

**EL DORADO UNION HIGH SCHOOL DISTRICT**  
**Educational Services**

**Course of Study Information Page**

<b>Course Title: Finish Carpentry #0528</b>	
<b>Rationale:</b> Finish Carpentry is a course designed to take the student from the knowledge learned in Wood I and apply those skills to problems as a cabinetmaker and finish carpenter.	
<b>Course Description:</b> This course will enhance the student's ability to use the tools of the construction trades while gaining the confidence to work safely. He/She will learn advanced techniques and applications of the use of tools and equipment in the construction of those elements that make up the job of a finish cabinetmaker and carpenter.	
<b>Length of Course:</b>	1 Year
<b>Grade Level:</b>	10 - 12
<b>Credit:</b> Number of units: 5 units per semester <input type="checkbox"/> Meets graduation requirements <input type="checkbox"/> Request for UC "a-f" requirements <input type="checkbox"/> College Prep <input checked="" type="checkbox"/> Elective <input checked="" type="checkbox"/> Vocational	
<b>Prerequisites:</b>	Wood I or Engineering Design I or instructor approval
<b>Department(s):</b>	Trades and Industries
<b>District Sites:</b>	EDHS, ORHS, PHS and UMHS
<b>Board of Trustees Adoption Date:</b>	January 15, 2008
<b>Textbook(s)/Instructional Materials:</b>	
<b>Date Adopted by the Board of Trustees:</b>	

**EL DORADO UNION HIGH SCHOOL DISTRICT**  
**Educational Services**

**Finish Carpentry**

**Course Outline**

**1. Introduction, Class Organization and Safety**

- A. Shop Orientation
- B. Class Requirements
- C. Class management responsibilities

**Safety**

- A. Review hand tools safety
- B. Review power tools safety
- C. Safe handling of material
- D. Use of fire extinguisher
- E. Written Safety test (district standard)

**2. Designing and Planning**

- A. Project design
- B. Project sketch
- C. Cutting list/ Material list
- D. Operation of cutting
- E. Industry standards
- F. Project costs – Square feet and board feet calculations
- G. Hardware
- H. Construction Math

**3. Review and Advanced application of tool use**

**A. Sawing Tools and Operations**

**Tools**

- Table Saw
- Compound Miter Saw
- Panel Saw/ Hand Circular Saw
- Band Saw
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**Operations**

- Blind cuts on the Table Saw
- Dados and Rabbets
- Plunge Cut on the Table Saw
- Tenon cut
- Cove
- Finger Joint
- Sliding table
- Re Sawing on the band Saw
- Spline Miters

## **B. Boring Machines**

### **Tools**

- Horizontal Boring Machine
- Drill Press
- Pocket Screw Jig
- Mortiser
- Biscuit cutting

### **Operations**

- Face Frame
  - Dowels
  - Pocket Screws
  - Mortise/ Tenon
  - Plug Cutter
  - Counter Sink and Bore

## **C. Planning and Wide Belt Sanding Machines**

### **Tools**

- Planer
- Jointer
- Wide Belt Sander
- Hand Belt Sander

### **Operations**

- Edge and Face Preparation
- Squaring Stock
- Irregular edge finishing

## **D. Hand Tools**

### **Tools**

- Coping Saw
- Utility Knife
- Block Plane
- Files and Rasps
- Nails Sets and Hammers
- Scrapers
- Wood Chisels
- Nail Gun/ Staple Gun
- Doweling Jig
- Clamps
  - Bar/Furniture
  - Band
  - "C"
  - "F"
  - Spring
  - Hand Screw
  - Tape - Masking and Duck

### **Operations**

- Relief Cut/ Coping
- Cutting on Base, Chair and Crown
- Edge and end grain trim and fitting
- Custom Fit Jointery
- Assembly of sub parts

### **E. Special Tools**

#### **Tools**

- Shaper and Cutters
- Routers and Bits
- Edge Sanders
- Jigs and Fixtures
- Air Sleds

#### **Operations**

- Cope and Stick Cuts
- Door Lip Cuts
- Raised Panel
- Arch Raised Panel
- Edge Banding
- Molding and Shaping
- Trim Work on Laminations

