

RESIDENTIAL AND COMMERCIAL CONSTRUCTION

INDUSTRY SECTOR | Building and Construction Trades
PATHWAY | Residential and Commercial Construction

COURSE ESSENTIAL QUESTION:

If given the proper tools and knowledge, could you build a house?

COURSE OVERVIEW:

This course provides individuals with entry level and intermediate skills, hands on practices and information specific to the residential and commercial construction industry. It comprises the study of fasteners and hardware, finishes and coatings, materials, installation techniques, new and emerging technologies, levels and transits, foundations and floors, walls and partitions, roof systems, electrical wiring, interior and exterior finishes, floor covering, metal construction, heating and cooling, plumbing, concrete and brick masonry, insulation glazing and maintenance. Integrated throughout the course are Common Core State Standards and Career Technical Education Standards, which include safety, communication, technology, ethics, career planning and other employ-ability skills. Union and Non Union opportunities await students upon graduating as well as trade schools.

INFORMATION:

- A. **Pre-requisite:** 16 years old or a 11th/12th grader
- B. **Abilities Required:** Basic Math skills, Common sense.
- C. **Dress Requirement and Grooming:** Must dress Code/Industry Standard
- D. **Students must master 65% of the certificate competencies to receive a certificate.**
- E. **Fee:** None
- F. **Course Length:** 180 hours
- G. **Textbook:** Core Curriculum:
- H. **UC a-g Approved:** No
- I. **Industry Certification:** Yes
- J. **Sequencing to Include a Capstone:** Choose Yes or No
- K. **Community College Articulation:** No
- L. **Common Core Alignment:** Yes
- M. **Community Classroom:** No
- N. **Career Technical Student Organization:** Yes
- O. **Work- Based Learning:** Choose Yes or No

IDEA/THEME: UNIT 1. Residential and Commercial Construction

ENGAGING TITLE:

ESSENTIAL QUESTION: How do I stay safe?

INSTRUCTIONAL HOURS: 25.0 HOURS

Common Core Unit Objective

Students will understand how to properly use and maintain tools/equipment.

Key Assignments

Students demonstrate the use of tools/equipment by building their first wood structure.

Anchor Standards

- 9.0 **Leadership and Teamwork:** Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Skills USA career technical student organization.
- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all pathways in the Building and Construction Trades sector, following procedures when carrying out experiments or performing technical tasks.

Pathway Standards

- A4.0 Demonstrate proper selection and use of woodworking tools.
 - A4.2 Select the proper layout tools for specific tasks.

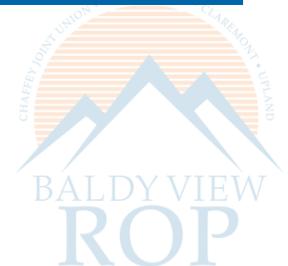
Common Core Standards

SLS 11-12.1b

RESOURCES:

Resources

1. Core Curriculum Text Book, Tail Gate Talks, Personal experiences.
2. Module Three: Introduction to Hand Tools: Sections One-Three. Pages 1-51



IDEA/THEME: UNIT 2. CONSTRUCTION DESIGN & MATHEMATICS

ENGAGING TITLE:

ESSENTIAL QUESTION Following a shop drawing or set of Plans, could you layout a floor plan?:

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students will learn to create drawings, calculate measurements, draw a scaled layout sheet, and build projects.

Key Assignments

Students will draw a scaled layout sheet with detailed measurements

Anchor Standards

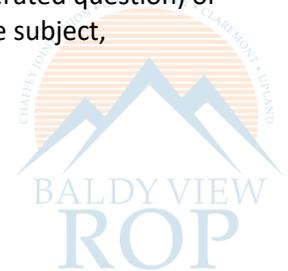
- 4.0 **Technology:** Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Building and Construction Trades Sector Workplace Environment.
- 5.0 **Problem Solving and Critical Thinking:** Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Building and Construction Trades Sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

Pathway Standards

- D3.0 Interpret and apply information from technical drawings, schedules, and specifications used in the construction trades.
 - D3.1 Identify the elements used in technical drawings, including types of lines, symbols, details, and views.

