SAN LEANDRO UNIFIED SCHOOL DISTRICT
COURSE PROPOSAL

SECTION A. COVER PAGE

1. Course Title: Wood Technology 1 Old Title: Wood 1	7. Action New Course XCourse Revision Title Change Only
2. Date Submitted: March, 2016	8. Grade Level(s) ▢ 6 X9 X11 ▢ 7 X 10 X12 ▢ 8
3. Transcript Title/Abbreviation(s)	9. Prerequisites (Please list.)
4. Transcript Course Code/Course Number :	10. Seeking Program Distinction? ▢ YES (Check one below.) NO ▢Honors ▢ AP XOther
5. Subject Area Advanced Manufacturing	11. Is this a CTE course? X YES ▢ NO If YES, complete Section C
6. Department CTE	12. Previously approved by UC? ▢ YES X NO ▢ NA for 6th-8th Year approved Year removed
13. UC ELIGIBILITY Already eligible? ▢ NA for 6th-8th ▢YES X NO a ▢ b▢ c▢ d▢ e▢ f▢ g▢ Proposing eligibility?▢ NA for 6th-8th X YES ▢NO a ▢ b▢ c▢ d▢ e▢ f▢ g X Please mark one for approved eligibility or proposed eligibility.	14. Unit Value/Course Credit/Length of Course ▢ 0.5 (semester or half-year X 1.0 (one year equivalent) ▢ 2.0 (two-year equivalent) ▢ Other

15. School Contact and Course Developer		
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16. Approval Signatures:	**Approval Date:**	**DISTRICT OFFICE USE ONLY**
Department Chair [signature]	4/5/16	**Date approved by Board Curriculum Committee**
Principal: [signature]	4/5/2016	**Date approved by Board**

SECTION B. COURSE CONTENT

17. Course Description

Using wood as the primary artistic medium, students will be provided with an in-depth experience in artistic perception, historical and cultural context, aesthetic valuing, creative expression and connections, relationships and applications by designing wood furnishings, and objects with various forms of wood species. This course will serve as a beginning course in the building trades and construction sequence of courses and advanced manufacturing. Having this course a-g accredited will truly support the students of the future being college and career ready, by providing them with knowledge and experience in the arts, and a skill set with machinery, and incorporating writing and math in a meaningful way.

Students will be instructed in learning various aspects of a shop and woodworking tools. The instruction will include basic rules and guidelines to insure safety, proper operational procedures, names and proper terminology used for each tool, and techniques necessary for quality production.

Wood Technology 1 is part of a sequence of courses in the cabinet-making and wood products pathway. The purpose of this course is to provide students with experiences in the elements of art and principles of design using wood as the primary artistic vehicle. Topics to be covered include industrial drawing, CNC, Engineering, design and construction techniques. Students are provided with an in-depth experience in visual and creative expression by designing wood furnishings, sculptures and objects using various forms and materials including diverse wood species, reclaimed materials and techniques. Students study and analyze various cultural and historical

art forms and articulate comprehension through the creation of personal and public art. Students create original works of art demonstrating mastery in which reflect feelings, beliefs and points of view.

18. **Course Goals and/or Major Student Outcomes**

Student observation will be monitored constantly ensuring that all students are meeting the objectives and goals of Wood Design 1. A key habit of mind that students will focus on developing throughout the entire year will be perseverance. Students will learn how to stick with a project until the end and that review and editing is a necessary part of how we complete projects in the real world. The following types of assessment methods will include: Tests, Projects, Labs, Essays, Class assignments, and Quizzes.

- Tests and quizzes will be used to meet the course goals by checking for understanding of the basic elements of art , design and safety. These elements will include: color, space, shape and texture. The quarterly and semester exams will also evaluate the student's knowledge. Safety is also a very important element. The primary essence of each project is dictated by the application of each of the tools in the lab. Students will take a safety test on each tool. Students will also participate in an application test, by which students will demonstrate tool proficiency. Both of these assessments are implemented before a student is allowed to use a tool in the lab. These assignments allow students to process and analyze information through the development of language skills unique to our artistic field. These assignments will allow students to create multiple projects that will reflect their understanding of the standards through creative expression, Historical/Cultural Context, Aesthetic valuing and Connections, relations & Application.
- Key Projects will be assigned to check for understanding of the principles of art and design. Students will complete drawings, sketches, products, essays, detailed list of procedures on completing a design-build project and a comprehensive list of materials. These projects provide students to develop critical thinking in analyzing interpreting works of art related to the project assigned. This project will meet one of the goals of creating a digital portfolio. During presentation of their projects students will focus on improving their

communication skills. In depth projects like the Band Saw Box and Rustic Birdhouse require critical thinking skills and the students need to be analytical and synthesize various materials needed in the construction of these projects.