## **4. Cabinet Construction**

- A. Cabinet Layout
- B. Frame Less Case
- C. Face Frame
- D. Drawer
- E. Cabinet Door
- F. Fixed and Adjustable Shelves
- G. Door and Drawer Hardware
- H. Mounting of Hardware
- I. Use of Special Fixtures for holding and supporting material
- J. Installing Cabinets

## **5. Special Cabinets**

- A. Corner Cabinet
- B. Hutch Cabinet
- C. Service Cabinet
- D. TV / Entertainment Centers

## **6. Counter Tops**

- A. Laminated materials
- B. Solid Surface Materials
- C. Stone and Tile

## **7. Stair Construction**

- A. Math of Stair Construction
- B. Parts and Assembly
- C. Stair Layout

## **8. Doors and Windows**

- A. Selection of doors and windows
- B. Pre Hung
- C. Hanging a door
- D. Setting of window
- E. Trim out of doors and windows

## **9. Finishes**

- A. Paint, Prep and finish and clean up
- B. Varnishes
- C. Lacquer
- D. Latex Paint

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**Course Title: Finish Carpentry**

**Unit 1:** Introduction, Class Organization and Safety

- Goals:**
- A) Students will understand the goals and objectives of this course.
  - B) Students will learn how to properly and safely use the tools of the finish carpenter and related trades.
  - C) Students will develop and maintain a portfolio.

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Understand the short and long term goals of the course and the steps necessary to achieve their goals.	<ul style="list-style-type: none"> <li>1. Lecture</li> <li>2. Explanation of grading policies and assessments</li> <li>3. Syllabus</li> </ul>
2. Understand how to use the tools of the trade, past, present, and future.	<ul style="list-style-type: none"> <li>1. Demonstration of proper use of equipment and class materials</li> <li>2. Lecture</li> <li>3. Small group demonstrations</li> <li>4. Individual assessment</li> </ul>
3. Understand the rules for class management, time manage, an equipment management	<ul style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstration</li> <li>3. Reviewing schedules</li> </ul>
4. Have opportunity for Career Guidance and Portfolio development	<ul style="list-style-type: none"> <li>1. Visit Career Center</li> <li>2. Develop a Portfolio</li> </ul>
5. Review and pass a district safety text	<ul style="list-style-type: none"> <li>1. Lecture and Demonstrate safety on each machine and tool</li> <li>2. Take and pass safety test</li> </ul>

(Standards and Benchmarks taken from **Engineering and Design Career Pathways C: Building Trades and Construction Industry Sector**) Students understand the principals of effective, oral, written, and multimedia communication in a variety of formats and contexts.

2.1 Reading

- (2.1) Analyze the structure and format of functional workplace documents, including the graphics and headers, and explain how authors use the features to achieve their purpose.
- (2.6) Demonstrate use of sophisticated learning tools by following technical directions (e.g., those found with graphic calculators and specialized software programs and in access guides to World Wide Web sites on the Internet).

Students understand professional, ethical, and legal behavior consistent with applicable laws, regulations, and organizational norms:

- 8.1 Know the major local, district, state, and federal regulatory agencies and entities that affect the industry and how they enforce laws and regulations.
- 8.2 Understand the concept and application of ethical and legal behavior consistent with workplace standards.
- 8.3 Understand the role of personal integrity and ethical behavior in the workplace.

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**Unit 2:** Designing and Planning

- Goals:**
- A) To understand the procedure used to establish the scope of the project, its cost and the industry standards to which the project shall be constructed
  - B) To communicate with sketches or drawings the project's overall design and the construction details.

