | BT- | 807 | 807 Describe how to install various types of subfloor materials. |  |  |  |
|  | BT- | 900 | 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  | Moderm Carpentry Unit 9 |
|  | BT- | 901 | 901 Describe how to install various components of interior and exterior walls. |  |  | Review Questions |
|  | BT- | 902 | 902 Describe how to install various ceiling joists. |  |  | Hands-on Activities |
|  | BT- | 903 | 903 Describe how to install various steel framing components. |  |  |  |
|  | BT- | 1000 | 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  | Moderm Carpentry Unit 10 |
|  | BT- | 1001 | 1001 Describe how to identify various roof types. |  |  | Review Questions |
|  | BT- | 1002 | 1002 Describe how to install various roof components for gable roofs. |  |  | Hands-on Activities |
|  | BT- | 1003 | 1003 Describe how to install various types of roof trusses. |  |  |  |
|  | BT- | 1004 | 1004 Describe how to install various types of roof sheathing materials. |  |  |  |
|  | BT- | 1005 | 1005 Estimate various roof component materials. |  |  |  |
|  | BT- | 1100 | 1100 INSTALL ROOF COVERINGS |  |  | Moderm Carpentry Unit 12 |
|  | BT- | 1101 | 1101 Describe how to install various types of asphalt shingles. |  |  | Review Questions |
|  | BT- | 1102 | 1102 Describe how to install various types of underlayment materials. |  |  | Hands-on Activities |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 1103 | 1103 Describe how to install various types of flashing. |  |  |  |
|  | BT- | 1104 | 1104 Estimate various roof covering materials. |  |  |  |
|  | BT- | 1200 | 1200 INSTALL INSULATION MATERIALS |  |  | Moderm Carpentry Unit 15 |
|  | BT- | 1201 | 1201 Describe how to install various types of insulation and ventilation. |  |  | Review Questions |
|  | BT- | 1202 | 1202 Estimate quantities of insulation and ventilation materials. |  |  | Hands-on Activities |
|  | BT- | 1300 | 1300 APPLY EXTERIOR FINISHES |  |  | Moderm Carpentry Unit 14 |
|  | BT- | 1301 | 1301 Describe how to install various types of horizontal sidings. |  |  | Review Questions |
|  | BT- | 1302 | 1302 Describe how to install various types of vertical sidings. |  |  | Hands-on Activities |
|  | BT- | 1303 | 1303 Describe how to install various types of cornices. |  |  |  |
|  | BT- | 1304 | 1304 Estimate various exterior finish materials |  |  |  |
|  | BT- | 1305 | 1305 Identify how to install various types of windows. |  |  |  |
|  | BT- | 1306 | 1306 Identify how to install various types of exterior doors. |  |  |  |
|  | BT- | 1400 | 1400 INSTALL BASIC PLUMBING |  |  | Moderm Carpentry Unit 29 |
|  | BT- | 1401 | 1401 Describe and demonstrate plumbing hand tools and basic safe use. |  |  | Review Questions |
|  | BT- | 1402 | 1402 Identify and demonstrate plumbing power tools and basic safe use. |  |  | Hands-on Activities |
|  | BT- | 1403 | 1403 Identify various types of pipe |  |  |  |
|  | BT- | 1404 | 1404 Identify various types of fittings. |  |  |  |
|  | BT- | 1405 | 1405 Describe how to install various types of valves and devices. |  |  |  |
|  | BT- | 1406 | 1406 Describe how to install faucets and drain assemblies. |  |  |  |
|  | BT- | 1407 | 1407 Describe how to install various appliances. |  |  |  |
|  | BT- | 1408 | 1408 Describe how to interpret blueprints and specifications. |  |  |  |
|  | BT- | 1409 | 1409 Describe how to install water distribution systems. |  |  |  |
|  | BT- | 1410 | 1410 Describe how to correctly size drain, waste and vent systems. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 1411 | 1411 Describe how to install fixtures and equipment. |  |  |  |
|  | BT- | 1412 | 1412 Describe how to troubleshoot and repair various common plumbing problems. |  |  |  |
|  | BT- | 1500 | 1500 INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTS |  |  | Moderm Carpentry Unit 28 |
|  | BT- | 1501 | 1501 Identify electrical hazards and practice electrical safety. |  |  | Review Questions |
|  | BT- | 1502 | 1502 Apply the National Electric Code (NEC) to common residential installations. |  |  | Hands-on Activities |
|  | BT- | 1503 | 1503 Read and interpret electrical drawings. |  |  |  |
|  | BT- | 1504 | 1504 Understand and apply electrical theory. |  |  |  |
|  | BT- | 1505 | 1505 Describe basic electrical circuits. |  |  |  |
|  | BT- | 1506 | 1506 Describe and identify various wire types and sizes. |  |  |  |
|  | BT- | 1507 | 1507 Identify and use electrical tools. |  |  |  |
|  | BT- | 1508 | 1508 Identify and install ground fault circuit interrupters. |  |  |  |
|  | BT- | 1509 | 1509 Identify and install arc fault circuit interrupters. |  |  |  |
|  | BT- | 1510 | 1510 Identify and install over current protection devices. |  |  |  |
|  | BT- | 1511 | 1511 Install a junction box. |  |  |  |
|  | BT- | 1512 | 1512 Rough in a ceiling fan box. |  |  |  |
|  | BT- | 1513 | 1513 Install light fixtures. |  |  |  |
|  | BT- | 1514 | 1514 Install various receptacle circuits. |  |  |  |
|  | BT- | 1515 | 1515 Install various switch circuits. |  |  |  |
|  | BT- | 1516 | 1516 Install a 220-volt circuit. |  |  |  |
|  | BT- | 1517 | 1517 Install a recessed light. |  |  |  |
|  | BT- | 1518 | 1518 Trim out and finish electrical circuits. |  |  |  |
|  | BT- | 1519 | 1519 Describe service entrance installation. |  |  |  |
|  | BT- | 1520 | 1520 Describe low voltage electrical circuits. |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **Level of Completion** | | **Assoiated Text Reading Assignments** |
|  | BT- | 1521 | 1521 Describe panel installation. |  |  |  |
|  | BT- | 1600 | 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  | Moderm Carpentry Unit 16 |
|  | BT- | 1601 | 1601 Describe how to install various wall surfaces. |  |  | Review Questions |
|  | BT- | 1602 | 1602 Describe how to install various interior moldings. |  |  | Hands-on Activities |