- Labs, essays and class activities will provide the students the opportunity to creatively express the elements of design and art through the development of drawings, sketches, and wood products. The daily assignments requiring reading and writing will reinforce the cognitive skills so students have the knowledge and comprehension necessary to compare and contrast visual representations in order to build and design projects in the millwork and cabinetry fields.
- Students will gain and appreciate the aesthetic value of the many styles of furniture, art, utilitarian design with the ability to use critical thinking. Students will increase their own awareness of aesthetic beauty by critically comparing many designs of their work to the community they live in and the world. Using aesthetic judgment and valuing, students will describe, analyze, interpret, and then judge their own artistic talent and work according to course standards and the fundamentals of art and design. These elements will be met by direct instruction, guided practice, written essays and professionally developed digital portfolio.
- Students will express their creativity by developing projects with finishing techniques utilizing color and stock selection.
- Students will design and build projects with tools to express their creative side and they will also use their artistic talent to present their project to the class for demonstration.
- Students will be responsible for writing a daily journal documenting the work they contribute to each project. Preliminary sketches and designs must have the instructor's approval before actual construction can begin. This process is critical to the student for understanding how problem solving is critical to real world situations. It is also key to understanding a real-world artist's technique of sketching and modeling before building.

19. Course Standards

1.0 Academics

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Building and Construction Trades academic alignment matrix for identification of standards.

2.0 Communications
Acquire and accurately use Building and Construction Trades sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

2.1 Recognize the elements of communication using a sender–receiver model.
2.2 Identify barriers to accurate and appropriate communication.
2.3 Interpret verbal and nonverbal communications and respond appropriately.
2.4 Demonstrate elements of written and electronic communication such as accurate spelling, grammar, and format.
2.5 Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
2.6 Advocate and practice safe, legal, and responsible use of digital media information and communications technologies

3.0 Career Planning and Management
Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

3.1 Identify personal interests, aptitudes, information, and skills necessary for informed career decision making.
3.2 Evaluate personal character traits such as trust, respect, and responsibility and understand the impact they can have on career success.
3.3 Explore how information and communication technologies are used in career planning and decision making.
3.4 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure.
3.5 Integrate changing employment trends, societal needs, and economic conditions into career planning.
3.6 Recognize the role and function of professional organizations, industry associations, and organized labor in a productive society.
3.7 Recognize the importance of small business in the California and global economies.
3.8 Understand how digital media are used by potential employers and postsecondary agencies to evaluate candidates.
3.9 Develop a career plan that reflects career interests, pathways, and postsecondary options.

4.0 Technology
Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Building and Construction Trades sector workplace environment.

4.1 Use electronic reference materials to gather information and produce products and services.
4.2 Employ Web-based communications responsibly and effectively to explore complex systems and issues.
4.3 Use information and communication technologies to synthesize, summarize, compare, and contrast information from multiple sources.
4.4 Discern the quality and value of information collected using digital technologies, and recognize bias and intent of the associated sources.
4.5 Research past, present, and projected technological advances as they impact a particular pathway.
4.6 Assess the value of various information and communication technologies to interact with constituent populations as part of a search of the current literature or in relation to the information task.

5.0 Problem Solving and Critical Thinking
Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Building and Construction Trades sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

5.1 Identify and ask significant questions that clarify various points of view to solve problems.
5.2 Solve predictable and unpredictable work-related problems using various types of reasoning (inductive, deductive) as appropriate.
5.3 Use systems thinking to analyze how various components interact with each other to produce outcomes in a complex work environment.
5.4 Interpret information and draw conclusions, based on the best analysis, to make informed decisions

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

6.1 Interpret policies, procedures, and regulations for the workplace environment, including employer and employee responsibilities.
6.2 Use health and safety practices for storing, cleaning, and maintaining tools, equipment, and supplies.
6.3 Set up a work area, or shop, to avoid potential health concerns and safety hazards, including but not limited to electrical (shock), wires (tripping), fumes (lung health), noise (hearing loss), fire (burns), and so forth, incorporating ergonomics.
6.4 Practice personal safety when lifting, bending, or moving equipment and supplies.
6.5 Demonstrate how to prevent and respond to work-related accidents or injuries; this includes demonstrating an understanding of ergonomics.
6.6 Maintain a safe and healthful working environment.

