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## *Technology & Engineering Education*

### **Production Technology** (Construction)

**IN230****818**

Course ID: 13052A001

Production Technology is a course designed to foster an awareness and understanding of manufacturing and construction technology. Through a variety of learning activities, students are exposed to many career opportunities in the production field. Experiences in manufacturing include product design, materials and processes, tools and equipment, including computers, safety procedures, corporate structure, management, research and development, production planning, mass production, marketing and servicing. In construction, students will be exposed to site preparation, foundations, building structures, installing utilities, and finishing and servicing structures.

Length of course: 1 Semester

Credits per semester .5

Grade level: 9, 10 (Juniors and seniors will be allowed in the course only if enrollment numbers make this possible. (Juniors will have priority.)

Prerequisite: None

### **General Goals/Purposes:**

Upon successful completion of this course, the student will:

- Describe personal safety measures recommended for use in the construction industry
- List proper clothing safety and personal protective equipment as it applies to the construction industry
- Understand and practice safety measures relating to the use of hand and power tools in the construction industry
- Practice shop and site housekeeping measures that promote safe working conditions
- Differentiate between the skilled professions found in the construction industry
- Identify the elements found on a common construction floor plan
- Design and sketch a common construction floor plan
- Layout a building perimeter using the 3-4-5 method
- Set up and use the builder's transit and level to check vertical site elevations and lay out property lines
- Perform several different construction measurements
- List several construction materials used in each of the major material categories
- Identify and understand the use of hand tools in construction fabrication
- Identify and understand the use of power tools in construction fabrication
- Analyze the common components of a typical residential or small commercial foundation system
- Analyze the common components of a typical wood frame residential or small commercial floor system
- Analyze the common components of a typical wood frame residential or small commercial wall system
- Analyze the common components of a typical wood frame residential or small commercial roof system
- Identify common materials used in finishing off typical wood frame residential or small commercial systems
- Build a small scale framing project representing a typical floor, wall, and roof framing system

**Course Outline:**

Units of Instruction	Unit Objectives	Standard(s)	Duration (Hours)	Methods of Instruction	Methods of Assessment	Educational Resources
<p><b>Introduction to Production Technology (Construction)</b></p> <ul style="list-style-type: none"> <li>- Syllabus</li> <li>- Classroom rules and procedures</li> <li>- Getting to know each other</li> </ul>	<ul style="list-style-type: none"> <li>- Describe what will be covered in the course</li> <li>- Describe the rules and procedures that are to be followed in the course</li> <li>- Identify and describe characteristics about myself and the other students in the class</li> </ul>		1	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Audio, videos, overhead transparencies, and electronic presentations for illustration</li> <li>• Board work</li> <li>• Computer lead self instruction</li> <li>• Discuss</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Written exercises</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• In-class assignments</li> <li>• Participation</li> </ul>	<ul style="list-style-type: none"> <li>• Handouts</li> </ul>
<p><b>Introduction to Career and Technical Student Organizations</b></p> <ul style="list-style-type: none"> <li>- Skills USA</li> </ul>	<ul style="list-style-type: none"> <li>- Define what Skills USA is.</li> <li>- Identify the Skills USA motto and slogan.</li> <li>- List the four colors of Skills USA.</li> <li>- Discuss the dress code for Skills USA events.</li> <li>- List the officers of a Skills USA chapter and identify the MVTHS Skills USA lead sponsors.</li> <li>- Discuss competitive events in Skills USA related to health science and indicate ones that interest each student.</li> <li>- Identify the other CTE-SO's at MVTHS and what areas they specialize in.</li> </ul>			<ul style="list-style-type: none"> <li>• Activity</li> <li>• Discuss</li> <li>• Guest speaker</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Reading Assignments</li> <li>• Research</li> <li>• Written exercises</li> </ul>	<ul style="list-style-type: none"> <li>• Article review</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Essay</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Interview/research paper</li> <li>• Oral feedback</li> <li>• Oral presentations</li> <li>• Participation</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Student presentations</li> <li>• Teacher observation</li> <li>• Test</li> <li>• Verbal response</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Career Center Lab</li> <li>• Guest Speaker</li> <li>• Internet</li> <li>• Posters</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook</li> </ul>

