Monroe Career & Technical Institute

Course: Carpentry

Unit Name: L1400 FASTENERS
Number: L-1400 **Hours:** 0.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to name and identify common used fasteners and select them for the appropriate construction application.

Tasks:

L1401 - Name, identify and select the proper nails for the appropriate construction application.

L1402 - Name, identift and select the proper screws for their appropriate construction application.

L1403 - Name, identify and select the proper bolts for their appropriate construction application.

L1404 - Name, identify and select the proper anchors for their appropriate construction application.

L1405 - Name, identify and select the proper adhesives for their appropriate construction application.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- 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.

  Supporting Anchor/Standards:

  3.4.10.A2 Interpret how systems thinking applies logic and creativity with appropriate comprises in complex real-life problems.
  3.4.10.C1 Apply the components of the technological design process.
  3.4.12.B1 Analyze ethical, social, economic, and cultural considerations as related to the development, selection, and use of technologies.
  3.4.12.C3 Apply the concept that many technological problems require a multi-disciplinary approach.
  3.3.12.A2 Analyze the availability, location, and extraction of Earth's resources. Evaluate the impact of using renewable and nonrenewable energy resources on the Earth's system.
  3.4.10.E7 Evaluate structure design as related to function, considering such factors as style, convenience, safety, and efficiency.

Focus Anchor/Standard #2:

- 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.

  Supporting Anchor/Standards:

  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.J By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
  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.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

Connecting Anchor/Standard:

- CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.

  Supporting Anchor/Standards:

  CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers.
  CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems.
  CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.
  CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.
  CC.2.4.5.A.1 Solve problems using conversions within a given measurement system.

Instructional Activities:

Knowledge:
Complete textbook chapters dealing with wood and wood products
Identify the sizes of various types of lumber
Identify the differences of actual and nominal lumber
Identify the differences between boards, framing lumber and timber
Identify the differences and uses of different plywoods
Estimate board footage using math workbooks and real world samples

Skill:
Demonstrate knowledge of various types of wood and wood products
Demonstrate the proper use boards, framing lumber and plywood
Demonstrate proper estimation of products

Remediation:
Re-teach major concepts
Review with teacher assistant
Worksheets
Individual tutoring
Peer tutoring
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions and worksheets
Assist other students

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Chapter 1: Hand Tools, 1-6. Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Chapter 1: Hand Tools, 3-22. Residential Construction Academy: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Unit Exercises 8-13. Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). Units 8-13 Carpentry (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Chapter 13, Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. Plywood Framing lumber Boards Timbers Engineered products Construction calculator Hardwoods Measuring tapeHyperlinks:

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: L1300 BUILDING MATERIALS
Number: L-1300 **Hours:** 50.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to identify and describe all types of wood, natural and engineered, used in construction and the lumbering process.

Tasks:

L1301 - Explain the lumbering process.

L1302 - Identify wood and its uses.

L1303 - Identify panel products and their uses.

L1304 - Identify engineered products.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- 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.

  Supporting Anchor/Standards:

  3.4.10.A2 Interpret how systems thinking applies logic and creativity with appropriate comprises in complex real-life problems.
  3.4.10.C1 Apply the components of the technological design process.
  3.4.12.B1 Analyze ethical, social, economic, and cultural considerations as related to the development, selection, and use of technologies.
  3.4.12.C3 Apply the concept that many technological problems require a multi-disciplinary approach.
  3.3.12.A2 Analyze the availability, location, and extraction of Earth's resources. Evaluate the impact of using renewable and nonrenewable energy resources on the Earth's system.
  3.4.10.E7 Evaluate structure design as related to function, considering such factors as style, convenience, safety, and efficiency.

Focus Anchor/Standard #2:

- 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.

  Supporting Anchor/Standards:

  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.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.J By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.
  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.2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.

Connecting Anchor/Standard:

- CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.

Supporting Anchor/Standards:

CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers.
CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems.
CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.
CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems.
CC.2.4.5.A.1 Solve problems using conversions within a given measurement system.

Instructional Activities:

Knowledge:
Complete textbook chapters dealing with wood and wood products
Identify the sizes of various types of lumber
Identify the differences of actual and nominal lumber
Identify the differences between boards, framing lumber and timber
Identify the differences and uses of different plywoods
Estimate board footage using math workbooks and real world samples

Skill:
Demonstrate knowledge of various types of wood and wood products
Demonstrate the proper use boards, framing lumber and plywood
Demonstrate proper estimation of products

Remediation:
Re-teach major concepts
Review with teacher assistant
Worksheets
Individual tutoring
Peer tutoring
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions and worksheets
Assist other students

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Chapter 1: Hand Tools, 1-6. Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Chapter 1: Hand Tools, 3-22. Residential Construction Academy: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Unit Exercises 8-13. Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). Units 8-13 Carpentry (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Chapter 13, Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. Plywood Framing lumber Boards Timbers Engineered products Construction calculator Hardwoods Measuring tapeHyperlinks:

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 100 SAFETY/OCCUPATIONAL ORIENTATION
Number: 100 **Hours:** 70.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to identify the program rules and regulations and follow the safety procedures and reference the associated materials.

Tasks:

PA101 - Follow basic, lab and construction industry safety practices and procedures.

PA104 - Follow procedures in Safety Data Sheets (SDS) system.

PA105 - Identify and follow all OSHA safety standards at the construction site.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5

Supporting Anchor/Standards:

KEY IDEAS/DETAILS GRADES 9-10-11-12
Standard CC.3.5.9-10.A / Standard CC.3.5.11-12A Cite specific textual evidence, etc.
Standard CC.3.5.9-10 B / Standard CC.3.5.11-12 B Determine the central ideas or conclusions of a text; etc.
Standard CC.3.5.9-10.C / Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.
CRAFT & STRUCTURE GRADES 9-10-11-12
Standard CC.3.5.9-10. D / Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words.
Standard CC.3.5.9-10.E / Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.
Standard CC.3.5.9-10.F / Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.
INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10
Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).
Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem.
Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.
INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12
Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.
Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.
Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.
RANGE OF READING GRADES 9-10-11-12
Standard CC.3.5.9-10.J / Standard CC.3.5.11-12.J By the end of grades 9-10, AND 11- 12, read and comprehend technical texts independently and proficiently.

