



# Regional Occupational Program

## Woodworking Occupations A-G

### 2026-2027

#### COURSE DESCRIPTION

Students will prepare for entry-level positions in the woodworking industry. This course includes basic and advanced tools and equipment, special materials, and various wood finishes. The course is designed to serve students with a limited background in woodworking and students with previous training and experience in woodworking. The students will demonstrate their knowledge and skill level by designing and completing wood projects.

#### Course Information

Course Length: 1 Year  
 Prerequisite: None  
 Course Level: Concentrator  
 UC: Yes G - Elective  
 Articulated: No  
 Industry Cert.: No  
 Industry Sector: Construction Trades  
 Pathway: Cabinetry, Millwork and Woodworking  
 CALPADS: 7311

#### O\*Net SOC Codes

51-7042 Woodworking Machine Setters,  
 Operators, and Tenders, Except Sawing  
 47-2031 Carpenters  
 51-7021 Furniture Finishers

#### Legend

CTE - PS CTE Pathway Standards  
 CRP Career Ready Practices  
 CTE - AS CTE Anchor Standards  
 CCSS Common Core State Standards  
 ISTE International Society for Technology in Education

*Includes updates from the 25/26 Construction Advisory  
[Advisory Minutes](#)*

## Woodworking Occupations

### Course Orientation

- a. Discuss objectives for this course, including competencies, teacher expectations, classroom policies, and procedures.
- b. Identify and discuss the acquisition of transferable skills (communication, collaboration, creativity, and critical thinking) and their importance to being college and career ready and for future personal and professional success.
- c. Review objectives, competencies, and course syllabus.
- d. Discuss student and teacher expectations, including behavior, class rules, appropriate dress, pre-course knowledge, and grading policies, including enrollment and attendance requirements and procedures, and classroom/school safety and disaster procedures.
- e. Discuss next steps in course sequence related to the career pathway, the need for reinforcement of basic skills, transferrable skills, and postsecondary and career options.
- f. Discuss the Big Six: Career Ready Essentials and the Standards for Career Ready Practice as they relate to this course, all aspects of the industry sector, and being college and career ready.

### Big Six: Career Ready Essentials

1. Effective Communication	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ol style="list-style-type: none"> <li>a. <b>Demonstrate effective verbal communication and conflict resolution skills</b></li> <li>b. <b>Use the writing process to develop written communication with the appropriate tone, organization, and format for the identified audience.</b></li> <li>c. Explain the effect of interpersonal skills on one's ability to communicate effectively and develop relationships.</li> <li>d. Describe the impact of ineffective communication on business relationships.</li> <li>e. Analyze the impact of vocabulary, body language, and tone on verbal communication.</li> <li>f. Demonstrate active listening skills.</li> <li>g. Accurately interpret industry-specific written communication.</li> <li>h. Model responsible and effective use of various communication technologies.</li> <li>i. Identify valid and reliable digital reference and resource materials.</li> <li>j. Gather information from multiple digital sources to compare and contrast, synthesize, and summarize.</li> <li>k. Identify and use appropriate communication and collaboration technologies.</li> <li>l. Utilize technology to problem solve, accomplish tasks, and to produce or publish products.</li> </ol>		<u>1</u> <u>2</u> <u>11</u>	<u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>7</u> <u>8</u> <u>9</u> <u>10</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>SLS</u> <u>11-12.2</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u>  <u>WS</u> <u>11-12.7</u> <u>11-12.6</u>	<u>1b,c</u> <u>2c</u> <u>3b,c</u> <u>5c</u> <u>6b,c,d</u>
2. Collaboration, Creativity, and Critical Thinking	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ol style="list-style-type: none"> <li>a. <b>Demonstrate critical thinking skills for a variety of purposes and in different settings.</b></li> <li>b. <b>Collaborate to reach consensus on an identical objective through the sharing of knowledge, tasks, and learning.</b></li> <li>c. Discuss the importance of the critical thinking process to real-world applications.</li> </ol>		<u>2</u> <u>4</u> <u>5</u> <u>7</u> <u>9</u>	<u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>7</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>SLS</u> <u>9-10</u>	<u>1c</u> <u>3c,d</u> <u>4a-d</u> <u>5c,d</u> <u>6c</u>