|  | BT- | 1603 | 1603 Estimate various materials for wall surfaces. |  |  |  |
|  | BT- | 1604 | 1604 Estimate various types of interior moldings. |  |  |  |
|  | BT- | 1700 | 1700 APPLY PAINT, WALLPAPER, AND INSTALL CERAMIC TILE |  |  | Moderm Carpentry Unit 21 |
|  | BT- | 1701 | 1701 Describe how to apply different types of paints and their uses. |  |  | Review Questions |
|  | BT- | 1702 | 1702 Describe how to apply different paints and stains to different surfaces. |  |  | Hands-on Activities |
|  | BT- | 1703 | 1703 Clean painting tools. |  |  |  |
|  | BT- | 1704 | 1705 Describe and apply various types of caulking. |  |  |  |
|  | BT- | 1800 | 1800 BUILD STAIRS |  |  | Moderm Carpentry Unit 18 |
|  | BT- | 1801 | 1801 Describe various types of stairways and components. |  |  | Review Questions |
|  | BT- | 1802 | 1802 Calculate, layout and cut stair stringers. |  |  | Hands-on Activities |
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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  |  |  | **Secondary Competency Task List** |  |  |  |  |
|  |  |  | DUTY AREA - ORIENTATION |  |  |  |  |
|  |  |  | 100 FOLLOW SAFETY RULES AND REGULATIONS |  |  |  |  |
|  | BT- | 101 | 101 Explain the role that safety plays in the construction crafts. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 102 | 102 Interpret and practice OSHA subpart C - General Safety and Health Provisions. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 103 | 103 Interpret and practice OSHA subpart E - Personal Protective and Life Saving Equipment. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 104 | 104 Interpret and practice OSHA subpart F - Fire Protection and Prevention. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 105 | 105 Interpret and practice OSHA subpart H - Materials Handling, Storage, Use and Disposal. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 106 | 106 Interpret and practice OSHA subpart I - Tools - Hand and Power. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 107 | 107 Interpret and practice OSHA subpart K - Electrical. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 108 | 108 Interpret and practice OSHA subpart L - Scaffolds. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 109 | 109 Interpret and practice OSHA subpart M - Fall Protection. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 110 | 110 Interpret and practice OSHA subpart P - Excavations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 111 | 111 Interpret and practice OSHA subpart Q - Concrete and Masonry Construction. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 112 | 112 Interpret and practice OSHA subpart X - Stairways and Ladders. |  |  |  |  |
|  | BT- | 200 | 200 DEMONSTRATE PROPER USE OF HAND TOOLS |  |  |  |  |
|  | BT- | 201 | 201 Identify and follow all basic safety rules for using hand tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  | BT- | 202 | 202 Identify and demonstrate the proper use of layout tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 203 | 203 Identify and demonstrate the proper use cutting tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 204 | 204 Identify and demonstrate the proper use shaping tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 205 | 205 Identify and demonstrate the proper use fastening tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 206 | 206 Identify and demonstrate the proper use dismantling tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 300 | 300 OPERATE PORTABLE POWER TOOLS AND EQUIPMENT |  |  |  |  |
|  | BT- | 301 | 301 Operate a circular saw safely and accurately. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 302 | 302 Operate battery and electric drills safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 303 | 303 Operate belt and hand sanders safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 304 | 304 Operate reciprocating saws safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 305 | 305 Operate routers safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 306 | 306 Operate a pneumatic nailer safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 307 | 307 Operate a power miter box safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 |  |  |
|  | BT- | 308 | 308 Operate a table saw safely and accurately. |  |  |  |  |
|  | BT- | 309 | 309 Operate an electric planer safely and accurately | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 400 | 400 READ PLANS AND BLUEPRINTS |  |  |  |  |
|  | BT- | 401 | 401 Demonstrate the ability to references building codes as needed. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  | BT- | 402 | 402 Demonstrate a need to know zoning regulations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 403 | 403 Read and interpret plans, sketches and blueprints. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 404 | 404 Recognize and identify basic blueprint terms, components, abbreviations and symbols. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 405 | 405 Interpret architectural specifications. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 406 | 406 Use Architect scale. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 407 | 407 Identify structural components | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 500 | 500 PERFORM SITE AND BUILDING LAYOUT |  |  |  |  |
|  | BT- | 501 | 501 Use a builder’s level, transit and/or laser level to determine site and building elevations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 502 | 502 Square a building using the "3-4-5 rule" or by measuring diagonals. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 600 | 600 DEMONSTRATE SKILL IN PLACING CONCRETE |  |  |  |  |