Focus Anchor/Standard #2:

- Career Education and Work Academic Standards
  13.2 Career Acquisition (Getting A Job)

  Supporting Anchor/Standards:

  13.2 Career Acquisition (Getting A Job)
  Supporting Anchor/Standards:
  Standard - 13.2.11.B
  Apply research skills in searching for a job.

  CareerLinks
  Internet (i.e. O*NET)
  Networking
  Newspapers
  Professional associations
  Resource books (that is Occupational Outlook Handbook, PA Career Guide)

  Standard - 13.2.11.C
  Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to:

  Job application
  Letter of appreciation following an interview
  Letter of introduction
  Postsecondary education/training applications
  Request for letter of recommendation
  Resume

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

Connecting Anchor/Standard:

- Pennsylvania Common Core Standards Mathematics

  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.

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area
Participate in job readiness assignments

Skill:

Understand accidents and their causes
Define OSHA and its impact on construction workers
Identify the appropriate PPE for common work situations and explain how to use it
Explain the Hazard Communication Standard and be able to use a Material Safety Data Sheet
Explain how fires start, are sustained, and extinguished
Understand trench safety procedures
Have an understanding of electric shock and be able to list safety considerations when working with or near electricity
Demonstrate at all times personal, shop, equipment, and job site safety
Review OSHA
Review MSDS Sheets
Complete assigned project
List safety considerations relating to scaffolds
Choose ladders correctly and wisely
Understand safety involving engines and engine-driven machines
Understand safety relating to compressed air and pneumatic tools
Rig a roof truss for hoisting by a crane safely
Use standard hand signals for directing a crane operator
Recognize common defects and safety hazards in rigging equipment

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment
Technology integration
Study guides
Computer assisted instruction
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
Taking Tests in Alternate Setting (or if requested)
Verbal/Gestural Redirection (prompts to remain on task)
Drill and Practice (Repetition of Material)
Small Group Instruction
Provide Visual Model to Accompany Verbal Directions (Written/Oral Directions)
Use of Computer (Access to)
Positive Reinforcement
Have Student Repeat Directions
Wait Time
Access to School Counselor
Use of Highlighter/Highlighted Text
Provide Frequent Feedback
Provide Frequent Breaks

Regular Notebook Check
Variety of Assessment Methods
Highly Structured Classroom
Syllabus for Major Projects
Limited, Short Directions
Grading Rubric
Communication Regarding Behavior & Consequences (PBS)
Clear Language for Directions
Provide Opportunities to Retest
Frequent Review Sessions
Use a variety of Modalities when Introducing Skills/Concepts
Allow Oral Answers for Testing
Cue for Oral Response
De-Escalation Opportunities
Daily Classwork Check
Encourage Student to Check Work Before Turning In
Opportunities for Repeated Practice of MATH Skills
Provide repetition During Initial Instruction
Allow Pre-read of Questions Before Reading Written Passage
Provide Verbal and Written Directions
All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles
Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Essays
Summaries
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Chapter 1: Hand Tools, 1-6. Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Chapter 1: Hand Tools,

3-22. Residential Construction Academy: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Unit Exercises 8-13. Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). Units 8-13 Carpentry (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Chapter 13, Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. MSDS Sheets Safety DVD Videos Ladder Pipe scaffolding Assorted resource textbooks Periodicals: Fine Home Building, Popular Mechanics, Kitchen and Bath, Fine Woodworking Computer PowerPoint Presentations Calculator Extension cord with GFI Hand tools and power tools Measuring tools Construction Horses Leveling tools Lumber and wood products Fasteners, nails, etc.Hyperlinks: www.careersafe.org

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 200 HAND TOOLS
Number: 200 **Hours:** 60.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to safely use various types of hand tools.

Tasks:

PA201 - Use and maintain small hand tools.

PA202 - Use and maintain sawing tools.

PA203 - Use and maintain fastening tools.

PA204 - Use and maintain measuring tools.

PA205 - Use and maintain cutting tools.

PA207 - Use and maintain ladders.

PA208 - Use and maintain finishing tools.

PA210 - Construct scaffolding.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5

Supporting Anchor/Standards:

KEY IDEAS/DETAILS GRADES 9-10-11-12
Standard CC.3.5.9-10.A / Standard CC.3.5.11-12A Cite specific textual evidence, etc.
Standard CC.3.5.9-10 B / Standard CC.3.5.11-12 B Determine the central ideas or conclusions of a text; etc.
Standard CC.3.5.9-10.C / Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.
CRAFT & STRUCTURE GRADES 9-10-11-12
Standard CC.3.5.9-10. D / Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words.
Standard CC.3.5.9-10.E / Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.
Standard CC.3.5.9-10.F / Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.
INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10
Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).
Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem.
Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.
INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12
Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.
Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical

text, verifying the data when possible.
Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.
RANGE OF READING GRADES 9-10-11-12
Standard CC.3.5.9-10.J / Standard CC.3.5.11-12.J By the end of grades 9-10, AND 11- 12, read and comprehend technical texts independently and proficiently.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

Supporting Anchor/Standards:

NUMBERS AND OPERATIONS
Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.
Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area
Participate in job readiness assignments

Skill:
Complete assigned project
Read a ruler or measuring tape
Identify tools and their use
Understand safety with tools
Choose the right tool for the job at hand
Identify and describe the use of hand tools that are most commonly used by carpenters
Use hand tools in a safe and appropriate manner
Maintain hand tools in suitable working condition

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment
Technology integration
Study guides
Computer assisted instruction
Checklists