Common Core Standards

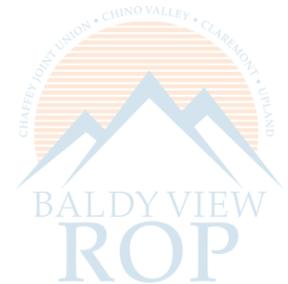
- WS 11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- WS 11-12.7 Conduct short as well as more sustained research projects to answer a question (including a 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.



RESOURCES:

Resources

1. Core Curriculum Text, Shop Drawings, Tail Gate meetings, Sketches
2. Introduction to Construction Drawings : Module Five: Core Curriculum Text Book : Pages 1-51



IDEA/THEME: UNIT 3. BLUEPRINT AND ESTIMATING

ENGAGING TITLE:

ESSENTIAL QUESTION: : *Can you estimate the costs of a simple room addition?*

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students will learn how to read and understand blueprint.

Key Assignments

Students will draw two types of foundation slab/raised and write a summary of the different types of foundations.

Anchor Standards

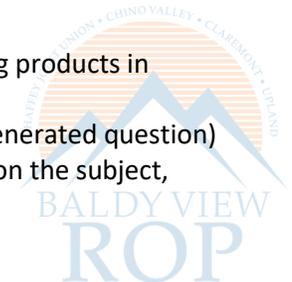
9.0 **Leadership and Teamwork:** Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Skills USA career technical student organization.

Pathway Standards

- D5.0 Demonstrate foundation layout techniques to include setting forms, placing reinforcements, and placing concrete according to construction drawings, specifications, and building codes.
 - D5.1 Describe the sequencing procedures for placing large and small slabs.
 - D5.2 Demonstrate how to establish elevations for concrete structures.
 - D5.4 Develop a material take-off in accordance with construction drawings and specifications demonstrate how to establish elevations for concrete structures.
 - D5.5 Lay out location for reinforcements, expansion joints, openings, and embedded items based on construction drawings, specifications, and building codes.

Common Core Standards

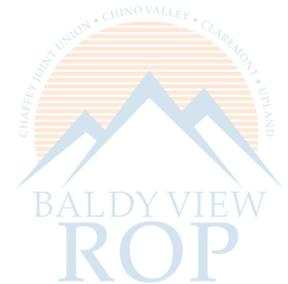
- WS 11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- WS 11-12.7 Conduct short as well as more sustained research projects to answer a question (including a 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.



RESOURCES:

Resources

1. Introduction to Construction Drawings : Module Five: Core Curriculum Text : Pages 1-51
2. Tail Gate Talks, Shop Drawings



IDEA/THEME: UNIT 4. EXTERIOR/INTERIOR FRAMING

ENGAGING TITLE:

ESSENTIAL QUESTION: If given proper instruction and tools, could you install windows in your house?

INSTRUCTIONAL HOURS: 25.00 HOURS

Common Core Unit Objective

Students will learn different type of roofing systems.

Key Assignments

Students to apply roofing materials to their individual projects.

Anchor Standards

- 6.0 **Health and Safety:** Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Building and Construction Trades sector work place environment.

Pathway Standards

- D3.0 Interpret and apply information from technical drawings, schedules, and specifications used in the construction trades.
D3.6 Interpret sectional and detail drawings to determine construction details such as corners, rough openings, stairs, and roof systems.
D6.0 Demonstrate carpentry techniques for the construction of a single-family residence.
D6.16 Understand different roofing materials and methods of application.

Common Core Standards

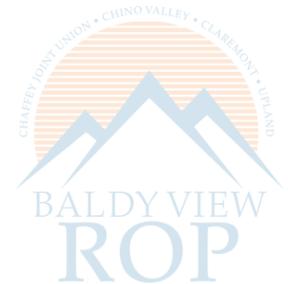
- WS 11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
WS 11-12.6. 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.



RESOURCES:

Resources

1. Core Curriculum Text Book, Tail Gate meetings, personal sketches, shop drawings, and shop demonstrations.
2. Modern Carpentry : Unit 10 Roofing Materials : Pages 231-266



IDEA/THEME: UNIT 5. EXTERIOR SIDING AND TRIM

ENGAGING TITLE:

ESSENTIAL QUESTION: Following proper instructions, would you be able to sheathe or lathe a house?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students to learn different type of siding and their applications.