<ul style="list-style-type: none"> <li>d. Evaluate the impact of creative thinking on problem solving and innovation in real-world applications.</li> <li>e. Compile work that demonstrates the process used to (elaborate, refine, analyze) evaluate original ideas and maximize creative efforts.</li> <li>f. Apply divergent and convergent thinking to the development of an original idea or solution.</li> <li>g. Examine real-world limits to adopting ideas.</li> <li>h. Demonstrate creative thinking (preparation, insight, evaluation, elaboration, and communication) to create a new idea or concept.</li> <li>i. Assume shared responsibility for collaborative work, and value the individual contributions made by each team member.</li> <li>j. Evaluate evidence, arguments, claims, and beliefs to identify connections.</li> <li>k. Identify bias, prejudice, propaganda, self-deception, distortion, and misinformation.</li> <li>l. Produce intellectual, informational, or material products that serve an authentic purpose.</li> <li>m. Work effectively and respectfully with those from diverse backgrounds or cultures.</li> <li>n. Demonstrate respect, trust, commitment, and the ability to compromise in collaborative projects.</li> </ul>		<u>10</u> <u>11</u>	<u>8</u> <u>9</u> <u>11</u>	<u>11-12.1</u> <u>11-12.1d</u> <u>11-12.2</u>  <u>WS</u> <u>11-12.7</u> <u>11-12.6</u>	<u>7b,c,d</u>
<b>3. Leaders and Teams: Roles and Responsibilities</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Determine the individual and team members' roles and responsibilities.</b></li> <li>b. <b>Demonstrate leadership skills and qualities (i.e., reliability, negotiation skills, initiative, positive reinforcement, recognition of others' efforts, problem-solving skills, conflict resolution, and delegation).</b></li> <li>c. Explain the importance of technical, social, and communication skills to team success.</li> <li>d. Compare and contrast leadership styles and their effectiveness in various situations.</li> <li>e. Organize and delegate responsibilities in a team setting to encourage ideas, perspectives, and contributions from all team members.</li> <li>f. Develop a strong sense of team identity by brainstorming solutions, volunteering, assisting others, practicing respect and courtesy, and taking initiative.</li> <li>g. Examine situations in which a follower becomes the leader.</li> <li>h. Describe twenty-first-century skills required across all occupations.</li> <li>i. Identify and discuss the characteristics of a successful team (i.e., leadership, cooperation, and effective decision-making).</li> <li>j. Leverage social and cultural differences to increase innovation and quality of work.</li> </ul>		<u>7</u> <u>8</u> <u>9</u>	<u>3</u> <u>7</u> <u>8</u> <u>9</u> <u>11</u>	<u>SLS</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u> <u>11-12.2</u>  <u>WS</u> <u>11-12.6</u>	<u>7a,c</u>
<b>4. Legal, Ethical, and Environmental Considerations</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Demonstrate industry specific ethical and legal practices.</b></li> <li>b. <b>Identify eco-friendly industry specific practices and resources.</b></li> <li>c. Identify local, state, and federal regulatory agencies, entities, laws, and regulations.</li> </ul>		<u>5</u> <u>7</u> <u>8</u>	<u>3</u> <u>5</u> <u>7</u>	<u>WS</u> <u>11-12.6</u> <u>11-12.7</u>	<u>2a,b</u> <u>3a,b</u> <u>5c</u>