Enrichment:

Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Chapter 1: Hand Tools, 1-6. Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Chapter 1: Hand Tools, 3-22. Residential Construction Academy: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Unit Exercises 8-13. Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). Units 8-13 Carpentry (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Chapter 13, Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. Phillips screw driver Slotted screw driver Try square Ratchet screw driver Combination square Hand drill Adjustable angle square Allen wrench Drywall saw Straight claw hammer Coping saw Curve claw hammer Back saw Plumb bob Hack saw Mini sledge Compass saw Hatchet Drywall lift Wooden mallet 2 foot mahogany level Soft blow mallet Crosscut saw Flat bar Wood rasp ripping bar Torpedo level Nail claw(cats paw) staple gun Open end wrench Hammer tacker Closed end wrench Wood chisel metal cap Crescent wrench Wood chisel Needle nose pliers Coal chisel Linesman pliers 25’ Tape measure Vice grips 100’ tape Channel locks Folding foot rule Block plane chalk line Jack plane Socket framing square utility knife Speed square Retractable knife Nail Set 4’ Aluminum level End nippers Tin snips Big Shears Compass 4 in 1 screw driver Pipe clamp Spring clamp Wood screw clam Ratchet BraceHyperlinks:

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 300 POWER TOOLS
Number: 300 **Hours:** 70.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to safely use various power tools.

Tasks:

PA301 - Use and maintain stationary electric power tools.

PA302 - Use and maintain pneumatic tool systems.

PA303 - Use and maintain portable electric power tools.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- College and Career Readiness Anchor Standards

Supporting Anchor/Standards:

CCR.SL.6-12.6 Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

CCR.SL.6-12.4 Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

Supporting Anchor/Standards:

NUMBERS AND OPERATIONS
Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.
Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card

Maintain work area
Participate in job readiness assignments

Skill:
Complete assigned project
State general safety rules for operating power tools
Describe and safely use the following: circular saw, saber saw, reciprocating saw, drill, hammer-drill, screwdriver, plane, router, sander, stapler, nailer, powder actuated driver, table saw, and power miter saw
Identify and demonstrate proper use of common power tools
Demonstrate simple operations with common power tools

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment
Technology integration
Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
Taking Tests in Alternate Setting (or if requested)
Verbal/Gestural Redirection (prompts to remain on task)
Drill and Practice (Repetition of Material)
Small Group Instruction
Provide Visual Model to Accompany Verbal Directions (Written/Oral Directions)
Use of Computer (Access to)
Positive Reinforcement
Have Student Repeat Directions
Wait Time
Access to School Counselor
Use of Highlighter/Highlighted Text
Provide Frequent Feedback
Provide Frequent Breaks
Regular Notebook Check
Variety of Assessment Methods
Highly Structured Classroom
Syllabus for Major Projects
Limited, Short Directions
Grading Rubric
Communication Regarding Behavior & Consequences (PBS)
Clear Language for Directions
Provide Opportunities to Retest
Frequent Review Sessions
Use a variety of Modalities when Introducing Skills/Concepts

Allow Oral Answers for Testing
Cue for Oral Response
De-Escalation Opportunities
Daily Classwork Check
Encourage Student to Check Work Before Turning In
Opportunities for Repeated Practice of MATH Skills
Provide repetition During Initial Instruction
Allow Pre-read of Questions Before Reading Written Passage
Provide Verbal and Written Directions
All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles
Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Essays
Summaries
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Diagrams
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Chapter 1: Hand Tools, 1-6. Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Chapter 1: Hand Tools, 3-22. Residential Construction Academy: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Unit Exercises 8-13. Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). Units 8-13 Carpentry (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Chapter 13, Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. Circular Saws Reciprocating Saws Saber Saws Drills Drivers Portable Power Planes Routers Sanders Pneumatic Staplers Nailers Table Saws Miter Saws Drill Press Radial arm saw Arm Saw Thickness Planner Dual Drum Sander Computer PowerPoint Presentations CalculatorHyperlinks:

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 400 BLUEPRINTS READING
Number: 400 **Hours:** 110.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to draw, interpret and analyze a set of blueprints.

Tasks:

PA401 - Interpret blueprints.

PA402 - Interpret and comprehend standard symbols and abbreviations.

PA403 - Interpret building specifications.

PA404 - Interpret a plot plan.

PA405 - Interpret a foundation plan.

PA406 - Interpret elevation plans.

PA407 - Interpret details and section views.

PA408 - Interpret floor, wall and roof framing plans.

PA409 - Interpret building and zoning codes.

PA410 - Interpret Americans with Disabilities Act (ADA) regulations.

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

  Supporting Anchor/Standards:

  TEXT TYPES AND PURPOSE GRADES 9-10-11-12
  Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.
  Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.
  PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12
  Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.
  Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
  Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.
  RESEARCH GRADES 9-10-11-12
  Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.
  Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.
  Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.
  RANGE OF WRITING GRADES 9-10-11-12
  Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and

shorter time frames for a range of tasks, purposes and audiences...etc.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

  Supporting Anchor/Standards:

  NUMBERS AND OPERATIONS
  Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
  Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.
  Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
  Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area
Participate in job readiness assignments

Skill:
Complete assigned projects
Describe and explain the function of the various kinds of drawings contained in a set of blueprints
Demonstrate how specifications are used
Identify various types of lines and read dimensions
Identify and explain the meaning of symbols and abbreviations used on a set of prints
Read and interpret plot, foundation, floor, and framing plans
Recognize oblique, isometric, and orthographic drawings
Draw simple isometric sketches
Identify plan views, elevations, and sections
Identify the scale used on a construction drawing
Read an architect’s scale
Distinguish between and understand the meaning of:
Object lines, dashed lines (hidden and phantom), extension lines and dimension lines, center lines, leaders, cutting-plane lines
Identify and understand the meaning of door and window symbols, as well as material symbols
Identify and understand the meaning of electrical and mechanical symbols, reference marks for coordinating drawings, and abbreviations
Orient building elevations to building plans
Explain the kinds of information shown on elevations
Find and explain information shown on section views and large-scale details
Orient sections and details to the other plans and elevations
Read and interpret plot, foundation, floor, and framing plans
Define and explain the purpose of building codes and zoning laws
Explain the requirements for obtaining a building permit and the duties of a building inspector