<p><i>The Carpenter's Workplace</i></p> <ul style="list-style-type: none"> <li>- General Safety Rules</li> <li>- Safety Rules in the Shop</li> <li>- Proper Clothing and Protective Equipment</li> <li>- Hand Tool Safety</li> <li>- Power Tool Safety</li> <li>- Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>- Identify safety and health standards found in the Construction Industry</li> <li>- Explain the importance of Safety Programs in the Construction Industry</li> <li>- Define the role of OSHA in the Construction Industry</li> <li>- Analyze the relationship between workman's compensation insurance, safety statistics, and realized company profit</li> <li>- Identify safety rules practiced in the school construction shop</li> <li>- Understand consequences of breaking school construction shop safety rules</li> <li>- List everyday clothing acceptable for use on a construction site</li> <li>- List personal protective equipment and gear used to insure personal safety</li> <li>- List protective equipment and gear used to create a safe working environment on a construction site</li> <li>- Discuss the safe usage and maintenance of hand tools in the Construction Industry</li> <li>- Identify proper hand tool storage</li> <li>- Discuss the safe usage and maintenance of power tools in the Construction Industry</li> <li>- Identify proper power tool storage</li> <li>- Discuss general housekeeping duties</li> </ul>		4	<ul style="list-style-type: none"> <li>• Discuss</li> <li>• Guest speaker</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Reading Assignments</li> <li>• Research</li> <li>• Written exercises</li> </ul>	<ul style="list-style-type: none"> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher observation</li> <li>• Test</li> <li>• Verbal response</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Posters</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook</li> </ul>
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<p><b>Careers in the Construction Industry</b></p> <ul style="list-style-type: none"> <li>- Career Types</li> <li>- Economic Outlook</li> <li>- Employment Opportunities</li> <li>- Required Training</li> <li>- Apprenticeship Programs</li> </ul>	<ul style="list-style-type: none"> <li>- Describe careers found in the Construction Industry</li> <li>- Identify specific skills and skill development required for success in related careers in the Construction Industry</li> <li>- Research current economic factors affecting employment in the Construction Industry</li> <li>- Locate and report current employment listings found in the regional area</li> <li>- Research available post-secondary training (curriculum) in related careers in the Construction Industry</li> <li>- Research available trade school training (curriculum) in related careers in the Construction Industry</li> <li>- Identify employment possibilities when lacking formal post-secondary training</li> <li>- List the organizational stages found in a construction related apprenticeship program</li> <li>- Describe personal qualifications needed to enter into a construction related apprenticeship program</li> <li>- Understand the difference between an apprentice and a journeyman in the Construction Industry</li> </ul>		6	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Discuss</li> <li>• Guest speaker</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Reading Assignments</li> <li>• Research</li> <li>• Written exercises</li> </ul>	<ul style="list-style-type: none"> <li>• Article review</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Essay</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Interview/research paper</li> <li>• Oral feedback</li> <li>• Oral presentations</li> <li>• Participation</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Student presentations</li> <li>• Teacher observation</li> <li>• Test</li> <li>• Verbal response</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Career Center Lab</li> <li>• Guest Speaker</li> <li>• Internet</li> <li>• Posters</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook</li> </ul>
<p><b>Plans, Specifications, and Codes</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Architectural Plans</li> <li>- Floor Plan Elements and Symbols</li> <li>- Drawing Scale</li> <li>- Design Sketching</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to Architectural plans and specifications</li> <li>- List the drawings found in a typical residential or small commercial set of Architectural plans</li> <li>- Analyze a typical floor plan drawing while understanding it's common elements and symbols</li> <li>- Understand the concept of scale to proportionally reduce Architectural elements for graphic representation</li> <li>- Practice measuring and laying out Architectural elements to scale</li> <li>- Design and sketch a small residential floor plan drawing to scale</li> </ul>		10	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Multimedia and computer technology</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Handouts</li> <li>• Internet</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook</li> </ul>