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Be able to sketch and or draw a solution to a given problem	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Directed practice in sketching and drawing (both CAD and board drawing)</li> </ul>
2. Develop a materials list which includes materials and their costs	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Directed practice in the development of material list.</li> </ul>
3. Understand how to apply math formulas, such as calculating board feet or square feet.	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Directed practice in the use of math formulas</li> </ul>
4. Be able to calculate the cost of materials and labor for a given project	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Directed practice in the process of project estimating</li> </ul>

<p><b>1.1 Standards met:</b> (Standards and Benchmarks taken from <b>Engineering and Design Career Pathways C: Building Trades and Construction Industry Sector</b>)</p> <p>Mathematics</p> <p>Specific applications of Number Sense standards (grade seven):</p> <p>(1.1) Read, write, and compare rational numbers in scientific notation (positive negative powers of 10) with approximate numbers using scientific notation.</p> <p>(1.2) Add, subtract, multiply and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.</p> <p>(1.3) Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.</p> <p>(1.4) Use estimation to verify the reasonableness of calculated results.</p> <p>(1.5) Apply strategies and results from simpler problems to more complex problems.</p> <p>(1.6) Indicate the relative advantages of exact and approximate solutions to</p>
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problems and give answers to a specified degree of accuracy.  
Evaluate the reasonableness of the solution in the context of the original situation

## 1.2 Science

Specific applications of Physics standards (grades nine through twelve):

(1.d) Formulate explanations by using logic and evidence.

(10.3.5) Understand the connections among natural resources, entrepreneurship, labor, and capital in an industrial economy.

(11.5.7) Discuss the rise of mass productions techniques, the growth of cities, the impact of new technologies (e.g., the automobile, electricity), and the resulting prosperity and effect on the American landscape.

A5.0 Students understand procedures and processes as they occur in the cabinetmaking and wood products industry.

A5.1 Know how to read, understand, design, and construct cabinets accurately from cabinetmaking fabrication and installation plans and specifications.

A5.2 Understand how to estimate a bill of materials from drawings and specifications for constructing cabinets.

A5.3 Understand how to create a job schedule in a cabinetmaking project.

A5.4 Solve common cabinetmaking problems by using construction codes and cabinet building standards stated in the Manual of Millwork.

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**Course Title: Finish Carpentry**

**Unit 3A:** Review and Advanced Application of Cutting Tool Use

- Goals:**
- A) Setup and understanding safe operations of cutting tools
  - B) Applying skills to Advanced level of cutting operations
  - C) Knowing the limitations of cutting tools

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Understand how to set up and cut blind dados, Rabbits, Plugs, Cove cuts and re-sawing	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Use projects and or samples to complete operational demonstrations for each operation</li> </ul>
2. develop jigs or fixtures to cut spline miters, Finger joints and Tenon cuts	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Use projects and or samples to complete operational demonstrations for each operation</li> </ul>
3. Use sliding table to square wide board	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Use projects and or samples to complete operational demonstrations for each operation</li> </ul>

<b>Standards met:</b> (Standards and Benchmarks taken from <b>Engineering and Design Career Pathways C: Building Trades and Construction Industry Sector</b> )	
A 5.0 Students understand procedures and processes as they occur in the cabinetmaking and wood products industry.	
A5.1	Know how to read, understand, design, and construct cabinets accurately from cabinetmaking fabrication and installation plans and specifications.
A5.2	Understand how to estimate a bill of materials from drawings and specifications for constructing cabinets.
A5.3	Understand how to create a job schedule in a cabinetmaking project.
A5.4	Solve common cabinetmaking problems by using construction codes and cabinet building standards stated in the Manual of Millwork.

A3.0 Students understand the safe and appropriate use of portable power tools common to the cabinetmaking and wood product industry.

A3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws, and routers, safely and appropriately.

A3.2 Use pneumatic tools, such as pneumatic clamps, grips, framing nail guns, and finishing and brad nail guns, safely and properly.

A3.3 Maintain and care for portable power and pneumatic tools.

A 4.0 Students understand the safe and appropriate use of stationary power machines and equipment common to the cabinetmaking and wood products industry:

A4.1 Understand the proper and safe use of stationary power tools used in the milling process, such as shapers, sanders, joiners, table saws, and band saws.

A4.2 Understand the proper and safe use of stationary power tools used in the assembly process, such as pneumatic table clamps, case clamps, case frame fasteners, and hardware fasteners.