Remediation:
Re-teach major concepts

Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment
Technology integration
Study guides
Computer assisted instruction
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
Taking Tests in Alternate Setting (or if requested)
Verbal/Gestural Redirection (prompts to remain on task)
Drill and Practice (Repetition of Material)
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Provide Visual Model to Accompany Verbal Directions (Written/Oral Directions)
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Cue for Oral Response
De-Escalation Opportunities
Daily Classwork Check
Encourage Student to Check Work Before Turning In
Opportunities for Repeated Practice of MATH Skills
Provide repetition During Initial Instruction
Allow Pre-read of Questions Before Reading Written Passage
Provide Verbal and Written Directions
All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles

Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Draw a blueprint of a building
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Diagrams
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

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Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 500 SITE PREPARATION AND LAYOUT
Number: 500 **Hours:** 50.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to prepare a site and establish elevations and layout for a construction site.

Tasks:

PA501 - Determine factors needed to be considered before the start of a building project.

PA502 - Acquire a building permit.

PA503 - Use PA One Call System.

PA504 - Establish elevations and grades from benchmarks using leveling instruments.

PA505 - Stake out a building foundation using the Pythagorean theorem.

PA506 - Layout and construct batter boards.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- Science, Technology & Engineering, and Environment Literacy & Sustainability (STEELS)

Supporting Anchor/Standards:

3.5.6-8.3 Strand: Integration of Knowledge, Technologies, and Practices
3.5.6-8.Y Compare, contrast, and identify overlap between the contributions of science, technology, engineering, and mathematics in the development of technological systems.

3.5.6-8.Z Analyze how different technological systems often interact with economic, environmental, and social systems.

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

Supporting Anchor/Standards:

TEXT TYPES AND PURPOSE GRADES 9-10-11-12
Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.
Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.
PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12
Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.
Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.
RESEARCH GRADES 9-10-11-12
Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.

Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.
Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.
RANGE OF WRITING GRADES 9-10-11-12
Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

Supporting Anchor/Standards:

NUMBERS AND OPERATIONS
Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.
Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area
Participate in job readiness assignments

Skill:
Complete assigned projects
Demonstrate preparing a site
Establish level points across a building area using a water level and by using a carpenter’s hand spirit level in combination with a straightedge
Accurately set up and use the builder’s level, transit-level, and laser level
Use an optical level to determine elevations
Lay out building lines by using the Pythagorean Theorem and check the layout for accuracy
Build batter boards and accurately establish building lines with string.
Read and interpret plot, foundation, floor, and framing plans
Define and explain the purpose of building codes and zoning laws
Explain the requirements for obtaining a building permit and the duties of a building inspector
Complete sample permit
Participate in a guest speaker demonstration

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment

Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
Taking Tests in Alternate Setting (or if requested)
Verbal/Gestural Redirection (prompts to remain on task)
Drill and Practice (Repetition of Material)
Small Group Instruction
Provide Visual Model to Accompany Verbal Directions (Written/Oral Directions)
Use of Computer (Access to)
Positive Reinforcement
Have Student Repeat Directions
Wait Time
Access to School Counselor
Use of Highlighter/Highlighted Text
Provide Frequent Feedback
Provide Frequent Breaks
Regular Notebook Check
Variety of Assessment Methods
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Syllabus for Major Projects
Limited, Short Directions
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Communication Regarding Behavior & Consequences (PBS)
Clear Language for Directions
Provide Opportunities to Retest
Frequent Review Sessions
Use a variety of Modalities when Introducing Skills/Concepts
Allow Oral Answers for Testing
Cue for Oral Response
De-Escalation Opportunities
Daily Classwork Check
Encourage Student to Check Work Before Turning In
Opportunities for Repeated Practice of MATH Skills
Provide repetition During Initial Instruction
Allow Pre-read of Questions Before Reading Written Passage
Provide Verbal and Written Directions
All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles
Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner

Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Summaries
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Diagrams
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

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Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 600 FOOTINGS AND FOUNDATIONS
Number: 600 **Hours:** 40.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to identify the various types of foundations and footers and determine the amount of concrete needed for each application.

Tasks:

PA601 - Identify footer and foundation materials.

PA602 - Use of leveling instruments.

PA603 - Establish footer lines and elevations.

PA605 - Layout and construct forms for footers.

PA606 - Layout foundations.

PA607 - Layout and construct forms for concrete slabs.

PA608 - Install reinforcing materials.

PA609 - Construct vertical and horizontal formwork.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5

  Supporting Anchor/Standards:
  KEY IDEAS/DETAILS GRADES 9-10-11-12
  Standard CC.3.5.9-10.A / Standard CC.3.5.11-12A Cite specific textual evidence, etc.
  Standard CC.3.5.9-10 B / Standard CC.3.5.11-12 B Determine the central ideas or conclusions of a text; etc.
  Standard CC.3.5.9-10.C / Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.
  CRAFT & STRUCTURE GRADES 9-10-11-12
  Standard CC.3.5.9-10. D / Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words.
  Standard CC.3.5.9-10.E / Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.
  Standard CC.3.5.9-10.F / Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.
  INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10
  Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).
  Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem.
  Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.
  INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12
  Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in

diverse formats...to solve a problem.
Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.
Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.
RANGE OF READING GRADES 9-10-11-12
Standard CC.3.5.9-10.J / Standard CC.3.5.11-12.J By the end of grades 9-10, AND 11- 12, read and comprehend technical texts independently and proficiently.