|  | BT- | 601 | 601 Describe modern concrete materials and renewal methods. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 602 | 602 Associate trade terms with the appropriate concrete finishing processes and equipment. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 603 | 603 Estimate the amount of concrete needed for footers and slabs. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 604 | 604 Lay out and build concrete forms. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 605 | 605 Describe the use of equipment and tools for placing concrete. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 606 | 606 Describe the process of depositing, spreading, consolidating, and striking off concrete. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 607 | 607 Describe and demonstrate the basic concrete finishing processes. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  | BT- | 608 | 608 Describe the tools used to edge, groove, and cut concrete. |  |  |  |  |
|  | BT- | 700 | 700 LAY BLOCK AND BRICK MASONRY UNITS | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 701 | 701 Describe the most common types of masonry units. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 702 | 702 Identify concrete block by size and type. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 703 | 703 Estimate masonry units needed for block construction |  |  |  |  |
|  | BT- | 704 | 704 Demonstrate masonry cutting techniques. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 705 | 705 Lay out and construct a block laying project to specifications | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 706 | 706 Describe various masonry positions and bonds. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 707 | 707 Lay block to a line. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 708 | 708 Describe the function of wall ties. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 709 | 709 Describe installation of anchor bolts. |  |  |  |  |
|  | BT- | 710 | 710 Mix mortar to proper proportions and consistency. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 711 | 711 Describe different mortar types and applications. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 712 | 712 Describe proper brick and block laying techniques. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  |  |  |
|  | BT- | 713 | 713 Describe the installation of lintels in block or brick walls. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 800 | 800 FRAME FLOORS | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 801 | 801 Identify different types of framing materials and systems. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  | BT- | 802 | 802 Describe how to install girders and sills. |  |  |  |  |
|  | BT- | 803 | 803 Describe and perform layout of floor joists and openings. |  |  |  |  |
|  | BT- | 804 | 804 Describe how to install various floor joists and band joists. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 805 | 805 Describe how to install various types of bridging. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 806 | 806 Describe how to install various types of columns and supports. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 807 | 807 Describe how to install various types of subfloor materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 900 | 900 DEMONSTRATE SKILL IN WALL FRAMING |  |  |  |  |
|  | BT- | 901 | 901 Describe how to install various components of interior and exterior walls. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 902 | 902 Describe how to install various ceiling joists. |  |  |  |  |
|  | BT- | 903 | 903 Describe how to install various steel framing components. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1000 | 1000 DEMONSTRATE SKILL IN ROOF FRAMING |  |  |  |  |
|  | BT- | 1001 | 1001 Describe how to identify various roof types. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1002 | 1002 Describe how to install various roof components for gable roofs. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1003 | 1003 Describe how to install various types of roof trusses. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1004 | 1004 Describe how to install various types of roof sheathing materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1005 | 1005 Estimate various roof component materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1100 | 1100 INSTALL ROOF COVERINGS |  |  |  |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  | BT- | 1101 | 1101 Describe how to install various types of asphalt shingles. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1102 | 1102 Describe how to install various types of underlayment materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1103 | 1103 Describe how to install various types of flashing. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1104 | 1104 Estimate various roof covering materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 |  | 3.7.10A&B |  |
|  | BT- | 1200 | 1200 INSTALL INSULATION MATERIALS |  |  |  |  |
|  | BT- | 1201 | 1201 Describe how to install various types of insulation and ventilation. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1202 | 1202 Estimate quantities of insulation and ventilation materials. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1300 | 1300 APPLY EXTERIOR FINISHES |  |  |  |  |
|  | BT- | 1301 | 1301 Describe how to install various types of horizontal sidings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1302 | 1302 Describe how to install various types of vertical sidings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1303 | 1303 Describe how to install various types of cornices. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1304 | 1304 Estimate various exterior finish materials | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1305 | 1305 Identify how to install various types of windows. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1306 | 1306 Identify how to install various types of exterior doors. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1400 | 1400 INSTALL BASIC PLUMBING |  |  |  |  |