Key Assignments

Students apply to their projects different siding materials.

Anchor Standards

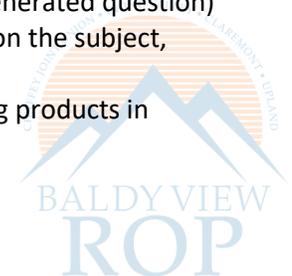
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
- 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

- D8.0 Demonstrate the application of exterior finish materials and protective finishes in building construction.
- D8.1 Describe the installation procedures and techniques of masonry siding materials.
- D8.3 Install wood, vinyl, and/or manufactured siding.

Common Core Standards

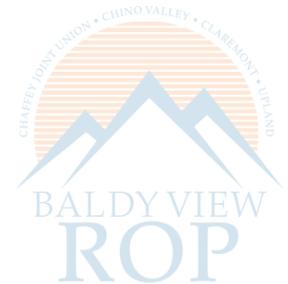
- WS 11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- WS 11-12.6 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.



RESOURCES:

Resources

1. Core Curriculum Text Book, Tail Gate Talks, Shop instructions and demonstrations.
2. Modern Carpentry : Unit 12 : Exterior Wall Finish : Pages 299-324



IDEA/THEME: UNIT 6. WINDOWS, DOORS AND SKYLIGHTS

ENGAGING TITLE:

ESSENTIAL QUESTION *Can you see the light throughout the house without windows?*

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Student will learn how to properly install windows, doors and skylights.

Key Assignments

Student will learn how to properly install windows, doors and skylights.

Anchor Standards

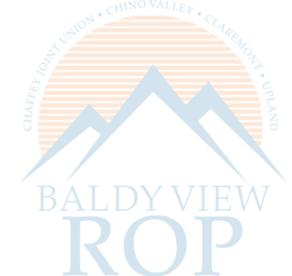
- 10.0. **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all Pathway Standards in the Building and Construction Trades Sector, following procedures when carrying out experiments or performing technical tasks.

Pathway Standards

- D8.0 Demonstrate the application of exterior finish materials and protective finishes in building construction.
D8.1 Describe the installation procedures and techniques of masonry siding materials.
D8.3 Install wood, vinyl, and/or manufactured siding.

Common Core Standards

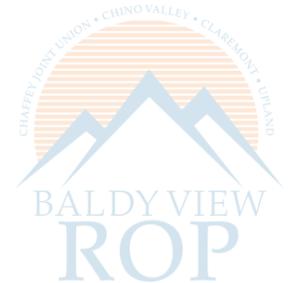
- WS 11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
WS 11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated 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.
RSTS 9-10, 11-12.4
SLS 11-12.1b



RESOURCES:

Resources

1. Core Curriculum Text Book , Tail Gate Talks, Shop instruction and demonstration.
 - Resources Modern Carpentry: Unit 11: Windows And Exterior Doors: Pages 267-298



IDEA/THEME: UNIT 7. PLUMBING

ENGAGING TITLE:

ESSENTIAL QUESTION: What is common slope for gravity flow?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students will learn the function of plumbing in residential and commercial construction.

Key Assignments

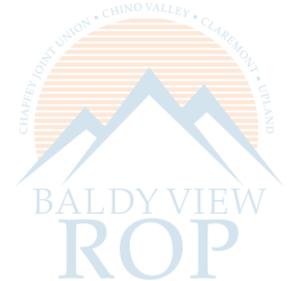
Students install sink, faucet and toilet.

Anchor Standards

- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all Pathway Standards in the Building and Construction Trades Sector, following procedures when carrying out experiments or performing technical tasks.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
 - 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

- D3.0 Interpret and apply information from technical drawings, schedules, and specifications used in the construction trades.
- D3.4 Identify plumbing, electrical, and mechanical symbols and other abbreviations used in construction drawings.
- D10.0 Demonstrate skills necessary to complete a plumbing system in a single-family residence in accordance with accepted industry standards.
 - D10.8 Install angle stops at water supply stub outs.
 - D10.9 Install plumbing fixtures.
 - D10.10 Connect the water supply to faucets and water closets.
 - D10.12 Check for the proper functioning of fixtures.