6.7 Be informed of laws/acts pertaining to the Occupational Safety and Health Administration (OSHA).
6.8 Report hazards found on the job site to supervisor/teacher.
6.9 Locate, and adhere to, Material Safety Data Sheet (MSDS) instructions.
6.10 Maintain proper use of safety apparel at all times, including but not limited to, eye protection, hearing protection, skin protection, head protection, footwear and protection from airborne particulate matter.
6.11 Comply with the safe handling, storage and disposal of chemicals, materials and adhesives in accordance with local, state, and federal safety and environmental regulations (OSHA, Environmental Protection Agency [EPA], Hazard Communication [HazCom], Material Safety Data Sheets [MSDS], etc.).
6.12 Demonstrate the proper care and safe use of hand, portable and stationary power tools.

7.0 Responsibility and Flexibility
Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Building and Construction Trades sector workplace environment and community settings.

7.1 Recognize how financial management impacts the economy, workforce, and community.
7.2 Explain the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.
7.3 Understand the need to adapt to changing and varied roles and responsibilities.
7.4 Practice time management and efficiency to fulfill responsibilities.
7.5 Apply high-quality techniques to product or presentation design and development.
7.6 Demonstrate knowledge and practice of responsible financial management.
7.7 Demonstrate the qualities and behaviors that constitute a positive and professional work demeanor, including appropriate attire for the profession.
7.8 Explore issues of global significance and document the impact on the Building and Construction Trades sector.

8.0 Ethics and Legal Responsibilities
Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.

8.1 Access, analyze, and implement quality assurance standards of practice
8.2 Identify local, district, state, and federal regulatory agencies, entities, laws, and regulations related to the Building and Construction Trades industry sector.
8.3 Demonstrate ethical and legal practices consistent with Building and Construction Trades sector workplace standards.
8.4 Explain the importance of personal integrity, confidentiality, and ethical behavior in the workplace.
8.5 Analyze organizational culture and practices within the workplace environment.
8.6 Adhere to copyright and intellectual property laws and regulations, and use and appropriately cite proprietary information.

8.7 Conform to rules and regulations regarding sharing of confidential information, as determined by Building and Construction Trades sector laws and practices.

9.0 Leadership and Teamwork

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

9.1 Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders.
9.2 Identify the characteristics of successful teams, including leadership, cooperation, collaboration, and effective decision-making skills as applied in groups, teams, and career technical student organization activities.
9.3 Understand the characteristics and benefits of teamwork, leadership, and citizenship in the school, community, and workplace setting.
9.4 Explain how professional associations and organizations and associated leadership development and competitive career development activities enhance academic preparation, promote career choices, and contribute to employment opportunities.
9.5 Understand that the modern world is an international community and requires an expanded global view.
9.6 Respect individual and cultural differences and recognize the importance of diversity in the workplace.
9.7 Participate in interactive teamwork to solve real Building and Construction Trades sector issues and problems.

10.0 Technical Knowledge and Skills

Apply essential technical knowledge and skills common to all pathways in the Building and Construction Trades sector, following procedures when carrying out experiments or performing technical tasks.

10.1 Interpret and explain terminology and practices specific to the Building and Construction Trades sector.
10.2 Comply with the rules, regulations, and expectations of all aspects of the Building and Construction Trades sector.
10.3 Construct projects and products specific to the Building and Construction Trades sector requirements and expectations.
10.4 Collaborate with industry experts for specific technical knowledge and skills.
10.5 Demonstrate the basic care, proper maintenance, and use of hand, portable, and stationary tools related to the Building and Construction trades.

11.0 Demonstration and Application

Demonstrate and apply the knowledge and skills contained in the Building and Construction Trades anchor standards, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and through the SkillsUSA career technical student organizations.

11.1 Utilize work-based/workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Building and Construction Trades sector program of study.
11.2 Demonstrate proficiency in a career technical pathway that leads to certification, licensure, and/or continued learning at the postsecondary level.
11.3 Demonstrate entrepreneurship skills and knowledge of self-employment options and innovative ventures.
11.4 Employ entrepreneurial practices and behaviors appropriate to Building and Construction Trades sector opportunities.
11.5 Create a portfolio, or similar collection of work, that offers evidence through assessment and evaluation of skills and knowledge competency as contained in the anchor standards, pathway standards, and performance indicators.