|  | BT- | 1401 | 1401 Describe and demonstrate plumbing hand tools and basic safe use. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1402 | 1402 Identify and demonstrate plumbing power tools and basic safe use. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  | BT- | 1403 | 1403 Identify various types of pipe | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1404 | 1404 Identify various types of fittings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1405 | 1405 Describe how to install various types of valves and devices. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1406 | 1406 Describe how to install faucets and drain assemblies. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1407 | 1407 Describe how to install various appliances. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1408 | 1408 Describe how to interpret blueprints and specifications. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1409 | 1409 Describe how to install water distribution systems. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1410 | 1410 Describe how to correctly size drain, waste and vent systems. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1411 | 1411 Describe how to install fixtures and equipment. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1412 | 1412 Describe how to troubleshoot and repair various common plumbing problems. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1500 | 1500 INSTALL RESIDENTIAL ELECTRIC CIRCUITS AND COMPONENTS |  |  |  |  |
|  | BT- | 1501 | 1501 Identify electrical hazards and practice electrical safety. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1502 | 1502 Apply the National Electric Code (NEC) to common residential installations. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1503 | 1503 Read and interpret electrical drawings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1504 | 1504 Understand and apply electrical theory. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1505 | 1505 Describe basic electrical circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1506 | 1506 Describe and identify various wire types and sizes. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  | BT- | 1507 | 1507 Identify and use electrical tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1508 | 1508 Identify and install ground fault circuit interrupters. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1509 | 1509 Identify and install arc fault circuit interrupters. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1510 | 1510 Identify and install over current protection devices. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1511 | 1511 Install a junction box. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1512 | 1512 Rough in a ceiling fan box. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1513 | 1513 Install light fixtures. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1514 | 1514 Install various receptacle circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1515 | 1515 Install various switch circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1516 | 1516 Install a 220-volt circuit. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1517 | 1517 Install a recessed light. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1518 | 1518 Trim out and finish electrical circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1519 | 1519 Describe service entrance installation. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1520 | 1520 Describe low voltage electrical circuits. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1521 | 1521 Describe panel installation. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1600 | 1600 DEMONSTRATE KNOWLEDGE AND SKILL IN INTERIOR FINISHES |  |  |  |  |
|  | BT- | 1601 | 1601 Describe how to install various wall surfaces. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |

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|  |  |  | *Delaware Valley High School - Vocational Program*  **Construction Trades CIP46.9999**  **Task to Associated Materials** | **RWSL Academic Standards/Grade 11 Eligible Content** | **Math Academic Standards/Grade 11 Eligible Content** | **Science Academic Standards/Grade 11 Eligible Content** | **Career Ed & Work Standards/Grade 10 & 12 Eligible Content** |
|  | BT- | 1602 | 1602 Describe how to install various interior moldings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1603 | 1603 Estimate various materials for wall surfaces. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1604 | 1604 Estimate various types of interior moldings. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1700 | 1700 APPLY PAINT, WALLPAPER, AND INSTALL CERAMIC TILE |  |  |  |  |
|  | BT- | 1701 | 1701 Describe how to apply different types of paints and their uses. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1702 | 1702 Describe how to apply different paints and stains to different surfaces. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1703 | 1703 Clean painting tools. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1704 | 1705 Describe and apply various types of caulking. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1800 | 1800 BUILD STAIRS |  |  |  |  |
|  | BT- | 1801 | 1801 Describe various types of stairways and components. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
|  | BT- | 1802 | 1802 Calculate, layout and cut stair stringers. | 1.1.11E&F/1.2.11A  1.6.11A&D R11.A.2.1.2 | 2.3.11A,B,C  M11.B.2.1.1 | 3.7.10A&B |  |
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