A4.3 Understand the proper and safe use of stationary power tools used in the finishing process, such as glue applicators, laminate applicators, and lacquer and paint applicators.

A4.4 Know the basic care, maintenance, and lock-out procedures for stationary power tools.

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**Course Title: Finish Carpentry**

**Unit 3B:** Review and Advanced Application of Boring Tool Use

- Goals:**
- A) Setup and understanding safe operations of Boring Tools
  - B) Applying skills to Advanced level of Boring Tool operations
  - C) Knowing the limitations of Boring Tool

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Learn how to layout and bore holes for face frame construction, Wainscot and other applications using a Horizontal Boring Machine	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Use projects and or samples to complete operational demonstrations for the Horizontal Boring Machine</li> </ul>
2. Learn how to layout and cut Pocket Screw Holes for face Frames and other Assemblies	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Use projects and or samples to complete operational demonstrations for the Pocket Screw Hole drill and fixture</li> </ul>
3. Develop skills in layout and use of the Drill press and the Mortiser.	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Use projects and or samples to complete operational demonstrations for the Drill press and Mortiser</li> </ul>
4. Learn how to layout and cut slots with the hand held Biscuit cutter	<ul style="list-style-type: none"> <li>▪ Lecture and demonstration</li> <li>▪ Use projects and or samples to complete operational demonstrations for the Biscuit Cutter</li> </ul>

<b>Standards met:</b> (Standards and Benchmarks taken from <b>Engineering and Design Career Pathways C: Building Trades and Construction Industry Sector</b> )	
A 5.0 Students understand procedures and processes as they occur in the cabinetmaking and wood products industry.	
A5.1	Know how to read, understand, design, and construct cabinets accurately from cabinetmaking fabrication and installation plans and specifications.
A5.2	Understand how to estimate a bill of materials from drawings and specifications for constructing cabinets.
A5.3	Understand how to create a job schedule in a cabinetmaking project.
A5.4	Solve common cabinetmaking problems by using construction codes and cabinet building standards stated in the Manual of Millwork.

A3.0 Students understand the safe and appropriate use of portable power tools common to the cabinetmaking and wood product industry.

A3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws, and routers, safely and appropriately.

A3.2 Use pneumatic tools, such as pneumatic clamps, grips, framing nail guns, and finishing and brad nail guns, safely and properly.

A3.3 Maintain and care for portable power and pneumatic tools.

A 4.0 Students understand the safe and appropriate use of stationary power machines and equipment common to the cabinetmaking and wood products industry:

A4.1 Understand the proper and safe use of stationary power tools used in the milling process, such as shapers, sanders, joiners, table saws, and band saws.

A4.2 Understand the proper and safe use of stationary power tools used in the assembly process, such as pneumatic table clamps, case clamps, case frame fasteners, and hardware fasteners.

A4.3 Understand the proper and safe use of stationary power tools used in the finishing process, such as glue applicators, laminate applicators, and lacquer and paint applicators.

A4.4 Know the basic care, maintenance, and lock-out procedures for stationary power tools.

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**Unit 3C:** Review and Advanced Application of Planning Tools

- Goals:**
- A) Setup and understanding safe operations of Planning Tools
  - B) Applying skills to Advanced level of Planning Tools
  - C) Knowing the limitations of Planning Tools

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Be able to set up and reduce a board's thickness using the planer.	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Demonstrations</li> <li>▪ Student projects</li> </ul>
2. Be able to square up an edge of a board using the Jointer to make the edge perpendicular to its face	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Demonstrations</li> <li>▪ Student projects</li> </ul>
3. Be able to complete the surfacing operation using the wide belt abrasive planner	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Demonstrations</li> <li>▪ Student projects</li> </ul>
4. Understand the operations and steps to finish sand a given project	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Demonstrations</li> <li>▪ Student projects</li> </ul>

<b>Standards met:</b> (Standards and Benchmarks taken from <b>Engineering and Design Career Pathways C: Building Trades and Construction Industry Sector</b> )	
A 5.0 Students understand procedures and processes as they occur in the cabinetmaking and wood products industry.	
A5.1	Know how to read, understand, design, and construct cabinets accurately from cabinetmaking fabrication and installation plans and specifications.
A5.2	Understand how to estimate a bill of materials from drawings and specifications for constructing cabinets.
A5.3	Understand how to create a job schedule in a cabinetmaking project.
A5.4	Solve common cabinetmaking problems by using construction codes and cabinet building standards stated in the Manual of Millwork.