Cabinetry, Millwork, and Woodworking Pathway Standards

- A1.0 Demonstrate competence in planning, design, layout, and technical drawing interpretation for practical use in cabinetmaking and millworking.

A1.1 Identify common sizes in relation to furniture and cabinets.
A1.2 Describe the relationship between the function and form of a cabinet.
A1.3 Calculate board, square, and linear feet.
A1.4 Estimate material costs.
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.
A1.7 Read and interpret technical drawings.
A1.8 Sketch a project using manual drawing techniques.
A1.9 Use drafting tools to create a pictorial and working drawing for a basic cabinet.

- A2.0 Differentiate between the various furniture and cabinet styles used in the cabinet and furniture industry.

A2.1 Identify various cabinet styles and list characteristics of traditional, provincial, and contemporary designs.
A2.2 Identify various kitchen, bath, and utility cabinet components.
A2.3 Explain the progress of cabinetry and furniture styles from the seventeenth century to today.

- 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.
A3.3 Determine the cost of materials needed for a cabinet or furniture project.
A3.4 Optimize available materials from a cutting diagram.
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.
A4.2 Select the proper layout tools for specific tasks.
A4.3 Select the proper cutting tools for specific operations (e.g., straight cuts, curves, drilling holes).
A4.4 Select the most appropriate blade for a given operation.
A4.5 Select the proper boring tools for specific operations.
A4.6 Select the proper hand-shaping tools for specific operations.
A4.7 Select proper clamping tools for specific operations.

- 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.
A5.4 Identify common defects found in wood and list possible solutions.
A5.5 Identify and be able to differentiate panel products and their uses in the cabinetmaking industry.
A5.6 Describe the cutting and handling techniques used for sheet goods.
A5.7 Compare and contrast the advantages and disadvantages of sheet goods versus solid wood stock.
A5.8 Identify standard sizes and grades of various laminates.
A5.9 Describe how the expansion and contraction of solid wood affects the design of joinery used in furniture and cabinet construction.
A5.10 Identify the proper adhesive required for applying laminate.
A5.11 Identify standard sizes and grades of various veneers.
A5.12 Identify the proper adhesive(s) required for applying veneers.
A5.13 Identify the different types of pattern matching in veneers.

- A6.0 Compare and contrast the advantages and disadvantages of using laminates verses using veneers.

A6.1 Demonstrate a working knowledge of joinery, fasteners, and adhesives.
A6.2 Define the purposes for metallic fasteners in furniture and cabinetmaking.
A6.3 Select the proper metallic fasteners for specific applications.
A6.4 Demonstrate the proper use of metallic fasteners for specific applications.
A6.5 Compare and contrast joints commonly used in the cabinetmaking and millworking industries (i.e., strength, appearance, and ease of construction).
A6.6 Determine the appropriate application of a variety of joinery techniques, including dowels, biscuits, pocket holes, and mortise and tenon
A6.7 Identify characteristics of adhesives that affect the assembly time, cure time, and strength of the product.
A6.8 Select the proper adhesive(s) to construct wood joints used in furniture or cabinets.
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.
A6.13 Demonstrate the ability to construct a variety of wood joints (i.e. butt, miter, compound miter, half lap, mortise and tenon).

- A7.0 Demonstrate competence in various construction processes in the cabinetmaking, furniture making, and millworking industries.

A7.1 Square and surface a board to a specific size.
A7.2 Demonstrate common case construction.
A7.3 Demonstrate common frame and panel construction.
A7.4 Construct a case with a face frame using appropriate construction techniques.
A7.5 Construct a frameless case using appropriate construction techniques.
A7.6 Construct a cabinet drawer using appropriate construction techniques.
A7.7 Construct a cabinet door using appropriate construction techniques.
A7.8 Demonstrate the use of a jig, template, or fixture in a production project.
A7.9 Use appropriate methods and tools to check the accuracy of a project.
A7.10 Demonstrate the use of a mass production technique (i.e., parts duplication and assembly processes).
A7.11 Lay out, install, and adjust the appropriate drawer hardware to include drawer slides and pulls.
A7.12 Lay out, install, and adjust the appropriate door hardware to include European and standard hinges.
A7.13 Apply a plastic laminate to a surface using appropriate adhesive and trim to fit.
A7.14 Use the appropriate adhesives and fasteners to install different types of trim, moldings, or other edge treatments.

