Regional Occupational Program

Furniture/Cabinet Manufacturing & Finishing A-G 2025-2026

COURSE DESCRIPTION

This competency-based course prepares students for entry-level positions in furniture and cabinet manufacturing. The course includes the use of basic and advanced tools and equipment, as well as special materials and various wood finishes. The course is designed to serve students with a background in woodworking. The students will demonstrate their knowledge and skill level by integrating what they have learned to design and create a piece of furniture or cabinet.

Course Information

Course Length:	2 Years
Prerequisite:	Woodworking Occupations
Course Level:	Capstone
UC:	Yes G - Elective
Articulated:	No
Industry Cert.:	No
Industry Sector:	Building and Construction Trades
Pathway:	Cabinetry, Millwork & Woodworking
CALPADS:	7312

O*Net SOC Codes

51-7042	Woodworking Machine Setters, Operators and Tenders, Except Sawing
51-7011	Cabinetmakers and Bench Carpenters
51-7021	Furniture Finisher

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 24/25 Construction Advisory

Advisory Minutes

Furniture/Cabinet Manufacturing & Finishing

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
a. Demonstrate effective verbal communication and conflict resolution skills. **b. Use the writing process to develop written communication with the appropriate tone, organization, and format for the identified audience.** c. Explain the effect of interpersonal skills on one's ability to communicate effectively and develop relationships. d. Describe the impact of ineffective communication on business relationships. e. Analyze the impact of vocabulary, body language, and tone on verbal communication. f. Demonstrate active listening skills. g. Accurately interpret industry-specific written communication. h. Model responsible and effective use of various communication technologies. i. Identify valid and reliable digital reference and resource materials. j. Gather information from multiple digital sources to compare and contrast, synthesize, and summarize. k. Identify and use appropriate communication and collaboration technologies. l. Utilize technology to problem solve, accomplish tasks, and to produce or publish products.		1 2 11	2 3 4 5 7 8 9 10 11	**LS** 9-10 11-12.6 **SLS** 11-12.2 9-10 11-12.1 11-12.1d **WS** 11-12.7 11-12.6	1b,c 2c 3b,c 5c 6b,c,d

2. Collaboration, Creativity, and Critical Thinking	CTE - PS	CRP	CTE - AS	CCSS	ISTE
a. Demonstrate critical thinking skills for a variety of purposes and in different settings. **b. Collaborate to reach consensus on an identical objective through the sharing of knowledge, tasks, and learning.**		2 4 5	2 3 4	**LS** 9-10 11- 12.6	1c 3c,d 4a-d

c. Discuss the importance of the critical thinking process to real-world applications. d. Evaluate the impact of creative thinking on problem solving and innovation in real-world applications. e. Compile work that demonstrates the process used to (elaborate, refine, analyze) evaluate original ideas and maximize creative efforts. f. Apply divergent and convergent thinking to the development of an original idea or solution. g. Examine real-world limits to adopting ideas. h. Demonstrate creative thinking (preparation, insight, evaluation, elaboration, and communication) to create a new idea or concept. i. Assume shared responsibility for collaborative work, and value the individual contributions made by each team member. j. Evaluate evidence, arguments, claims, and beliefs to identify connections. k. Identify bias, prejudice, propaganda, self-deception, distortion, and misinformation. l. Produce intellectual, informational, or material products that serve an authentic purpose. m. Work effectively and respectfully with those from diverse backgrounds or cultures. n. Demonstrate respect, trust, commitment, and the ability to compromise in collaborative projects.		7 9 10 11	5 7 8 9 11	**SLS** 9-10 11-12.1 11-12.1d 11-12.2 **WS** 11-12.7 11-12.6	5c,d 6c 7b,c,d
3. Leaders and Teams: Roles and Responsibilities	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Determine the individual and team members' roles and responsibilities. **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).** c. Explain the importance of technical, social, and communication skills to team success. d. Compare and contrast leadership styles and their effectiveness in various situations. e. Organize and delegate responsibilities in a team setting to encourage ideas, perspectives, and contributions from all team members. f. Develop a strong sense of team identity by brainstorming solutions, volunteering, assisting others, practicing respect and courtesy, and taking initiative. g. Examine situations in which a follower becomes the leader. h. Describe twenty-first-century skills required across all occupations. i. Identify and discuss the characteristics of a successful team (i.e., leadership, cooperation, and effective decision-making). j. Leverage social and cultural differences to increase innovation and quality of work.		7 8 9	3 7 8 9 11	**SLS** 11-12.2 9-10 11-12.1 11-12.1d **WS** 11-12.6	7a,c
4. Legal, Ethical, and Environmental Considerations	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Demonstrate industry specific ethical and legal practices. **b. Identify eco-friendly industry specific practices and resources.**		5 7	3 5	**WS** 11-12.6	2a,b 3a,b