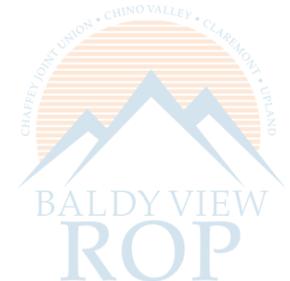
Common Core Standards

- ETS1.B Developing Possible Solutions
WS 11-12.7 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.
RSTS 9-10, 11-12.4
SLS 11-12.1b

RESOURCES:

Resources

Core Curriculum Text Book : Module Five : Pages 13- 27 : Tail Gate Talks, Shop drawings, shop demonstrations, personal experience.



IDEA/THEME: UNIT 8. HEATING AND AIR CONDITIONING

ENGAGING TITLE:

ESSENTIAL QUESTION: What does HVAC stand for?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students will understand the basic operations of HVAC systems.

Key Assignments

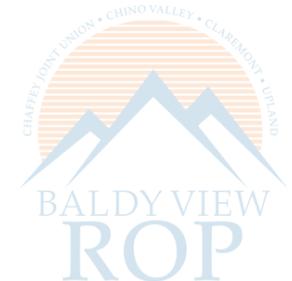
- Students as a class review HVAC system and operation, students tested on the basic functions of HVAC systems and their benefits.

Anchor Standards

- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all Pathway Standards in the Building and Construction Trades Sector, following procedures when carrying out experiments or performing technical tasks.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
- 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

- D1.0 Recognize the impact of financial, technical, environmental, and labor trends on the past and future of the construction industry.
- D2.0 Apply the appropriate mathematical calculations used in the construction trades.
- D2.4 Determine the total developed length of the water supply piping system.



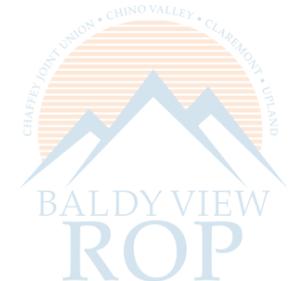
Common Core Standards

- WS 11-12.6 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.
- WS 11-12.7. 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.
- RSTS 9-10, 11-12.4
SLS 11-12.1b

RESOURCES:

Resources

Core Curriculum Text Book: Introduction To construction Drawings:, Tail Gate Talks, Shop drawings, Shop demonstrations, personal experience.



IDEA/THEME: UNIT 9. ELECTRICAL WIRING

ENGAGING TITLE:

ESSENTIAL QUESTION: What is the differences between AC current and DC current?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students to understand how electrical systems work.

Key Assignments

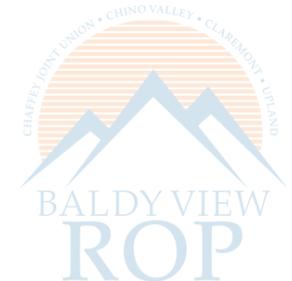
Students will install electrical outlet and light switch to their wood framed projects.

Anchor Standards

10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all Pathway Standards in the Building and Construction Trades Sector, following procedures when carrying out experiments or performing technical tasks.

Pathway Standards

- D2.0 Apply the appropriate mathematical calculations used in the construction trades.
 - D2.9 Calculate the load on an electrical system from general lighting and small and large appliances.
- D3.0 Interpret and apply information from technical drawings, schedules, and specifications used in the construction trades.
 - D3.4 Identify plumbing, electrical, and mechanical symbols and other abbreviations used in construction drawings
- D11.0 Demonstrate skills necessary to complete an electrical system in a single-family residence in accordance with accepted Industry standards.
 - D11.1 Determine whether or not an electrical circuit is “live”.