- A8.0 Utilize appropriate abrasives to prepare a project for a specific finish.

A8.1 Select the proper abrasive for shaping and smoothing materials.
A8.2 Select the proper grit sizes and sequences for shaping and smoothing operations.
A8.3 Demonstrate proper selection, application, and cleaning methods for various types of filler materials.
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.

A9.1 Demonstrate proper selection and application methods of different types of stains for a specific application.
A9.2 Demonstrate cleaning procedure for various types of stains.
A9.3 Select the proper type of sealer and finish coat for a specific application.
A9.4 Demonstrate proper application methods for different types of sealers and finish coats.
A9.5 Demonstrate cleaning procedures for various types of sealer and finish coats.
A9.6 Apply a suitable finish to a specific cabinet or millwork project.

- A10.0 Demonstrate proper techniques for cabinet installation.

A10.1 Transport a project from one location to another without damage.
A10.2 Lay out a cabinet installation according to a floor plan.
A10.3 Create and adjust a layout to plumb, square, and level.
A10.4 Install a base and upper cabinet.
A10.5 Scribe a cabinet to fit a corner or against an irregular wall surface.

- A11.0 Identify the advantages and disadvantages for various countertop materials.

A11.1 Identify a variety of materials used for kitchen and bath countertops and list their advantages and disadvantages.
A11.2 Describe the methods for attaching different countertops to a cabinet.
A11.3 Install of a variety of countertop materials using appropriate fastening methods.
A11.4 Use a cut-in template for the installation of sink, faucets, cooktop, and other fixtures

20. **Course Outline and Key Assignments**

UNIT 1
Safety: Hand and Power Tool Orientation

- Students will be introduced and instructed on the safe use of hand and power tools. Safe practices, tools and machines students will be exposed to are: Personal and Shop Safety, Table Saw, Miter Saw, Air Compressor, Band Saw, Scroll Saw, Jointer, Planer, Jig Saw, Cordless tools, Drill Press, Pneumatic fasteners, Routers (handheld, table and panel saws), and various specialized sanding tools and machines.
- Students will pass an approved Safety Test before they begin working and they will receive safety and use instruction and a demonstration on each individual tool and/or machine. They will also be able to identify and use personal protective equipment required for each tool. Furthermore, students will demonstrate daily that they know what safety considerations arerequired for a lab setting and the workplace.

Key Assignments:

Health, Safety Procedures, Proper Tool usage, Maintenance, and Terminology, Guided Learning Handouts. Students will work through the guided learning handouts, interacting with the textbook as referenced to gain understanding of the proper safety procedures of a wood working environment. Relevant vocabulary is embedded in the reading and students will need to draw, label and record relevant information in their student learning notebook.

- Students will complete a safety poster that will be displayed in class/shop to emphasize safety at all times in the learning environment

UNIT 2
Historical Design-Band-Saw Box

- Students will study and analyze early and modern furniture design with an emphasis on pre and post industrial furniture production, cultural influences,

and various furniture movements (Art Deco, Shaker, Arts and Crafts, Old European and PopArt).

Key Assignments

- Students will demonstrate a knowledge of wood joinery using various tools and techniques. To demonstrate their knowledge and understanding, they will build a band-saw box utilizing the techniques learned. Students will articulate understanding between the use of hand tools and modern woodworking machinery including CNC routers and Lasers.
- Historical types of Woodworking Techniques Slide-show (using PowerPoint) In groups of 3 or 4, utilizing self generated slide show material, students produce an informative presentation of 2 to 4 minutes that defines, describes and presents the structure and function of particular historical woodworking techniques(Designs, Tools and Materials).

UNIT 3

Rustic Birdhouse Project

- Prior to construction students will complete several lessons on historical design and Green Building Practices and reclaim/reuse/reduce/recycle techniques. Students will research various designs and self-select an appropriate design to serve as a template for their project. Students will be required to complete detailed working drawings along with a cut list.
- Students will take next steps to produce necessary wood parts and go about building the birdhouse. When complete, students will critique their work and the work of others, with an emphasis on design (durability, functionality, and reproducibility), scale, and balance.