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

  Supporting Anchor/Standards:

  TEXT TYPES AND PURPOSE GRADES 9-10-11-12
  Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.
  Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.
  PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12
  Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.
  Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
  Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.
  RESEARCH GRADES 9-10-11-12
  Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.
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  Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
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Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts

Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area
Participate in job readiness assignments

Skill:
Complete assigned projects
Demonstrate the ability to layout and construct forms for a footer
Demonstrate the ability to layout a foundation
Explain techniques used for the proper placement and curing of concrete.
Describe the composition of concrete and factors affecting its strength, durability, and workability.
Explain the reasons for making a slump test.
Explain the reasons for reinforcing concrete and describe the materials used.
Estimate quantities of concrete.

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
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Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Residential Construction Academy: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. Computer PowerPoint Presentations Calculator Extension cord with GFI Hand tools and power tools Measuring tools Construction Horses Leveling tools Lumber and wood products Fasteners, nails, etc. Transit Sledge Hammer Stakes Line Laser Level

Plywood fasteners, nails, etc. Square Tape Measures Plumb bob Straight Claw Hammer Level Power Saw Set of Horses Extension Cord with GFI FastenersHyperlinks:

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 700 FRAMING - FLOOR CONSTRUCTION
Number: 700 **Hours:** 120.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to measure, layout, and install floor joist and also install the sub floor.

Tasks:

PA703 - Layout and install sill plates.

PA704 - Layout and install floor joists, including manufactured floor joists.

PA705 - Layout and install joists for a cantilever floor.

PA706 - Construct and install cross and solid bridging.

PA707 - Layout and install sub-flooring.

PA708 - Layout and construct floor openings.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5

  Supporting Anchor/Standards:
  KEY IDEAS/DETAILS GRADES 9-10-11-12
  Standard CC.3.5.9-10.A / Standard CC.3.5.11-12A Cite specific textual evidence, etc.
  Standard CC.3.5.9-10 B / Standard CC.3.5.11-12 B Determine the central ideas or conclusions of a text; etc.
  Standard CC.3.5.9-10.C / Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.
  CRAFT & STRUCTURE GRADES 9-10-11-12
  Standard CC.3.5.9-10. D / Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words.
  Standard CC.3.5.9-10.E / Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.
  Standard CC.3.5.9-10.F / Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.
  INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10
  Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).
  Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem.
  Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.
  INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12
  Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.
  Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.
  Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.

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

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

Supporting Anchor/Standards:

TEXT TYPES AND PURPOSE GRADES 9-10-11-12
Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.
Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.
PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12
Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.
Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.
RESEARCH GRADES 9-10-11-12
Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.
Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.
Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.
RANGE OF WRITING GRADES 9-10-11-12
Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

Supporting Anchor/Standards:

NUMBERS AND OPERATIONS
Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.
Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area
Participate in job readiness assignments

Skill:
Complete assigned projects

Describe platform, balloon, and post-and-beam framing, and identify framing members of each
Describe several energy and material conservation framing methods
Build and install girders, erect columns, and lay out sills
Lay out and install floor joists
Frame openings in floors
Lay out, cut, and install bridging
Apply sub flooring
Describe methods to prevent destruction by wood pests
Identify all the components, accurately locate their positions, and cut each member to fit for a floor system

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
Taking Tests in Alternate Setting (or if requested)
Verbal/Gestural Redirection (prompts to remain on task)
Drill and Practice (Repetition of Material)
Small Group Instruction
Provide Visual Model to Accompany Verbal Directions (Written/Oral Directions)
Use of Computer (Access to)
Positive Reinforcement
Have Student Repeat Directions
Wait Time
Access to School Counselor
Use of Highlighter/Highlighted Text
Provide Frequent Feedback
Provide Frequent Breaks
Regular Notebook Check
Variety of Assessment Methods
Highly Structured Classroom
Syllabus for Major Projects
Limited, Short Directions
Grading Rubric
Communication Regarding Behavior & Consequences (PBS)
Clear Language for Directions
Provide Opportunities to Retest
Frequent Review Sessions
Use a variety of Modalities when Introducing Skills/Concepts
Allow Oral Answers for Testing

Cue for Oral Response
De-Escalation Opportunities
Daily Classwork Check
Encourage Student to Check Work Before Turning In
Opportunities for Repeated Practice of MATH Skills
Provide repetition During Initial Instruction
Allow Pre-read of Questions Before Reading Written Passage
Provide Verbal and Written Directions
All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles
Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Essays
Summaries
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Diagrams
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Residential Construction Academy: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Computer PowerPoint Presentations Calculator Extension cord with GFI Hand tools and power tools Measuring tools Construction Horses Leveling tools Lumber and wood products Fasteners, nails, etc. Floor framing material Beams & lally columns Floor joist & rim board Bridging Hand and power tools Measurement tools Construction Horses Extension cord with GFCI Fasteners, nails, etc.Hyperlinks:

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 800 FRAMING - WALL CONSTRUCTION
Number: 800 **Hours:** 120.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to assemble and erect walls and ceilings.

Tasks:

PA802 - Layout and construct a wall.

PA804 - Layout and construct door openings.

PA805 - Layout and construct window openings.

PA806 - Construct a load bearing header.

PA807 - Layout and install sheathing.

PA808 - Plumb, align and brace walls.

PA809 - Layout and install metal studs.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5

  Supporting Anchor/Standards:

  KEY IDEAS/DETAILS GRADES 9-10-11-12
  Standard CC.3.5.9-10.A / Standard CC.3.5.11-12A Cite specific textual evidence, etc.
  Standard CC.3.5.9-10 B / Standard CC.3.5.11-12 B Determine the central ideas or conclusions of a text; etc.
  Standard CC.3.5.9-10.C / Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.
  CRAFT & STRUCTURE GRADES 9-10-11-12
  Standard CC.3.5.9-10. D / Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words.
  Standard CC.3.5.9-10.E / Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.
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  INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10
  Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).
  Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem.
  Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.
  INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12
  Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.
  Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.

Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.
RANGE OF READING GRADES 9-10-11-12
Standard CC.3.5.9-10.J / Standard CC.3.5.11-12.J By the end of grades 9-10, AND 11- 12, read and comprehend technical texts independently and proficiently.

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

Supporting Anchor/Standards:

TEXT TYPES AND PURPOSE GRADES 9-10-11-12
Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.
Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.
PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12
Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.
Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.
RESEARCH GRADES 9-10-11-12
Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.
Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.
Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.
RANGE OF WRITING GRADES 9-10-11-12
Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

Supporting Anchor/Standards:

NUMBERS AND OPERATIONS
Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.
Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card

Maintain work area
Participate in job readiness assignments

Skill:
Complete assigned projects
Identify and describe the function of each part of the wall frame
Determine the length of exterior wall studs
Describe four different types of walls used in residential framing
Determine the rough opening width and height for windows and doors
Lay out the wall plates for partition intersections, openings, and OC studs
Describe several methods of framing corner and partition intersections
Assemble and construct a wall section
Erect and temporarily brace a wall section plumb and straight
Describe the function of and install blocking and backing
Apply wall sheathing
Lay out, cut, and install ceiling joists
Identify and describe the components of non-structural steel wall framing
Install a steel door buck
Estimate the materials needed for walls and ceiling framing
Construct exterior walls to the correct height, braced plumb, and straightened frame window and door rough openings to specified sizes

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
Taking Tests in Alternate Setting (or if requested)
Verbal/Gestural Redirection (prompts to remain on task)
Drill and Practice (Repetition of Material)
Small Group Instruction
Provide Visual Model to Accompany Verbal Directions (Written/Oral Directions)
Use of Computer (Access to)
Positive Reinforcement
Have Student Repeat Directions
Wait Time
Access to School Counselor
Use of Highlighter/Highlighted Text
Provide Frequent Feedback
Provide Frequent Breaks
Regular Notebook Check

Variety of Assessment Methods
Highly Structured Classroom
Syllabus for Major Projects
Limited, Short Directions
Grading Rubric
Communication Regarding Behavior & Consequences (PBS)
Clear Language for Directions
Provide Opportunities to Retest
Frequent Review Sessions
Use a variety of Modalities when Introducing Skills/Concepts
Allow Oral Answers for Testing
Cue for Oral Response
De-Escalation Opportunities
Daily Classwork Check
Encourage Student to Check Work Before Turning In
Opportunities for Repeated Practice of MATH Skills
Provide repetition During Initial Instruction
Allow Pre-read of Questions Before Reading Written Passage
Provide Verbal and Written Directions
All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles
Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Essays
Summaries
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Diagrams
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Residential Construction Academy: Carpentry (2nd

ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. Computer PowerPoint Presentations Calculator Extension cord with GFI Hand tools and power tools Measuring tools Construction Horses Leveling tools Lumber and wood products Fasteners, nails, etcHyperlinks:

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 900 FRAMING - ROOF CONSTRUCTION
Number: 900 **Hours:** 120.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to properly measure, layout, cut and install a variety of roof framing components.

Tasks:

PA903 - Layout and install a ridgeboard.

PA904 - Layout and install common rafters.

PA906 - Layout and install roof trusses.

PA907 - Layout and install roof sheathing.

PA908 - Layout and construct roof openings.

PA911 - Layout and install roofing materials.

PA912 - Layout and install capping.

Standards / Assessment Anchors
Focus Anchor/Standard #1:

- Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5

Supporting Anchor/Standards:

KEY IDEAS/DETAILS GRADES 9-10-11-12
Standard CC.3.5.9-10.A / Standard CC.3.5.11-12A Cite specific textual evidence, etc.
Standard CC.3.5.9-10 B / Standard CC.3.5.11-12 B Determine the central ideas or conclusions of a text; etc.
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CRAFT & STRUCTURE GRADES 9-10-11-12
Standard CC.3.5.9-10. D / Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words.
Standard CC.3.5.9-10.E / Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.
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INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10
Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).
Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem.
Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.
INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12
Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.
Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.

Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.
RANGE OF READING GRADES 9-10-11-12
Standard CC.3.5.9-10.J / Standard CC.3.5.11-12.J By the end of grades 9-10, AND 11- 12, read and comprehend technical texts independently and proficiently.

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

Supporting Anchor/Standards:

TEXT TYPES AND PURPOSE GRADES 9-10-11-12
Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.
Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.
PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12
Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.
Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.
RESEARCH GRADES 9-10-11-12
Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.
Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.
Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.
RANGE OF WRITING GRADES 9-10-11-12
Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

Supporting Anchor/Standards:

NUMBERS AND OPERATIONS
Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.
Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area

Participate in job readiness assignments

Skill:
Complete assigned project
Describe several roof types
Define the various roof framing terms
Identify the members of gable, gambrel, hip, intersecting, and shed roofs Lay out a common rafter and erect a gable roof
Lay out and install gable end studs
Lay out a hip rafter and hip jack rafters
Lay out a valley rafter and valley jack rafters
Describe and perform the safe and proper procedure to erect a trussed roof
Apply roof sheathing
Estimate the quantities of materials used in a roof frame

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
Taking Tests in Alternate Setting (or if requested)
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Positive Reinforcement
Have Student Repeat Directions
Wait Time
Access to School Counselor
Use of Highlighter/Highlighted Text
Provide Frequent Feedback
Provide Frequent Breaks
Regular Notebook Check
Variety of Assessment Methods
Highly Structured Classroom
Syllabus for Major Projects
Limited, Short Directions
Grading Rubric
Communication Regarding Behavior & Consequences (PBS)
Clear Language for Directions

Provide Opportunities to Retest
Frequent Review Sessions
Use a variety of Modalities when Introducing Skills/Concepts
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De-Escalation Opportunities
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Allow Pre-read of Questions Before Reading Written Passage
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All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles
Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

Safety:

Student must:
Handle material in a safe and work like manner
Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Essays
Summaries
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Diagrams
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

Vogt, F. & Standiford, K. (2008). Chapter 1: Hand Tools, 1-6. Residential Construction Academy Workbook: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Vogt, F. (2008). Chapter 1: Hand Tools, 3-22. Residential Construction Academy: Carpentry (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Proctor, T. E. (1997). Unit Exercises 8-13. Carpentry Workbook (3rd ed). Homewood, IL: American Technical Publishers, Inc. Koel, L. (1997). Units 8-13 Carpentry (3rd ed). Homewood, IL: American Technical Publishers, Inc. Huth, M. (2008). Chapter 13, Basic Principals for Construction (2nd ed). Clifton Park, NY: Thompson Delmar Learning. Huth & Huth (2006) Practical Problems in Mathematics for Carpenters (8th ed). Clifton Park, NY: Thompson Delmar Learning. Circular Saws Reciprocating Saws Saber Saws Drills Computer PowerPoint Presentations Calculator Extension cord with GFCI Hand tools

and power tools Measuring tools Construction Horses Leveling tools Lumber and wood products Fasteners, nails, etc.Hyperlinks:

Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 1000 EXTERIOR FINISH
Number: 1000 **Hours:** 40.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to properly measure, layout, and install all components for an exterior of a building.

Tasks:

PA1003 - Install house wrap.

PA1004 - Install exterior doors.

PA1005 - Install windows.

PA1006 - Layout and install siding.

PA1007 - Layout and install soffits and facias.

PA1008 - Layout and install gutters and downspouts.

PA1009 - Layout and install exterior deck, stair and railing systems.

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

  Supporting Anchor/Standards:

  TEXT TYPES AND PURPOSE GRADES 9-10-11-12
  Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.
  Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.
  PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12
  Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.
  Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
  Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.
  RESEARCH GRADES 9-10-11-12
  Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.
  Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.
  Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.
  RANGE OF WRITING GRADES 9-10-11-12
  Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

Supporting Anchor/Standards:

NUMBERS AND OPERATIONS

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

Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.

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

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

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area
Participate in job readiness assignments

Skill:
Complete assigned project
Describe and apply roofing felt underlayment, organic or fiber glass asphalt shingles, and roll roofing
Describe and apply flashing to valleys, sidewalls, chimneys, and other roof obstructions
Estimate needed roofing materials
Describe the shapes, sizes, and materials used as siding products
Install corner boards and prepare side wall for siding
Apply horizontal and vertical siding
Apply plywood and lapped siding
Apply wood shingles and shakes to sidewalls
Apply vinyl and aluminum siding
Describe various types of cornices and name their parts
Install gutters and downspouts
Describe the construction of and kinds of materials used in decks
Lay out and install footings, supporting posts, girders, and joists for a deck
Apply decking in the recommended manner and install flashing, for an exposed deck, against a wall
Describe the most popular styles of windows and name their parts
Select and specify desired sizes and styles of windows from manufacturers' catalogs
Install various types of windows in an approved manner
Name the parts of and set a prehung door frame
Describe the standard designs and sizes of doors and name their parts
Fit and hang a door to a preexisting opening
Install lock sets in doors
Install bypass, bi fold, and pocket doors

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring

Review games
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Advanced Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
Taking Tests in Alternate Setting (or if requested)
Verbal/Gestural Redirection (prompts to remain on task)
Drill and Practice (Repetition of Material)
Small Group Instruction
Provide Visual Model to Accompany Verbal Directions (Written/Oral Directions)
Use of Computer (Access to)
Positive Reinforcement
Have Student Repeat Directions
Wait Time
Access to School Counselor
Use of Highlighter/Highlighted Text
Provide Frequent Feedback
Provide Frequent Breaks
Regular Notebook Check
Variety of Assessment Methods
Highly Structured Classroom
Syllabus for Major Projects
Limited, Short Directions
Grading Rubric
Communication Regarding Behavior & Consequences (PBS)
Clear Language for Directions
Provide Opportunities to Retest
Frequent Review Sessions
Use a variety of Modalities when Introducing Skills/Concepts
Allow Oral Answers for Testing
Cue for Oral Response
De-Escalation Opportunities
Daily Classwork Check
Encourage Student to Check Work Before Turning In
Opportunities for Repeated Practice of MATH Skills
Provide repetition During Initial Instruction
Allow Pre-read of Questions Before Reading Written Passage
Provide Verbal and Written Directions
All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles
Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

Safety:

Student must:
Handle material in a safe and work like manner

Use protective clothing and equipment
Use hand tools in a safe manner
Use adequate ventilation when working in enclosed area
Follow manufacturer’s directions when using any product, tool, equipment, etc.
Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Worksheets
Quizzes
Pre/Post Tests
Essays
Summaries
Time Cards
Writing Activities
Video/DVD Worksheets
Rubrics
Check Lists
Diagrams
Individual Projects
Group Projects
Any content related assessment
Portfolio

Resources/Equipment:

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Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 1100 INTERIOR FINISH
Number: 1100 **Hours:** 40.00
Dates: Fall 2025

Description/Objectives:

Student will know and be able to properly install drywall, door and window casings, moldings, suspended ceiling system, and wood flooring.

Tasks:

PA1103 - Layout, install and finish drywall.

PA1104 - Layout and install suspended and tile ceilings.

PA1105 - Layout and install interior doors.

PA1106 - Layout and install door trim, casings and hardware.

PA1107 - Layout and install window trim, casings and hardware.

PA1108 - Layout and install baseboard and molding.

PA1109 - Layout and install flooring materials.

PA1110 - Layout and install interior stair systems.

PA1111 - Install various types of insulation.

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

  Supporting Anchor/Standards:

  TEXT TYPES AND PURPOSE GRADES 9-10-11-12
  Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.
  Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.
  PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12
  Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience.
  Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
  Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.
  RESEARCH GRADES 9-10-11-12
  Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.
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  RANGE OF WRITING GRADES 9-10-11-12
  Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.