c. Identify local, state, and federal regulatory agencies, entities, laws, and regulations. d. Identify discrimination based on race, nationality, religion, gender, age, disability, or sexual orientation. e. Summarize the ethical and legal implications of workplace discrimination and harassment. f. Explain the concept of corporate citizenship. g. Examine an employer's role in protecting the health and welfare of employees, the community, and the environment. h. Analyze current environmental laws and regulations and their impact on industry. i. Compare and contrast both society's and industry's impact on the environment.		8 12	7 8 9 11	11-12.7 **SLS** 9-10 11-12.1 11-12.1d 11-12.2	5c 6c
5. Personal Growth and Career Planning	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Demonstrate continued personal development and growth. **b. Develop and manage a personal growth and career plan.** c. Explain the relationship between sound financial habits and financial security. d. Create and manage a personal financial plan. e. Demonstrate initiative in achieving personal and professional goals. f. Apply time management strategies to meet deadlines. g. Demonstrate a growth mindset through flexibility and a positive attitude. h. Select and demonstrate appropriate job-search and retention techniques. i. Demonstrate strategies to prepare for employment. j. Demonstrate interpersonal skills appropriate for the workplace. k. Elaborate on the importance of perseverance to personal and professional success. l. Discover personal career interests, aptitudes, and skills.		1 2 3 4 6	2 3 4 7 8 11	**LS** 9-10 11-12.6 **SLS** 9-10 11-12.1 11-12.1d 11-12.2 **WS** 11-12.6	1a 3a,c 4d 6a,d 7b
6. Workplace Safety and Personal Wellness	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Demonstrate proper industry specific safe work practices to prevent injury or illness. **b. Assess the potential impact of goal setting on personal and professional success.** c. Describe the role of security and emergency procedures in workplace safety. d. Describe the effect of preventative measures on emergencies in the workplace. e. Identify and describe the causes, prevention, and treatment of common accidents. f. Identify local, state, and federal agencies that regulate workplace safety. g. Explain the role of the California Occupational Safety and Health Administration (Cal-OSHA) and the Environmental Protection Agency (EPA). h. Discuss the basics of system operations. i. Demonstrate the proper use of personal protective equipment (PPE). j. Explain the purpose of and accurately interpret a Safety Data Sheet (SDS). k. Identify hazardous materials and chemicals. l. Demonstrate proper procedures to respond to work-related accidents and injuries.		2 5 6 8 12	2 5 6 7 8 10 11	**LS** 9-10 11-12.6 **WS** 11-12.7 11-12.6 **SLS** 9-10 11-12.1 11-12.1d	1a,d 2a,d 5b

m. Describe how ergonomics, housekeeping, and maintenance are related to accidents and injuries. n. Demonstrate cyber ethics, cyber safety, and cybersecurity. o. Assess the potential impact of preventative physical and mental health measures on workplace safety.					
Furniture/Cabinet Manufacturing & Finishing Units of Instruction					
7. Measurement and Calculation	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Make proper measurements and calculations for woodworking and cabinetry applications. b. Define and use linear measurement. c. Demonstrate how to calculate board feet. d. Convert fractions to decimals and decimals to fractions. e. Assess the value of Pythagorean's theorem as applied in furniture assembly and cabinetry. f. Calculate the area of geometric shapes.	A1.3	1 2 5 7 8 10 11	1 2 5 7 8 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d	
8. Materials	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Identify and describe assorted wood types and their properties. b. Identify and describe the uses of assorted wood types such as softwoods, hardwoods laminates and veneers. c. Identify and describe grades of lumber. d. Compare and contrast the properties of hardwoods and softwoods. e. Categorize the strength, density, and moisture content of assorted woods	A5.0 A5.1 A5.2 A5.3 A6.0 A6.12	1 2 5 11 12	1 2 5 11	**LS** 9-10 11-12.6 **WS** 11-12.7	
9. Tools and Equipment	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Progressively obtain competency with tools and equipment that increase in difficulty and skill levels required to operate them. b. Identify and describe woodworking machine tools. c. Demonstrate safe and proper operation of woodworking machine tools. d. Identify and describe the proper maintenance of woodworking tools and equipment.	A4.0 A4.2	1 2 5 7 8 9 10 11	1 2 5 7 8 9 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d	