<ul style="list-style-type: none"> <li>d. Identify discrimination based on race, nationality, religion, gender, age, disability, or sexual orientation.</li> <li>e. Summarize the ethical and legal implications of workplace discrimination and harassment.</li> <li>f. Explain the concept of corporate citizenship.</li> <li>g. Examine an employer's role in protecting the health and welfare of employees, the community, and the environment.</li> <li>h. Analyze current environmental laws and regulations and their impact on industry.</li> <li>i. Compare and contrast both society's and industry's impact on the environment.</li> </ul>		<u>12</u>	<u>8</u> <u>9</u> <u>11</u>	<u>SLS</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u> <u>11-12.2</u>	<u>6c</u>
<b>5. Personal Growth and Career Planning</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Demonstrate continued personal development and growth.</b></li> <li>b. <b>Develop and manage a personal growth and career plan.</b></li> <li>c. Explain the relationship between sound financial habits and financial security.</li> <li>d. Create and manage a personal financial plan.</li> <li>e. Demonstrate initiative in achieving personal and professional goals.</li> <li>f. Apply time management strategies to meet deadlines.</li> <li>g. Demonstrate a growth mindset through flexibility and a positive attitude.</li> <li>h. Select and demonstrate appropriate job-search and retention techniques.</li> <li>i. Demonstrate strategies to prepare for employment.</li> <li>j. Demonstrate interpersonal skills appropriate for the workplace.</li> <li>k. Elaborate on the importance of perseverance to personal and professional success.</li> <li>l. Discover personal career interests, aptitudes, and skills.</li> </ul>		<u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>6</u>	<u>2</u> <u>3</u> <u>4</u> <u>7</u> <u>8</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>SLS</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u> <u>11-12.2</u>  <u>WS</u> <u>11-12.6</u>	<u>1a</u> <u>3a,c</u> <u>4d</u> <u>6a,d</u> <u>7b</u>
<b>6. Workplace Safety and Personal Wellness</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Demonstrate proper industry specific safe work practices to prevent injury or illness.</b></li> <li>b. <b>Assess the potential impact of goal setting on personal and professional success.</b></li> <li>c. Describe the role of security and emergency procedures in workplace safety.</li> <li>d. Describe the effect of preventative measures on emergencies in the workplace.</li> <li>e. Identify and describe the causes, prevention, and treatment of common accidents.</li> <li>f. Identify local, state, and federal agencies that regulate workplace safety.</li> <li>g. Explain the role of the California Occupational Safety and Health Administration (Cal-OSHA) and the Environmental Protection Agency (EPA).</li> <li>h. Discuss the basics of system operations.</li> <li>i. Demonstrate the proper use of personal protective equipment (PPE).</li> <li>j. Explain the purpose of and accurately interpret a Safety Data Sheet (SDS).</li> <li>k. Identify hazardous materials and chemicals.</li> <li>l. Demonstrate proper procedures to respond to work-related accidents and injuries.</li> <li>m. Describe how ergonomics, housekeeping, and maintenance are related to accidents and injuries.</li> </ul>		<u>2</u> <u>5</u> <u>6</u> <u>8</u> <u>12</u>	<u>2</u> <u>5</u> <u>6</u> <u>7</u> <u>8</u> <u>10</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u> <u>11-12.6</u>  <u>SLS</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u>	<u>1a,d</u> <u>2a,d</u> <u>5b</u>

n. Demonstrate cyber ethics, cyber safety, and cybersecurity.					
o. Assess the potential impact of preventative physical and mental health measures on workplace safety.					