A3.0 Students understand the safe and appropriate use of portable power tools common to the cabinetmaking and wood product industry.

A3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws, and routers, safely and appropriately.

A3.2 Use pneumatic tools, such as pneumatic clamps, grips, framing nail guns, and finishing and brad nail guns, safely and properly.

A3.3 Maintain and care for portable power and pneumatic tools.

A 4.0 Students understand the safe and appropriate use of stationary power machines and equipment common to the cabinetmaking and wood products industry:

A4.1 Understand the proper and safe use of stationary power tools used in the milling process, such as shapers, sanders, joiners, table saws, and band saws.

A4.2 Understand the proper and safe use of stationary power tools used in the assembly process, such as pneumatic table clamps, case clamps, case frame fasteners, and hardware fasteners.

A4.3 Understand the proper and safe use of stationary power tools used in the finishing process, such as glue applicators, laminate applicators, and lacquer and paint applicators.

A4.4 Know the basic care, maintenance, and lock-out procedures for stationary power tools.

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**Course Title: Finish Carpentry**

**Unit 3D:** Review and Advanced Application of Hand Tools

- Goals:** A) To know how to use specialized hand tools to complete projects  
 B) Knowing the limitations of Hand tools

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Be able to use a Coping Saw, Utility Knife, Block Plane, Nails Set, Wood Chisels and Finish Scraper to construct or finish a project	1 – Lecture and Demonstration of specialized tools 2 – Student project or tasks that show ability to use Coping Saw, Utility Knife, Block Plane, Nails Set, Wood Chisels and Finish Scraper.
2. Be able to use a Nail Gun, Finish Brad and Staple Gun properly and safely	1 – Lecture and Demonstration of specialized Nail Guns and Staplers 2 - Student project or tasks that show ability to use Nail and Staple guns
3. Understand the types of clamps used by the finish carpenter and how to select the right clamp for a project	1 – Lecture and Demonstration of a variety of clamps 2 – Apply clamp knowledge to student project
4. Be able to sharpen a Twist Drill bit, Scraper blade and a Plane Iron	1 – Demonstration of tool sharpening 2 – Student to sharpen a Twist Drill bit, Scraper blade and a Plane Iron

<b>Standards met:</b> (Standards and Benchmarks taken from <b>Engineering and Design Career Pathways C: Building Trades and Construction Industry Sector</b> )	
A 5.0 Students understand procedures and processes as they occur in the cabinetmaking and wood products industry.	
A5.1	Know how to read, understand, design, and construct cabinets accurately from cabinetmaking fabrication and installation plans and specifications.
A5.2	Understand how to estimate a bill of materials from drawings and specifications for constructing cabinets.
A5.3	Understand how to create a job schedule in a cabinetmaking project.



A5.4 Solve common cabinetmaking problems by using construction codes and cabinet building standards stated in the Manual of Millwork.

A3.0 Students understand the safe and appropriate use of portable power tools common to the cabinetmaking and wood product industry.

A3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws, and routers, safely and appropriately.

A3.2 Use pneumatic tools, such as pneumatic clamps, grips, framing nail guns, and finishing and brad nail guns, safely and properly.

A3.3 Maintain and care for portable power and pneumatic tools.

A 4.0 Students understand the safe and appropriate use of stationary power machines and equipment common to the cabinetmaking and wood products industry:

A4.1 Understand the proper and safe use of stationary power tools used in the milling process, such as shapers, sanders, joiners, table saws, and band saws.

A4.2 Understand the proper and safe use of stationary power tools used in the assembly process, such as pneumatic table clamps, case clamps, case frame fasteners, and hardware fasteners.