10. Wood Joinery	CTE - PS	CRP	CTE - AS	CCSS	ISTE
a. Demonstrate competency creating various wood joints with assorted woods. b. Identify and create multiple wood joints. c. Compare and contrast joints in hard and soft woods.	A6.12 A6.13	1 2 5 7 8 9 10 11	1 2 5 7 8 9 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d	
11. Cutting and Assembly of Parts	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. **Competently bring together cut parts using different methods of assembly.** b. Determine the order of parts to be cut. c. Identify and apply assorted system for cutting parts. d. Clamp and square integrated parts using methods such as adhesives, nails, and clamping apparatus.	A3.1 A6.9 A6.10	1 2 5 7 8 9 10 11	1 2 5 7 8 9 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d https://www.cde.ca.gov/be/st/ss/documents/finalelaccssstandards.pdf	
12. Drawers and Doors	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Evaluate and assemble multiple types of drawers and doors. b. Analyze the types of drawer and door construction. c. Layout, machine, and assemble drawers and doors. d. Cut and install ornamental wood items to drawers and doors.	A7.6 A7.7	1 2 5 7 8	1 2 5 7 8	**LS** 9-10 11-12.6 **WS** 11-12.7	

		9 10 11	9 11	**SLS** 9-10 11-12.1 11-12.1d	
13. Plastic Laminates	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Identify and critique the use of plastic laminates in furniture and cabinetry. b. Compare how laminates are manufactured and used for furniture and cabinets. c. Identify core stock and describe the surface preparation. d. Set and roll a plastic laminate. e. Shape and trim a laminate with a file and router.	A7.13	1 2 5 7 8 9 10 11 12	1 2 5 7 8 9 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d https://www.cde.ca.gov/be/st/ss/documents/finalelaccsstandards.pdf	
14. Blueprints and Working Drawings	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Determine the importance of reading blueprints and recognize their applications. b. Interpret specifications on a blueprint. c. Prepare working drawings from sketches. d. Prepare 'on the job' sketches. e. Complete a take-off bill of material from drawing. f. Estimate cost of material and labor. g. Develop a sequence of operations/plan of procedures.	A1.0 A1.4 A1.7 A1.8 A3.0	1 2 4 5 6 7 8 9 10 11 12	1 2 4 5 7 8 9 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d https://www.cde.ca.gov/be/st/ss/d	

				ocuments/finalelaccsstandards.pdf	
15. Finishing Systems	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Identify and describe multiple finishes and demonstrate appropriate application techniques. b. Identify and describe types of finish preparation. c. Communicate how to remove excess adhesive from a project. d. Identify and describe a variety of finishes and demonstrate proper application techniques for various finishes. e. Identify and describe types of finish preparation. f. Compare and contrast oil base and water base finishes and describe their application procedure.	A6.11 A8.4 A9.0	1 2 5 7 8 9 10 11 12	1 2 5 7 8 9 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d https://www.cde.ca.gov/be/st/ss/documents/finalelaccsstandards.pdf	
16. Furniture and Cabinet Design	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Describe and demonstrate elements and principles of design and layout. b. Describe and utilize principles of design such as material, form, and function. c. Formulate and implement design elements, such as space, shape, esthetics, and finish. d. Identify examples of traditional and classic designs. e. Summarize how historical, cultural, and geographical considerations can influence design. f. Develop a layout pattern for a piece of furniture or cabinet that incorporates the elements of design.	A1.5 A2.0	1 2 5 7 8 9 10 11 12	1 2 5 7 8 9 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d https://www.cde.ca.gov/be/st/ss/d	

				ocuments/finalelaccsstandards.pdf	
17. Furniture and Cabinet Construction Project	**CTE - PS**	**CRP**	**CTE - AS**	**CCSS**	**ISTE**
a. Develop and manufacture a piece of furniture or set of cabinets. b. Identify and design a piece of furniture or set of cabinets. c. Do an accurate estimate drawing. d. Do an accurate working drawing. e. Create a practical cost estimate that includes materials, labor, and timelines, overhead, profit and add-ons. f. Create an appropriate layout. g. Create a cut list. h. Manufacture, assemble, and apply appropriate finish to a piece of furniture or set of cabinets. i. Determine the actual costs and compare it with the estimated costs.	A1.0 A1.4 A3.0 A3.1 A3.2 A3.6	1 2 4 5 6 7 8 9 10 11 12	1 2 4 5 7 8 9 10 11	**LS** 9-10 11-12.6 **WS** 11-12.7 **SLS** 9-10 11-12.1 11-12.1d	