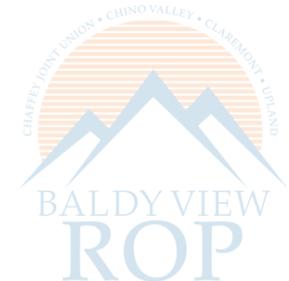
Common Core Standards

- RLST 11-12.3. Follow precisely a complex multi-step procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
- WS 11-12.6 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.
- WS 11-12.7 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.
- RSTS 9-10, 11-12.4
SLS 11-12.1b

RESOURCES:

Resources

Core Curriculum Text Book, Tail Gate Talks, Shop drawings, shop demonstrations. Wiring Simplified: 45th Edition: Pages 1-256, personal experience.



IDEA/THEME: UNIT 10. INSULATION

ENGAGING TITLE:

ESSENTIAL QUESTION: What is the proper PPE for Insulation installation?

INSTRUCTIONAL HOURS: 15.00 HOURS

Common Core Unit Objective

Students will learn the importance of Insulation.

Key Assignments

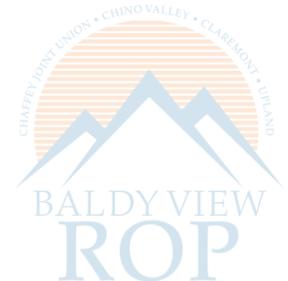
Students will be tested on the different types and installation, students to install insulation to their wood framed projects.

Anchor Standards

- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all Pathway Standards in the Building and Construction Trades Sector, following procedures when carrying out experiments or performing technical tasks.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
 - 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

- D8.0 Demonstrate the application of exterior finish materials and protective finished in building construction.
- D9.0 Understand, integrate, and employ sustainable construction practices in the building trades.
 - D9.1 Identify design and energy solutions for improving building energy efficiency. Install various types of floor, wall, and ceiling thermal insulation.
 - D9.2 Identify materials used in building construction to increase energy efficiency and sustainability.
 - D9.6 Develop solutions to improve building energy performance and efficiency.



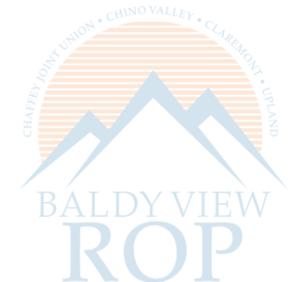
Common Core Standards

- PS3.B: Conservation of Energy and Energy Transfer.
WS 11-12.7 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.
RSTS 9-10, 11-12.4
SLS 11-12.1b

RESOURCES:

Resources

Modern Carpentry : Thermal and Sound Insulation: Unit 13: Pages 325-357, personal experience.



IDEA/THEME: UNIT 11. INTERIOR FINISH – WALLS AND CEILINGS

ENGAGING TITLE:

ESSENTIAL QUESTION: What type of finish? Knockdown, Smooth, or stained?

INSTRUCTIONAL HOURS: 30 HOURS

Common Core Unit Objective

Students will learn about different interior finishes and applications.

Key Assignments

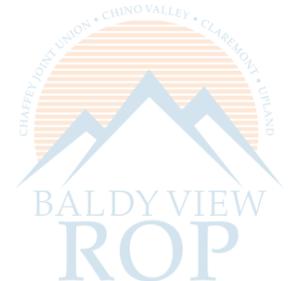
- Students will install drywall, tape, texture and paint the different finishes to individual and group projects.

Anchor Standards

- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all Pathway Standards in the Building and Construction Trades Sector, following procedures when carrying out experiments or performing technical tasks.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
- 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

- D7.0 Demonstrate proper installation techniques of interior finish materials and protective finishes.
- D8.0 Demonstrate the application of exterior finish materials and protective finished in building construction.
- D8.4 Demonstrate preparation techniques for applying exterior paint and stain.
- D8.5 Apply exterior paint and stain according to specification



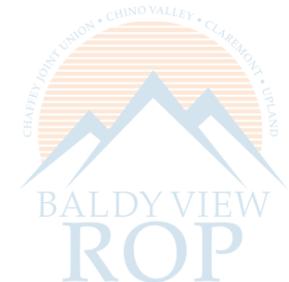
Common Core Standards

- WS 11-12.6 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.
- WS 11-12.7 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.
- RSTS 9-10, 11-12.4
SLS 11-12.1b

RESOURCES:

Resources

Modern Carpentry: Unit 14: Interior Wall and Ceiling Finish: Pages 359-387, Tale Gate Talks, Shop Drawings, Personal experiences.