**Woodworking Occupations Units of Instruction**

<b>7. Materials and Measurement</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Demonstrate proper measurement and calculations used in woodworking and identify and describe assorted wood types or products and their properties.</b></li> <li>b. Define and use linear measurement.</li> <li>c. Demonstrate how to calculate board feet.</li> <li>d. Convert fractions to decimals and decimals to fractions.</li> <li>e. Assess the value of Pythagorean’s theorem as applied in woodworking occupations.</li> <li>f. Calculate the area of geometric shapes.</li> <li>g. Identify and describe grades of lumber.</li> <li>h. Identify and describe the uses of assorted wood types such as softwoods, hardwoods laminates and veneers.</li> <li>i. Compare and contrast the properties of hardwoods and softwoods.</li> </ul>	<a href="#">A1.3</a> <a href="#">A5.1</a> <a href="#">A5.2</a> <a href="#">A5.3</a> <a href="#">A5.8</a> <a href="#">A5.11</a>	<u>1</u> <u>2</u> <u>4</u> <u>5</u>	<u>1</u> <u>2</u> <u>4</u> <u>5</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.6</u> <u>11-12.7</u>	
<b>8. Tools and Equipment</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Identify and describe woodworking tools and equipment and demonstrate their safe and proper operation.</b></li> <li>b. Identify and describe measuring and layout tools.</li> <li>c. Demonstrate safe and proper operations of measuring and layout tools.</li> <li>d. Identify and describe and proper woodworking hand tools.</li> <li>e. Identify and describe woodworking machine tools.</li> <li>f. Demonstrate safe and proper operation of woodworking machine tools.</li> <li>g. Identify and describe the proper maintenance of woodworking tools and equipment.</li> </ul>	<a href="#">A4.0</a> <a href="#">A4.1</a> <a href="#">A4.6</a>	<u>1</u> <u>2</u>	<u>1</u> <u>2</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>	
<b>9. Principles and Elements of Design and Layout</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Describe and demonstrate elements and principles of design and layout.</b></li> <li>b. Describe and utilize principles of design such as material, form, and function.</li> <li>c. Formulate and implement design elements such as space, shape, esthetics, and finish.</li> <li>d. Identify examples of traditional and classic designs.</li> <li>e. Summarize how historical, cultural, and geographical considerations can influence design.</li> <li>f. Develop a layout pattern for a project incorporating the elements of design.</li> </ul>	<a href="#">A1.2</a> <a href="#">A1.5</a> <a href="#">A1.6</a> <a href="#">A2.1</a> <a href="#">A2.3</a>	<u>1</u> <u>2</u> <u>5</u> <u>10</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u>  <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>	
<b>10. Finishes</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>

<p>a. <b>Identify and describe assorted finishes and demonstrate appropriate application techniques.</b></p> <p>b. Identify and describe types of finish preparation.</p> <p>c. Communicate how to remove excess adhesive from a project.</p> <p>d. Compare and contrast oil base and water base finishes and describe their application procedure.</p> <p>e. Create, navigate, and modify a Smart Art diagram, e.g., changing the diagram type, color, and size, creating a picture-based SmartArt.</p>	<a href="#">A6.1</a> <a href="#">A6.11</a> <a href="#">A9.0</a> <a href="#">A9.4</a>	<u>1</u> <u>2</u> <u>5</u> <u>10</u>	<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<a href="#">LS</a> <a href="#">9-10</a> <a href="#">11-12.6</a>  <a href="#">WS</a> <a href="#">11-12.7</a>	
<p><b>11. Individual or Team Project Manufacture</b></p>	<p><b>CTE - PS</b></p>	<p><b>CRP</b></p>	<p><b>CTE - AS</b></p>	<p><b>CCSS</b></p>	<p><b>ISTE</b></p>
<p>a. <b>Develop and manufacture a project per guidelines.</b></p> <p>b. Student or team identifies and designs a project.</p> <p>c. Do an accurate estimate drawing.</p> <p>d. Do an accurate working drawing.</p> <p>e. Create a practical project cost estimate that includes materials, labor, and timelines, overhead, profit, and add-ons.</p> <p>f. Create the cut list.</p> <p>g. Manufacture, assemble and apply appropriate finish to the project.</p> <p>h. Determine the actual costs and compare it with the estimated costs.</p> <p>i. Peer review of the project to assess customer satisfaction.</p>	<a href="#">A1.8</a> <a href="#">A3.3</a> <a href="#">A3.2</a> <a href="#">A3.5</a> <a href="#">A3.6</a>	<u>1</u> <u>2</u> <u>5</u> <u>9</u> <u>10</u>	<u>1</u> <u>2</u> <u>5</u> <u>9</u> <u>11</u>	<a href="#">LS</a> <a href="#">9-10</a> <a href="#">11-12.6</a>  <a href="#">WS</a> <a href="#">11-12.7</a>  <a href="#">SLS</a> <a href="#">11-12.1b</a>	