A4.3 Understand the proper and safe use of stationary power tools used in the finishing process, such as glue applicators, laminate applicators, and lacquer and paint applicators.

A4.4 Know the basic care, maintenance, and lock-out procedures for stationary power tools.

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**Unit 3E:**      Advanced Applications of Special Tools

- Goals:**      A) Set up and understanding the proper use of Routers, Router tables and Shapers  
                   B) How to use special Jigs and Fixtures for repetitive operations and mass production

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Be able to make a Cope & Stick and Door Lip cuts on the shaper	1 – Demonstration of the set up and cutting procedure for a five piece door 2 – Student project or sample set
2. Be able to layout and construct a raised panel or arched raised panel for a door or part of a wainscot panel system	1 – Lecture and or Demonstration 2 – Student project or sample set
3. Be able to demonstrate the proper and safe use of a Router, Router table and Shaper. Choosing the proper tool to meet the demands of the product or assigned job	1 – Lecture and or Demonstration 2 – Student project or sample set

<b>Standards met:</b> (Standards and Benchmarks taken from <b>Engineering and Design Career Pathways C: Building Trades and Construction Industry Sector</b> )	
A 5.0 Students understand procedures and processes as they occur in the cabinetmaking and wood products industry.	
A5.1	Know how to read, understand, design, and construct cabinets accurately from cabinetmaking fabrication and installation plans and specifications.
A5.2	Understand how to estimate a bill of materials from drawings and specifications for constructing cabinets.
A5.3	Understand how to create a job schedule in a cabinetmaking project.
A5.4	Solve common cabinetmaking problems by using construction codes and cabinet building standards stated in the Manual of Millwork.

A3.0 Students understand the safe and appropriate use of portable power tools common to the cabinetmaking and wood product industry.

A3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws, and routers, safely and appropriately.

A3.2 Use pneumatic tools, such as pneumatic clamps, grips, framing nail guns, and finishing and brad nail guns, safely and properly.

A3.3 Maintain and care for portable power and pneumatic tools.

A 4.0 Students understand the safe and appropriate use of stationary power machines and equipment common to the cabinetmaking and wood products industry:

A4.1 Understand the proper and safe use of stationary power tools used in the milling process, such as shapers, sanders, joiners, table saws, and band saws.

A4.2 Understand the proper and safe use of stationary power tools used in the assembly process, such as pneumatic table clamps, case clamps, case frame fasteners, and hardware fasteners.

A4.3 Understand the proper and safe use of stationary power tools used in the finishing process, such as glue applicators, laminate applicators, and lacquer and paint applicators.

A4.4 Know the basic care, maintenance, and lock-out procedures for stationary power tools.

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**Course Title: Finish Carpentry**

**Unit 4:** Cabinet Construction

- Goals:**
- A) To learn how to construct 32mm (European style) Cabinets
  - B) That each student will have an opportunity to layout and construct a drawer and install all the necessary hardware
  - C) To learn how to layout scribe and install basic cabinets

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. understand and be able to make a cutting list for all parts of a basic cabinet	<ul style="list-style-type: none"> <li>1. Lecture and Demonstration of each cabinet type</li> <li>2. Student will develop a cutting list for both European and Face Frame cabinets</li> <li>3. Read and study Unit 19 – pages 527 to 555, Modern Carpentry</li> </ul>
2. Know how to layout and construct both European and face frame cabinets	<ul style="list-style-type: none"> <li>1. Lecture and Demonstration of each cabinet type</li> <li>2. Student will layout a cabinet for both European and Face Frame cabinets</li> </ul>
3. Be able to construct a door and a drawer	<ul style="list-style-type: none"> <li>1. Lecture and Demonstration of each cabinet type</li> <li>2. Student designed project</li> <li>3. Student sample product</li> </ul>
4. Be able to install under mount, Side mount drawer guides, Knobs and pulls, basic and European hinges	<ul style="list-style-type: none"> <li>1. Lecture and Demonstration of each cabinet type</li> <li>2. Student designed project</li> <li>3. Student sample product</li> </ul>
5. Know the proper procedure for the installation of a basic cabinet that will need to be scribed to a non vertical wall	<ul style="list-style-type: none"> <li>1. Lecture and demonstration</li> <li>2. Student assigned project</li> </ul>

**Content Standards: *Building Trades and Construction Industry Sector* D2.0**  
 Students understand the safe and appropriate use of hand tools common to the residential and commercial construction industry: D2.1 Use the common hand tools of the trade, such as hammers, torches, pliers, wire cutters, pipe cutters, saws, chisels (wood and concrete), and wrenches, safely and properly. D2.2 Maintain and care for hand tools used in residential and commercial construction.