Key Assignment-Rustic Birdhouse

- Students will design and build a birdhouse using reclaimed material.
- Individual Presentation: Students will present their initial sketches, completed drawings, cut list. Then present the class design inspirations for the project Presentation to include specific measurements and techniques that enabled them to reproduce the project. Presentations need to include definition of each part, measurement and design specific aspects of the project

UNIT 4

Art and Creative Design Materials

- Students will receive an overview of materials commonly used in art design (fasteners, glues, stains, finishes, etc.) and will be able to identify different types of hardwoods and softwoods and the temperament of wood material in relation to design materials. Students will understand environmental factors by choosing reclaimed materials for various projects.
- Students will understand the difference between solid wood and plywood and among various types of engineered materials, evaluating aspects of reliability and structural stability. Students will use these understandings when designing and building their projects during the year. Other topics covered will be the various types of finishing techniques: applying veneers and stains, distressing techniques and products, typical reclaimed finishes, and newer green methods of producing, refining and finishing a project.

Key Assignment:

- KWL Knowledge Chart from Article Review After reading a short article about trends in furniture manufacturing, students produce a KWL chart in which they brainstorm everything they know for certain (K) about furniture manufacturing (from the article) and everything they wonder or are still curious about (W), then determine how the class might translate to new knowledge what they wonder or are curious about (L). Small groups can be assigned to the same reading materials.

- Portfolio: Students will maintain a portfolio throughout the course, documenting their designs and builds. Along the way they will maintain technical notes, create written reflections on their progress, create next steps lists and notations and document problems they have encountered and how they have problem solved issues and/or made modifications in order to produce successful completion of each

Professional portfolio may include:

- Career Exploration Interview write up Educational Pathway Plan Argumentative Research Paper
- Reflective Journal Entries

- Resume
- Job Application
- Cover letter
- High School Transcript

College and Career Opportunities (infused throughout the course)

- Workplace skills and standards will be emphasized. Attributes to be emphasized will include punctuality, ability to follow directions, works well with minimal supervision, is cooperative, goes the extra mile, and responds appropriately to constructive commentary and collaborative conversations.
- Field trips to local colleges to investigate CTE programs will be a priority.

Job Acquisition Skills

- Students will produce a skills based job resume and complete a workplace application. Interview techniques and expectations will be covered. Students will research advanced career and educational opportunities.

21. **Instructional Materials:**
Required materials for units

22. I**nstructional Methods and/or Strategies**: Instruction will be differentiated to support a diverse learning needs. Course will support 21st century competencies of critical thinking, collaboration, creativity and communication.

23. **Assessment Methods and/or Tools**

- Wood Design 1 students will develop a portfolio preparing for admission to a four-year college or job applications.
- Informal assessments will involve checking for understanding, reflective questioning, homework and traditional lecture.
- Daily grading of projects and hand drawings will assess how students are applying appropriate proportion, depth, and shape.
- Student demonstration of their wood products will demonstrate their ability to communicate effectively and apply critical thinking skills applied during the drawing, design and construction phases.
- Pair sharing will be utilized especially during reflection time to help students master and understand the procedures and methods used in creating a product.

- Class discussions will determine the awareness of each student about the aesthetic, artistic and technical aspects of drawing and design as it relates to architectural features and manufacturing processes while they complete all the required assignments discussed in the course outline.

24. **Grading Policy**

Grading will follow the San Leandro Unified School District's policy.

SECTION C

25. **Context for Course**

REQUIRED FOR CTE COURSES

Wood Technology 1 is a foundation course for our Eden Area Regional Occupation Program. This class can prepare students for careers in architecture, engineering, fashion design, interior design, furniture design, and drafting.

Students have the artistic ability and technical skills to transition directly from high school into high paying respectable careers such as: CNC operators, Drafters, designers and enter multiple careers fields in design.

A cornerstone of our curriculum is to prepare all of our students and make them aware of the multiple pathways they can pursue for a career related to drafting and design.

The California Career Pathways Trust is supporting students throughout the state to develop pathways to academic and career success. This grant is supporting schools to "develop and integrate standards-based academics with a career-relevant, sequenced curriculum" as well as "provide articulated pathways to postsecondary education." San Leandro High School is developing and supporting CTE pathways.

Cabinetry, Millwork, and Woodworking Pathway

The Cabinetry, Millwork, and Woodworking pathway provides learning opportunities for students interested in preparing for careers in cabinet construction, millwork, finish carpentry, and furniture making for both production and custom products.
Sample occupations associated with this pathway:
Cabinetmaker
Cabinet Installer
Woodworking Machinery Operator
Custom Millwork Project Estimator
Woodworking Engineer/Drafter (CAD)