IDEA/THEME: UNIT 12. FLOOR AND COVERING

ENGAGING TITLE:

ESSENTIAL QUESTION: Do we want Hardwood , Plush, or Ceramic Floor?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students will learn about different floor coverings.

Key Assignments

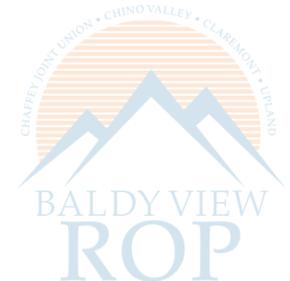
Students will install tile and vinyl flooring material.

Anchor Standards

- 10.0 **Technical Knowledge and Skills:** Apply essential technical knowledge and skills common to all Pathway Standards in the Building and Construction Trades Sector, following procedures when carrying out experiments or performing technical tasks.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
 - 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

- D7.0 Demonstrate proper installation techniques of interior finish materials and protective finishes.
- D7.6 Identify types and application of finish flooring materials.



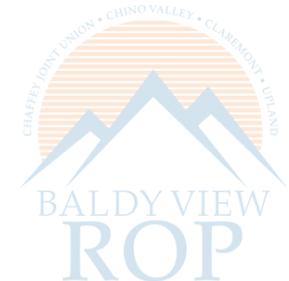
Common Core Standards

- WS 11-12.6 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.
- WS 11-12.7 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.
- RSTS 9-10, 11-12.4
SLS 11-12.1b

RESOURCES:

Resources

Modern Carpentry: Unit 15: Finish Flooring: Pages 389-403 , Personal experiences, Tail Gate Talks.



IDEA/THEME: UNIT 13. CABINETS AND FINISH WORK

ENGAGING TITLE:

ESSENTIAL QUESTION: Will it be Oak, Laminate, Mahogany, or paint grade?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

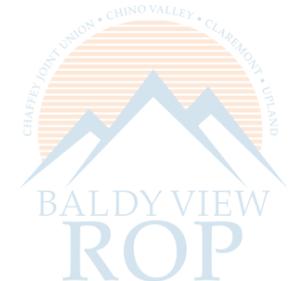
Students will learn about cabinet and finish carpentry.

Key Assignments

Students will incorporate custom millwork into their installing cabinetry such as moldings and door casings.

Anchor Standards

- 9.0 **Leadership and Teamwork:** Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Skills USA career technical student organization.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
 - 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.



Pathway Standards

- D1.0 Recognize the impact of financial, technical, environmental, and labor trends on the past and future of the construction industry.
- D5.0 Demonstrate foundation layout techniques to include setting forms, placing reinforcements, and placing concrete according to construction drawings, specifications, and building codes.
 - D5.1 Describe the sequencing procedures for placing large and small slabs.
 - D5.3 Identify several different species of softwood and their characteristics that are common to the cabinetmaking and millwork industry.
 - D5.5 Identify and be able to differentiate panel products and their uses in the cabinetmaking.
- D10.0 Demonstrate proper techniques for cabinet installation.
- D11.0 Demonstrate skills necessary to complete an electrical system in a single-family residence in accordance with accepted industry standards.
 - D11.1 Identify a variety of materials used for kitchen and bath countertops and list their advantages and disadvantages.

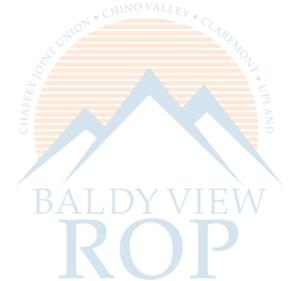
Common Core Standards

- WS 11-12.7 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.
- RSTS 9-10, 11-12.4
- SLS 11-12.1b

RESOURCES:

Resources

Modern Cabinetry: Unit 18: Cabinetmaking: Pages 445-473: Shop Drawings, personal experience.



IDEA/THEME: UNIT 15. IDENTIFICATION AND USE

ENGAGING TITLE:

ESSENTIAL QUESTION: Can I purchase materials without knowing size of structure of the object?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students will be able to identify and use different materials.