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**Unit 5:** Special Cabinets

- Goals:**
- A) Students will be taught the difference between Cabinet Construction and Furniture
  - B) To help the student understand the standards that are used in construction for cabinets and other finish carpentry

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Develop an understanding for the design and construction of specialized cabinets such as built in hutches, corner cabinets, TV/ Entertainment centers and desk/computer centers	<ul style="list-style-type: none"> <li>1. Lecture</li> <li>2. Films / DVD's</li> <li>3. Review of Western Woodworkers catalog</li> <li>4. Develop sketched solutions to stated problems</li> <li>5. Selected readings from Unit 19 pages 527 to 555, Modern Carpentry</li> </ul>
2. Be able to design and construct service cabinets such as laundry trays and a recycle center	<ul style="list-style-type: none"> <li>1. Lecture</li> <li>2. Films / DVD's</li> <li>3. Review of Western Woodworkers catalog</li> <li>4. Develop sketched solutions to stated problems</li> </ul>

Content Standards: ***Building Trades and Construction Industry Sector*** B5.1 Understand the importance of scaffold and ladder safety. B5.2 Know the rules and responsibilities of the various governmental safety agencies and their impact on engineering and heavy construction B5.3 Understand the importance of worksite safety as it pertains to hazardous waste disposal and procedures for containment of toxic and hazardous materials. B5.4 Understand the importance of safety and safe work practices (e.g., fire safety, protective clothing) in the welding phases of engineering and heavy construction and the safe operation of heavy equipment (e.g., earth movers, *D4.0 Students understand project management procedures and processes as they occur in a construction project:* D4.1 Interpret and use residential construction blueprints and specifications. D4.2 Understand how to estimate materials from blueprints and specifications. D4.3 Understand the sequencing of events for specific construction projects. *Residential and Commercial Construction Pathway* D4.4 Solve common residential construction problems, such as framing, plumbing, and electrical, by using the official codes adopted by the state and local building standards commission. D4.5 Understand industry conventions for the creation and maintenance of construction logs. D4.6 Understand customer service/relations as applied to project management and wholesale and retail sales.

**EL DORADO UNION HIGH SCHOOL DISTRICT**  
**Educational Services**

**Course Title: Finish Carpentry**

**Unit 6:** Counter tops

- Goals:** A) Have a working knowledge of a wide selection of counter tops  
 B) Be able to construct and install Plastic laminate and wood counter tops

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Be able to design, construct and install Plastic Laminate counter top materials	1. Lecture 2. Demonstration 3. Selected readings from Unit 20 pages 557 to 578, Modern Carpentry 4. Student project or assigned student demo
2. Be introduced to Solid surface, Stone and Tile as counter top material	1. Lecture 2. Demonstrations 3. Guest speakers or field trip top mfg shop of job site

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**Educational Services**

**Course Title: Finish Carpentry**

**Unit 7:** Stair Construction

**Goal:** A) Understand the layout, design and construction of a typical stair case

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Be able to calculate the basic parts of a stair including Unit Rise, Total Rise, Unit Run and Total Run.	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstration</li> <li>3. Read Unit 17 pages 483 to 499, Modern Carpentry</li> <li>4. Video/ DVD</li> </ol>
2. Be able to lay out and cut a stair stringer	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstration</li> <li>3. Student demonstration project</li> </ol>
3. Understand and be able to attach Newel Posts, Balusters and Hand (or Stair) Rail	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstration</li> <li>3. Student demonstration project</li> </ol>
4. Be able to layout, cut and install Treads and Risers	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstration</li> <li>3. Student demonstration project</li> </ol>