A-G Approved Key Assignments	
1.	Given several board sizes, students will calculate the board foot of each piece. Then using different lumber costs, students will calculate the cost for each species of wood. *Unit(s) 7*
2.	Students will construct and complete cabinet for grading. The cabinet will consist of doors and drawers, and installation of all hardware. The teacher will use a performance-based rubric and will assess the project for the following areas: Overall appearance, Proper use of tools and machines, Proper construction methods, Proper use of materials, and Use of time management. *Unit(s) 7*
3.	Students will be tested on the identification of types of softwood, hardwoods, and manufactured panel products. Also included in the test will be identification of common defects in lumber. *Unit(s) 8*
4.	Using the Wood Handbook (available online) or other online resources, find the dimensional change coefficient of expansion for three different wood species. Values should be listed for quarter-sawn and plain-sawn wood materials. *Unit(s) 8*
5.	Students will sand and assemble their projects using proper techniques and procedures. The project will be graded by the instructor using a rubric on the quality of the finished project. *Unit(s) 9*
6.	Students will construct at least 5 wood joint samples using the various machines and equipment in the shop. They will write a report explaining where each specific wood joint could be used or found on projects. *Unit(s) 10*
7.	Students will take a clamp identification test, which will also include topics of proper gluing and assembly processes. *Unit(s) 11*
8.	Create a plan of procedure for building an assigned cabinet. Identify each step of the process and create a list of the tools and machines you will need to build the project. Depending on the cabinet, you might have several sub-assemblies. *Unit(s) 11*
9.	Students will construct and complete cabinet for grading. The cabinet will consist of doors and drawers, and installation of all hardware. The teacher will use a performance-based rubric and will assess the project for the following areas: Overall appearance, Proper use of tools and machines, Proper construction methods, Proper use of materials, and use of time management. *Unit(s) 12*
10.	Write a three-page research paper on the evolution of plastic laminates comparing their past and modern applications in the furniture and cabinetry industry. *Unit(s) 13*
11.	Demonstrate the proper technique to set and roll a plastic laminate and shape and trim laminate with a file and router. *Unit(s) 13*
12.	Create a working drawing and a scaled multiview drawing showing the front, top, and both side views. Create the necessary detail drawing of any components of the project. Unit(s) 14
13.	Using their working and multiview drawings create a bill of material, calculate the board footage needed and produce costs for the materials. *Unit(s) 14*
14.	Select 5 different finishes. Using written or online resources, make a list of the potential application methods for each product. Compare the options. Which method is best for finishing and why? Share your observation with your table group. Unit(s)15
15.	Students will select and apply a finish to their projects. They will complete all finishing processes and stages. Once completed, the project will be graded on a rubric using performance-based standards. Unit(s) 15
16.	Students will work in groups and be given a photo from a room setting. They will identify and list the following on a poster: design elements and principles, major and minor masses, vertical and horizontal divisions, and areas of informal balance. *Unit(s) 16*
17.	Students will construct and complete set of cabinets for grading. The cabinets will consist of doors and drawers, and installation of all hardware. The teacher will use a performance-based rubric and will assess the project for the following areas: Overall appearance, Proper use of tools and machines, Proper construction methods, Proper use of materials, and use of time management. *Unit(s) 17*

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.*

CTE Anchor Standards—Common Core English Language Arts Alignment

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 11-2.1d

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

Building and Construction Trades

A. Cabinetry, Millwork, and Woodworking Pathway

A1.0 Demonstrate competence in planning, design, layout, and technical drawing interpretation for practical use in cabinetmaking and mill working.
A1.3 Calculate board, square, and linear feet.
A1.4 Estimate material costs.
A1.7 Read and interpret technical drawings.
A1.8 Sketch a project using manual drawing techniques.
A3.0 Interpret and apply information to develop a bill of materials, estimate the cost of materials, and develop a plan of procedures to complete a project.
A3.1 List the sequence of cutting procedures, assembly, and finishing steps.
A3.2 Evaluate an existing bill of materials for accuracy.
A3.6 Develop a materials list, cut list, and cost estimate from a working drawing for a specific cabinet project.
A5.0 Identify wood products and materials used in the furniture and cabinetmaking industry and describe their characteristics and uses.
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.
A6.0 Compare and contrast the advantages and disadvantages of using laminates verses using veneers.
A6.9 Demonstrate initial assembly and dry clamping procedures.
A6.10 Demonstrate the proper use and application of adhesives.
A6.11 Demonstrate the proper cleanup procedures for specific adhesives.
A6.12 Select the correct type of wood joint used for a specific application and material.
A7.6 Construct a cabinet drawer using appropriate construction techniques.
A7.7 Construct a cabinet door using appropriate construction techniques.
A7.13 Apply a plastic laminate to a surface using appropriate adhesive and trim to fit.
A8.4 Properly prepare a surface for finishing.
A9.0 Understand finishes and when to apply paint, stains, sealers, varnishes, and catalyzed finishes, including water- and oil-based finishes.

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.