<p><b>Construction Measurements</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Equipment</li> <li>- Site Measurements</li> <li>- Material Measurements</li> <li>- Material and Building Calculations</li> <li>- Building Layout</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to construction measurement and layout</li> <li>- List and define proper usage of measurement and layout tools found in the Construction Industry</li> <li>- Explain the basic operation of the builder's transit</li> <li>- Explain the basic operation of a laser level system</li> <li>- Demonstrate the proper setup of the builder's transit</li> <li>- Demonstrate the proper setup of a laser level system</li> <li>- Measure and layout angles and lengths of property lines using the builder's transit</li> <li>- Measure vertical site elevations using a laser level system</li> <li>- Accurately measure construction materials for processing</li> <li>- Explain the procedure for calculating board feet measurements</li> <li>- Calculate board feet measurements of given dimensional lumber examples</li> <li>- Explain the procedure for calculating material and area square footage</li> <li>- Calculate the square footage of given floor plans</li> <li>- Use proper measurement tools to stake out the perimeter of a small building</li> <li>- Use the 3-4-5 method to check corner angles of a building layout</li> </ul>		10	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> <li>• Hands-on experience</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Multimedia and computer technology</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets_</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Posters</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook</li> </ul>
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<p><b>Hand Tools</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Measurement Tools</li> <li>- Layout Tools</li> <li>- Cutting Tools</li> <li>- Fastening Tools</li> <li>- Care and Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to hand tools found in the Construction Industry</li> <li>- Identify common measurement tools</li> <li>- Define the proper measurement tool for a given job</li> <li>- Explain proper methods of measurement tool usage</li> <li>- Identify common layout tools</li> <li>- Define the proper layout tool for a given job</li> <li>- Explain proper methods of layout tool usage</li> <li>- Identify common cutting tools</li> <li>- Define the proper cutting tool for a given job</li> <li>- Explain proper methods of cutting tool usage</li> <li>- Identify common fastening tools</li> <li>- Define the proper fastening tool for a given job</li> <li>- Explain proper methods of fastening tool usage</li> <li>- Recognize procedures for the proper care and maintenance of hand tools found in the Construction Industry</li> </ul>		5	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> <li>• Hands-on experience</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook</li> </ul>
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<p><b>Power Tools</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Cutting Tools</li> <li>- Fastening Tools</li> <li>- Care and Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to power tools found in the Construction Industry</li> <li>- Identify common power cutting tools</li> <li>- Define the proper power cutting tool for a given job</li> <li>- Explain the function and operation of common power cutting tools</li> <li>- Identify the major parts of common power cutting tools</li> <li>- Define additional safety rules pertaining to power cutting tools</li> <li>- Identify common power fastening tools</li> <li>- Define the proper power fastening tool for a given job</li> <li>- Explain the function and operation of common power fastening tools</li> <li>- Identify the major parts of common power fastening tools</li> <li>- Define additional safety rules pertaining to power fastening tools</li> <li>- Recognize procedures for the proper care and maintenance of power tools found in the Construction Industry</li> </ul>		5	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> <li>• Hands-on experience</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook</li> </ul>
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<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Concrete</li> <li>- Masonry</li> <li>- Dimensional Lumber</li> <li>- Finished Lumber</li> <li>- Panel Materials</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to construction materials found in the Construction Industry</li> <li>- Describe various uses of concrete in the construction industry</li> <li>- List the various component mixture of concrete</li> <li>- Understand the difference between compression and tensile strength in concrete</li> <li>- Describe proper procedures for placing concrete</li> <li>- Describe various uses for masonry in the construction industry</li> <li>- Discuss the different sizes and shapes of masonry block and brick in the Construction Industry</li> <li>- Understand anchoring masonry block and brick</li> <li>- Describe proper procedures for laying masonry block and brick</li> <li>- List different dimensional lumber types</li> <li>- Understand the difference between nominal and actual sizes of dimensional lumber</li> <li>- Understand basic principles of grading dimensional lumber</li> <li>- List different finished lumber types</li> <li>- Understand the difference between nominal and actual sizes of finish lumber</li> <li>- Understand basic principles of grading finish Lumber</li> <li>- Explain plywood and particleboard sizes and uses</li> <li>- Define the term “tongue and groove” in relationship to plywood and particleboard</li> </ul>		5	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook_</li> </ul>
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<p><b>Footings and Foundation</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Excavation and Layout</li> <li>- Foundation Systems</li> <li>- Components</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to common components and installation of footings and foundations in the Construction Industry</li> <li>- Describe excavation procedures for residential and small commercial footings and foundations</li> <li>- Discuss design factors that apply to sizing of footings and foundation walls</li> <li>- List common residential and small commercial foundation systems</li> <li>- Define the proper foundation system for a given building site</li> <li>- Identify common construction materials used to construct residential and small commercial foundation systems Identify the common parts of a residential and small commercial foundation system</li> <li>- Understand reinforcement of footings and foundation walls</li> </ul>		5	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> <li>• Hands-on experience</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook</li> </ul>
<p><b>Floor Framing</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Layout and Frequencies</li> <li>- Floor Framing Systems</li> <li>- Components</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to common components and installation of floor framing systems found in the Construction Industry</li> <li>- Understand the “on center” spacing requirements of floor joists in a common floor framing system</li> <li>- Describe how joist layouts are made on a header joist</li> <li>- Explain the correct procedure to follow when assembling a common floor framing system</li> <li>- Understand the difference between platform framing and balloon framing</li> <li>- Identify common construction materials used to construct a platform framing system</li> <li>- Identify the common parts of a platform framing system</li> <li>- Understand the role of headers and trimmers when Assembling a rough opening in a platform framing system</li> <li>- Identify alternative floor framing systems</li> </ul>		5	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> <li>• Hands-on experience</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook_</li> </ul>