<p><b>Content Standards: <i>Building Trades and Construction Industry Sector</i></b> D1.0 Students understand and apply measurement systems in the planning and layout process used in the residential construction industry: D1.1 Identify design solutions for residential construction problems. D1.2 Calculate required materials for residential construction applications. D1.3 Convert scaled blueprint drawing measurements to full dimensions for a given construction project. D1.4 Apply conventional construction measurement processes accurately (geometric and trigonometric functions). D1.5 Know the use of conventional construction formulas to determine production requirements.</p>
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**EL DORADO UNION HIGH SCHOOL DISTRICT**  
**Educational Services**

**Course Title: Finish Carpentry**

**Unit 8:** Doors and Windows

**Goal:** A) understand the procedure and process of installing different types of Doors and Windows

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Be instructed in the process and procedure of installing both a slab and pre hung door	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstration</li> <li>3. Selected readings from Unit 18 pages 501 to 525, Modern Carpentry</li> <li>4. Student project or assigned student demo</li> </ol>
2. Be instructed on the process and procedure of cutting and setting trim around a hung door	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstrations</li> <li>3. Student guided practice</li> </ol>
3. Be instructed in the process and procedure in setting a window	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstrations</li> <li>3. Student guided practice</li> </ol>
4. Be instructed on the process and procedure of cutting and setting trim around window	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Demonstrations</li> <li>3. Student guided practice</li> </ol>

**Content Standards: *Building Trades and Construction Industry Sector* D2.0** Students understand the safe and appropriate use of hand tools common to the residential and commercial construction industry: D2.1 Use the common hand tools of the trade, such as hammers, torches, pliers, wire cutters, pipe cutters, saws, chisels (wood and concrete), and wrenches, safely and properly. D2.2 Maintain and care for hand tools used in residential and commercial construction.



**EL DORADO UNION HIGH SCHOOL DISTRICT**  
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**Course Title: Finish Carpentry**

**Unit 9:** Finishes

**Goals:** A) To be able to prep, paint or finish and clean up a project  
B) Know the procedure to adding different types of finishes to a project based on the location (in doors or out) and type of material being finish

<b>OBJECTIVES</b>	<b>SUGGESTED ACTIVITIES</b>
The student will:	
1. Will understand the steps and procedure in the preparation and painting of an object or room	<ul style="list-style-type: none"> <li>▪ Lecture and Demonstration</li> <li>▪ Apply to student project</li> <li>▪ Estimate the materials and cost of painting a project or room</li> </ul>
2. Learn how to prepare a project for final finish	<ul style="list-style-type: none"> <li>▪ Lecture and Demonstration</li> <li>▪ Apply to student project</li> <li>▪ Read chapter 20 pages 557-579</li> </ul>
3. Learn how to apply Wood Conditioner, Stain, and an Oil hand rubbed finish	<ul style="list-style-type: none"> <li>▪ Lecture and Demonstration</li> <li>Apply to student project</li> </ul>
4. Learn how to setup and spray both Sanding Sealer and Lacquer finish	<ul style="list-style-type: none"> <li>▪ Lecture and Demonstration</li> <li>Apply to student project</li> </ul>

**Goals / Standards met:** (Standards and Benchmarks taken from **Engineering and Design Career Pathways C: Building Trades and Construction Industry Sector**)

4.3 Understand the influence of current and emerging technology on selected segments of the economy.

Use stationary and portable power tools in the assembly of cabinet and wood product components.

A8.0 Students understand the impact of financial, technical, and environmental trends on the past and future of the cabinetmaking and wood product industry:

A8.1 Understand significant historical trends in cabinetmaking and wood products technology.

A8.2 Understand environmental regulations that influence the cabinetmaking and wood products industry.

**Homework:** Majority of written and Project work will be completed in class

**Lab Fee:** Student pays for materials taken home

**Grading Policy:**

- 5% Written assignments
- 15% Project plans
- 10% Quizzes, participation and written assignments
- 60% Lab assignments
- 10% Final Exam