Key Assignments

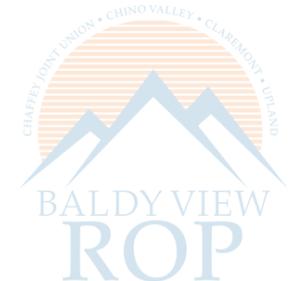
- Students will identify and use materials on every project and group project. Students will complete a build on a new project wood shed.

Anchor Standards

- 5.0 **Problem Solving and Critical Thinking:** Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Building and Construction Trades Sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
- 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

- D2.0 Apply the appropriate mathematical calculations used in the construction trades.
- D2.3 Estimate the materials needed to complete a specific task.



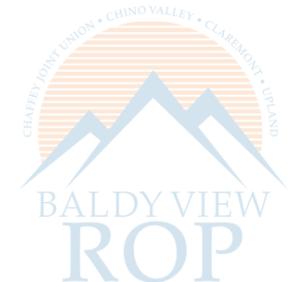
Common Core Standards

- WS 11-12.7 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
- WS 11-12.6 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
- RSTS 9-10, 11-12.4
- LS 11-12.1

RESOURCES:

Resources

- Practicing 3, 4 ,5 method
Learning how to calculate square footage – youtube videos
Core Curriculum Text pgs. 1-51, shop drawings, individual activities



IDEA/THEME: UNIT 16. MORTAR

ENGAGING TITLE:

ESSENTIAL QUESTION: How important is it to have the right mortar when laying Brick or Block?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students will learn how to properly mix mortar.

Key Assignments

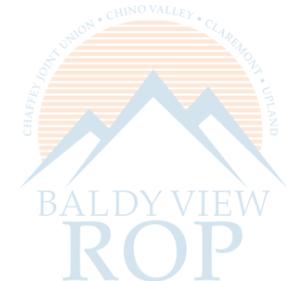
Students will demonstrate how to mix and construct a block lead.

Anchor Standards

- 5.0 **Problem Solving and Critical Thinking:** Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Building and Construction Trades Sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
 - 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

- D2.0 Apply the appropriate mathematical calculations used in the construction trades.
- D2.3 Estimate the materials needed to complete a specific task.



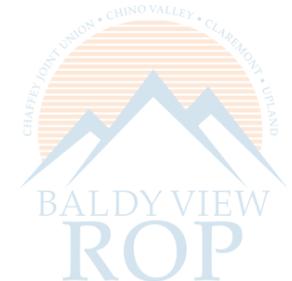
Common Core Standards

- WS 11-12.6 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
- WS 11-12.7 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
- RSTS 9-10, 11-12.4
SLS 11-12.1b

RESOURCES:

Resources

YouTube Videos
Shop Demonstrations
Personal Experiences
Handouts (Portland, Plastic Cements)



IDEA/THEME: UNIT 17. MASONRY TOOLS AND EQUIPMENT

ENGAGING TITLE:

ESSENTIAL QUESTION: How important is it to use a mortar trowel as opposed to a dynamic trowel?

INSTRUCTIONAL HOURS: 20.00 HOURS

Common Core Unit Objective

Students will learn different tool equipment in Masonry.

Key Assignments

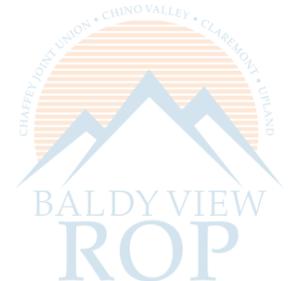
Students to work individually on building a straight lead using different tools and equipment.

Anchor Standards

- 6.0 **Health and Safety:** Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Building and Construction Trades Sector.
- 11.0 **Demonstration and Application:** Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standard, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.
 - 11.1 Utilize work-based/Workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades Sector program of study.

Pathway Standards

Enter Pathway Standards



Common Core Standards

- WS 11-12.6 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.
- WS 11-12.7 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.
- RSTS 9-10, 11-12.4
SLS 11-12.1b

RESOURCES:

Resources

YouTube Videos

Shop Demonstrations

Use and name different tools and equipment i.e. masons hammer, block cutting by hand and power saws.

Students will know when and what types of dust masks through group demonstrations.