<p><b>Wall Framing</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Layout and Frequencies</li> <li>- Wall Framing Systems</li> <li>- Components</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to common components and installation of wall framing systems found in the Construction Industry</li> <li>- Understand the “on center” spacing requirements of wall studs in a common wall framing system</li> <li>- Describe how stud layouts are made on wall plates</li> <li>- Explain the correct procedure to follow when assembling a common wall framing system</li> <li>- Understand the difference between partition and load bearing walls</li> <li>- Explain methods of forming outside corners and intersections in wall framing</li> <li>- Identify construction materials used to construct common wall framing systems</li> <li>- Identify the common parts of a wall framing system</li> <li>- Understand the role of headers, trimmers, and cripples when assembling a rough opening in a wall framing system</li> </ul>		5	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> <li>• Hands-on experience</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook_</li> </ul>
<p><b>Roof Framing Systems</b></p> <ul style="list-style-type: none"> <li>- Technical Vocabulary</li> <li>- Layout and Frequencies</li> <li>- Roof Framing Systems</li> <li>- Pre-Engineered Roof Framing Systems</li> <li>- Components</li> </ul>	<ul style="list-style-type: none"> <li>- Understand technical terminology related to common components and installation of roof framing systems found in the Construction Industry</li> <li>- Understand the “on center” spacing requirements of rafters and ceiling joists in a traditional roof framing system</li> <li>- Explain the correct procedure to follow when assembling a traditional roof framing system</li> <li>- List and describe the various roof types</li> <li>- Understand the difference between traditional roof framing and pre-engineered roof framing systems</li> <li>- Define the roof design terms slope and pitch</li> <li>- List the various components of a pre-engineered roof framing system</li> <li>- Understand the “on center” spacing requirements of a pre-engineered roof framing system</li> <li>- Explain the correct procedure to follow when assembling a pre-engineered framing system</li> <li>- Identify construction materials used to construct traditional and pre-engineered wall framing systems Identify the common parts of a traditional wall framing system</li> </ul>		5	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Board work</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• In-class assignments</li> <li>• Lecture</li> <li>• Project based</li> <li>• Reading Assignments</li> <li>• Written exercises</li> <li>• Hands-on experience</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• Homework</li> <li>• In-class assignments</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Quiz</li> <li>• Reading Assignments</li> <li>• Review questions</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Technology</li> <li>• Test</li> <li>• Verbal response</li> <li>• Visual evaluation</li> <li>• Worksheets</li> </ul>	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Teacher Handouts</li> <li>• Textbook</li> <li>• Video</li> <li>• Workbook_</li> </ul>

<b>Project</b>	<ul style="list-style-type: none"> <li>- Construct a personal scaled model project that represents a common platform floor framing system, a common wall framing system, and a traditional roof framing system</li> <li>- Identify and understand the purpose of all the construction components represented on the personal scaled framing model project</li> </ul>		15	<ul style="list-style-type: none"> <li>• Activity</li> <li>• Demonstrate</li> <li>• Discuss</li> <li>• Guided practice</li> <li>• Hands-on experience</li> <li>• In-class assignments</li> <li>• Individual instruction</li> <li>• Modeling</li> <li>• Project based</li> <li>• Simulation</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking activity</li> <li>• Daily work</li> <li>• Demonstrate</li> <li>• Evaluate student work</li> <li>• In-class assignments</li> <li>• Observation of student</li> <li>• Oral feedback</li> <li>• Participation</li> <li>• Project activities</li> <li>• Student work displays</li> <li>• Teacher Guided Practice</li> <li>• Teacher observation</li> <li>• Visual evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher Handouts</li> </ul>
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**Materials to be Used in the Classroom**

**Textbook:**

- Goodheart-Willcox Company: *Modern Carpentry* – Wagner/Smith (2008)

**Software:**

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**Additional References:**

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**Last updated:**

Friday, December 16<sup>th</sup>, 2011

**Date Posted:**

Monday, December 19<sup>th</sup>, 2011

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