1.	Demonstrate their knowledge of material use, layout, and design through the accurate use of common measuring and layout tools while constructing an authentic wood product. <i>Unit(s) 7, 8</i>
2.	Select project material and calculate the quantity of material needed to complete the project, including linear measurement, board feet, and other required calculations. <i>Unit(s) 7</i>
3.	Using teacher-provided plans, students will develop a materials list for a project, including the estimated type, quantity, and cost of materials required. <i>Unit(s) 7, 11</i>
4.	As an introductory woodworking project, students will review teacher-provided specifications and technical drawings for a small project such as a cutting board, then read and interpret the drawings to produce the project using basic woodworking tools and machinery. <i>Unit(s) 8, 11</i>
5.	Complete an assigned project according to a teacher-designed rubric and the steps outlined in the project plan. <i>Unit(s) 8, 11</i>
6.	Develop a bill of materials and a plan of procedures, including a timeframe for completing the assigned project. <i>Unit(s) 8, 11</i>
7.	Students will learn design principles such as space, scale, proportion, and color and apply them to finished project drawings that communicate an idea, theme, or style. <i>Unit(s) 9</i>
8.	Analyze traditional, classic, and modern design influences and incorporate appropriate design elements into a woodworking project layout. <i>Unit(s) 9</i>
9.	After teacher demonstration and guided practice, students will continue to develop woodworking techniques such as squaring, cutting to specifications, long-grain fastening, and appropriate gluing techniques, while documenting proper procedures in construction notebooks. <i>Unit(s) 8, 9</i>
10.	Practice safe use of tools including the handsaw, circular saw, and jig saw after observing teacher demonstrations and guided instruction. <i>Unit(s) 8</i>
11.	After fabricating and assembling a project, students will prepare surfaces and apply appropriate finishes, so the piece is smooth, protected, and suitable for use. <i>Unit(s) 10, 11</i>
12.	Compare oil-based and water-based finishes and select an appropriate finish for a given project based on intended use and desired appearance. <i>Unit(s) 10</i>
13.	Create, navigate, and modify a SmartArt diagram to visually communicate project or finishing information. <i>Unit(s) 10</i>
14.	<p>Final Project: <i>Unit(s) 8, 9, 10, 11</i></p> <ul style="list-style-type: none"> <li>• Submit ideas for an individual or group woodworking project and evaluate feasibility based on project requirements, time, materials, and cost.</li> <li>• Prepare estimate drawings, working drawings, cost estimates, and cut lists for a final woodworking project.</li> <li>• Manufacture, assemble, and finish the final project, then compare actual costs with estimated costs.</li> </ul>

## **Standards Alignment**

The curricula have been aligned with the CTE Model Curriculum Standards released in 2013. Each industry sector was updated to meet the increased rigor and relevancy requirements of the Common Core State Standards. The curriculum also includes the new Standards for Career Ready Practices.

### Standards for Career Ready Practice

1. *Apply appropriate technical skills and academic knowledge.*
2. *Communicate clearly, effectively, and with reason.*
3. *Develop an education and career plan aligned with personal goals.*
4. *Apply technology to enhance productivity.*
5. *Utilize critical thinking to make sense of problems and persevere in solving them.*
6. *Practice personal health and understand financial literacy.*
7. *Act as a responsible citizen in the workplace and the community.*
8. *Model integrity, ethical leadership, and effective management.*
9. *Work productively in teams while integrating cultural and global competence.*
10. *Demonstrate creativity and innovation.*
11. *Employ valid and reliable research strategies.*
12. *Understand the environmental, social, and economic impacts of decisions.*

### *Anchor Standard 1: Academics*

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the industry sector alignment matrix for identification of standards. Note: alignment listed within each sector.

### *Anchor Standard 2: Communications*

Language Standard: Acquire and accurately use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the (career and college) readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. LS 9-10, 11-12.6

### *Anchor Standard 3: Career Planning and Management*

Speaking and Listening Standard: Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data. SLS 11-12.2

### *Anchor Standard 4: Technology*

Writing Standard: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments and information.