Connecting Anchor/Standard:

- Pennsylvania Core Standards for Mathematics Standard 2.0

Supporting Anchor/Standards:

NUMBERS AND OPERATIONS

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

Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems.

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

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

Instructional Activities:

Knowledge:
Complete reading assignments
Complete assigned worksheets
Complete assigned workbook pages
Participate in lecture discussions and respond to questions
Review assigned pages in study guide handouts
Participate in group activities
Complete assigned individual and group projects
Complete time card
Maintain work area
Participate in job readiness assignments

Skill:
Follow the logical installation order of house wrap, windows, and doors, and siding
Compare the wide range of styles and sizes interior, exterior doors, and windows
Maintain the easy operation and weather tightness of the
window and door units
Create and maintain safe work habits as many windows are installed from scaffolds and often stepladders are used
Describe the most popular styles of windows and name their parts
Select and specify desired sizes and styles of windows from manufacturers'
catalogs
Install various types of windows in an approved manner
Name the parts of and set a pre hung door frame
Describe the standard designs and sizes of doors and name their parts
Fit and hang a door to a preexisting opening
Install lock sets in doors
Participate in job readiness assignments
Identify the components of a suspended ceiling system.
Layout and install suspended ceilings.
Identify standard interior moldings and describe their use.
Apply ceiling and wall molding.
Apply interior door casings, baseboard, base cap, and base shoe.
Install window trim, including stools, aprons, jamb extensions, and casings.
Apply strip and plank flooring.
Estimate quantities of the parts in a suspended ceiling system.
Estimate the quantities of molding needed for windows, doors, ceilings, and base.
Estimate wood flooring required for various installations
Name various stair finish parts and describe their location and function
Describe several stairway designs
Define terms used in stair framing
Determine the unit rise and unit run of a stairway given the total rise
Determine the length of a stairwell
Lay out a stair carriage and frame a straight stairway
Lay out and frame a stairway with a landing
Analyze the importance of comfort and safety of staircases

Identify each of the staircase parts, know their locations, and understand their functions
Compare the wide variety of wood species for stair finish parts
Compare stair lay out theory and rafter layout theory
Compare the variations in stair construction depending on the stair function, location, and component material used

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Review games
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
Preferential Seating
Directions/Comprehension Check (frequent checks for understanding)
Study Guide
Directions and/or Tests Read Aloud
Adapted Tests and/or Assignments
Use of Calculator
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Positive Reinforcement
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Wait Time
Access to School Counselor
Use of Highlighter/Highlighted Text
Provide Frequent Feedback
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Variety of Assessment Methods
Highly Structured Classroom
Syllabus for Major Projects
Limited, Short Directions
Grading Rubric
Communication Regarding Behavior & Consequences (PBS)
Clear Language for Directions
Provide Opportunities to Retest
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Use a variety of Modalities when Introducing Skills/Concepts
Allow Oral Answers for Testing
Cue for Oral Response
De-Escalation Opportunities
Daily Classwork Check
Encourage Student to Check Work Before Turning In
Opportunities for Repeated Practice of MATH Skills

Provide repetition During Initial Instruction
Allow Pre-read of Questions Before Reading Written Passage
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Safety:

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Use proper safety precautions when using /operating hand tools.
Use tools and equipment in a professional work like manner according to OSHA standards
Know and follow the established safety rules at all times
Maintain clean and safe work area

Assessment:

Assessment:
Worksheets
Quizzes
Pre/Post Tests
Time Cards
Writing Activities
Rubrics
Check List
Oral Presentation
Diagrams
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Any content related assessment
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Monroe Career & Technical Institute

Course: Carpentry

Unit Name: 1200 ESTIMATION
Number: 1200 **Hours:** 190.00
Dates: Spring 2025

Description/Objectives:

Student will know and be able to correctly estimate the amount of material that is needed to complete a given task.

Tasks:

PA1201 - Estimate the amount and cost of bricks and blocks needed to complete a given task.

PA1202 - Estimate the amount and cost of concrete needed to complete a given task.

PA1203 - Estimate the amount and cost of materials to finish an exterior wall.

PA1204 - Estimate the amount and cost of materials to finish an interior wall.

PA1205 - Estimate the amount and cost of materials to construct a finished floor.

PA1206 - Estimate the amount and cost of materials to construct a finished roof.

PA1207 - Estimate the amount and cost of materials to install siding for a house.

Focus Anchor/Standard #2:

- Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6

  Supporting Anchor/Standards:

  TEXT TYPES AND PURPOSE GRADES 9-10-11-12
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  Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
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Connecting Anchor/Standard:

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Supporting Anchor/Standards:

NUMBERS AND OPERATIONS
Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.
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Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers

Instructional Activities:

Knowledge:
Complete math workbook problems
Complete ATB Real world problems
Define math vocabulary

Skill:
Demonstrate the ability correctly estimate the amount of bricks, block, and concrete needed to complete a given task
Estimate the cost of materials used for exterior finish
Estimate the cost of materials used for interior finish
Estimate the cost of materials used for floor construction
Estimate the cost of materials used for wall construction
Estimate the cost of materials used for roof construction

Remediation:
Re-teach major concepts
Review with teacher assistance
Worksheets
Individual tutoring
Group tutoring
Peer tutoring
Retest or alternative assessment
Study guides
Checklists

Enrichment:
Complete review questions, worksheets, etc.
Complete Project as assigned

Special Adaptations:

Extended Time (assignments and/or testing)
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Provide Verbal and Written Directions
All Vocabulary to be Defined Before Testing
Time out
Encouragement to Participate in Positive Leadership Roles
Student Self-Evaluation for Behavior
Exempt from reading Aloud in Front of Peers

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Maintain clean and safe work area

Assessment:

Worksheets
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