### *Anchor Standard 5: Problem Solving and Critical Thinking*

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

### *Anchor Standard 6: Health and Safety*

Reading Standards for Science and Technical Subjects: Determine the meaning of symbols, keywords, and other domain-specific words and phrases as they are used in a specific scientific or technical context. RSTS 9-10, 11-12.4

### *Anchor Standard 7: Responsibility and Flexibility*

Speaking and Listening Standard: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others' ideas and expressing their own clearly and persuasively. SLS 9-10, 11-12.1

### *Anchor Standard 8: Ethics and Legal Responsibilities*

Speaking and Listening Standard: Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the work. SLS 11-12.1d

### *Anchor Standard 9: Leadership and Teamwork*

Speaking and Listening Standard: Work with peers to promote civil, democratic discussions and decision making; set clear goals and deadlines; and establish individual roles as needed. SLS 11-12.1b

### *Anchor Standard 10: Technical Knowledge and Skills*

Writing Standard: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. WS 11-12.6

### *Anchor Standard 11: Demonstration and Application*

Demonstrate and apply the knowledge and skills contained in the industry-sector anchor standards, pathway standards, and performance indicators in the classroom, laboratory, and workplace settings, and the career technical student organization. Note: no alignment evident for this standard. WS 11-12.6

## CTE Model Curriculum Standards—Industry Sectors and Pathways

### **Building and Construction Trades**

#### **A. Cabinetry, Millwork, and Woodworking Pathway**

- A1.2 Describe the relationship between the function and form of a cabinet.
- A1.3 Calculate board, square, and linear feet.
- A1.5 Apply design elements: shapes, textures, lines, and colors to create functional and attractive cabinets, furniture, and millwork.
- A1.6 Apply principles of design, harmony, repetitions, balance, and proportion to create functional and attractive cabinets, furniture, and millwork.
- A1.8 Sketch a project using manual drawing techniques.
- A2.1 Identify various cabinet styles and list characteristics of traditional, provincial, and contemporary designs.
- A2.3 Explain the progress of cabinetry and furniture styles from the seventeenth century to today.
- A3.2 Evaluate an existing bill of materials for accuracy.
- A3.3 Determine the cost of materials needed for a cabinet or furniture project.
- A3.5 Compare and contrast the cost of a specific project using different materials.
- A3.6 Develop a materials list, cut list, and cost estimate from a working drawing for a specific cabinet project.
- A4.0 Demonstrate proper selection and use of woodworking tools.
- A4.1 Demonstrate the accurate use of common measuring and layout tools.
- A4.6 Select the proper hand-shaping tools for specific operations.
- A5.1 Define the difference between a hardwood and softwood.
- A5.2 Identify several different species of hardwood and their characteristics that are common to the cabinetmaking and millwork industry.
- A5.3 Identify several different species of softwood and their characteristics that are common to the cabinetmaking and millwork industry.
- A5.8 Identify standard sizes and grades of various laminates.
- A5.11 Identify standard sizes and grades of various veneers.
- A6.11 Demonstrate the proper cleanup procedures for specific adhesives.
- A9.0 Understand finishes and when to apply paint, stains, sealers, varnishes, and catalyzed finishes, including water- and oil-based finishes.
- A9.4 Demonstrate proper application methods for different types of sealers and finish coats.

## ISTE Standards for Students

**1. Empowered Learner-** *Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.*

- a) Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes.*
- b) Students build networks and customize their learning environments in ways that support the learning process.*
- c) Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways*
- d) Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.*

**2. Digital Citizen-** *Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe, legal, and ethical.*

- a) Students cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.*
- b) Students engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.*
- c) Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.*
- d) Students manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.*

**3. Knowledge Constructor-** *Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.*

- a) Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.*
- b) Students evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.*
- c) Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.*
- d) Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.*

**4. Innovative Designer-** *Students use a variety of technologies within a design process to identify and solve problems creating new, useful, or imaginative solutions.*

- a) Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.*
- b) Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.*
- c) Students develop, test, and refine prototypes as part of a cyclical design process.*
- d) Students exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.*

**5. Computational Thinker-** *Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.*

- a) Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models, and algorithmic thinking in exploring and finding solutions.*
- b) Students collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.*
- c) Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.*
- d) Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.*

**6. Creative Communicator-** *Students communicate clearly and express themselves creatively for a variety of purposes using platforms, tools, styles, formats, and digital media appropriate for their goals.*

*a) Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.*

*b) Students create original works or responsibly repurpose or remix digital resources into new creations.*

*c) Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.*

*d) Students publish or present content that customizes the message and medium for their intended audiences.*

**7. Global Collaborator-** *Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.*

*a) Students use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.*

*b) Students use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.*

*c) Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.*

*d) Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.*