

**RIALTO UNIFIED SCHOOL DISTRICT
CURRICULUM PROPOSAL**

Name of Course:	Advanced Cabinetmaking & Millwork	Grade Level(s):	11 - 12
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Brief Course Description:

This is an advanced course and will build upon the skills previously taught in the Cabinetmaking course. This course will introduce students to the construction of high-quality finished products such as cabinets and furniture. Students will be introduced to mass production techniques and entrepreneurship as they participate in manufacturing of cabinetry and wood products. Students will receive instruction on the basic elements of production furniture design, prototype building, and product evaluation. Students will design, build, and test market furniture, cabinets, or wood products which will then be selected for manufacturing. Students will also be introduced to areas of technology, such as CNC routing and laser cutting as it applies to wood product manufacturing. Students will gain employable skills as related to the Building and Construction Trades Industry sector. During this course, students will be evaluated and tested using the Woodwork Manufacturing Skills Standards used in the Woodwork Career Alliance (WCA) skill evaluator assessments. Upon completion of this course, students may earn an OSHA 10 certificate, and may also complete industry recognized certifications through Precision Exams.

Proposed By:	Mark Streeter	School:	Eisenhower H. S.	Date:	1/7/2001
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The Following is Proposed for this Course:

<input checked="" type="checkbox"/> Addition <input type="checkbox"/> Required Course <input checked="" type="checkbox"/> Elective	<input type="checkbox"/> Revision <input type="checkbox"/> Content <input type="checkbox"/> Name Change	<input checked="" type="checkbox"/> G <input type="checkbox"/> Honors <input checked="" type="checkbox"/> Career Tech. Ed.	<input checked="" type="checkbox"/> Deletion <input checked="" type="checkbox"/> Furniture/Wood Manf. Pathway: <input checked="" type="checkbox"/> Sector: Building & Construction Trades
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The Following Maximum Credits are Proposed for this Course:

Units of Credit in (Subject Area): **10 CTE Elective G** or in:

The Following Schools will Offer this Course:

<input type="checkbox"/> Carter High	<input checked="" type="checkbox"/> Eisenhower High	<input type="checkbox"/> Rialto High	<input type="checkbox"/> Milor/Zupanic	<input type="checkbox"/>
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The Proposed Course will have the Following Budget Implication:

Individual School Site:	Industrial Arts Dept. 4310-410-0661 (EHS School Budget)
	Instructor's Resource CD, ISBN 978-1-63126-079-7, \$266.64
District Level:	Lab Workbook ISBN 978-1-63126-075-9 36 @ \$34.64 = \$1247.04
	OSHA 10 Certificate 32 @ \$25 = \$800 annually (CTE Funds)
	Woodwork Career Alliance Student Passport 32 @ \$50 = \$1,600 annually (CTE Funds)
Total Estimated Cost:	\$3,913.68 Dist. Est. Total Cost \$1,513.68 + Tax & Shipping Costs

Approval Signatures for the Proposed Course:

Signature	Yes/No	Date	Comments
 Mark Streeter submitting School Department Chair	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1/7/2021	
Carter High School Principal	<input type="checkbox"/> Yes <input type="checkbox"/> No		
 Eisenhower High School Principal	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Rialto High School Principal	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Milor/Zupanic High School Principal	<input type="checkbox"/> Yes <input type="checkbox"/> No		
 Katherine Hitchcock	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1/21/21	
Curriculum Council Chair	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Curriculum Committee Approved by Katherine Hitchcock
 High School Course Proposal
 DATE 1/21/21

Advanced Cabinetmaking & Millwork

 Draft

Eisenhower High School (052622)

Basic Course Information

School(s) Offering This Course:

School Name	Course Learning Environment	Transcript Code(s)	
Eisenhower High School (052622)	Classroom Based	Abbreviation	Course Code
		ADV Cabinetmaking & Millwork	CALPADS 7312

Title:	Advanced Cabinetmaking & Millwork
Length of course:	Full Year
Subject area:	College-Preparatory Elective (G) / Interdisciplinary
UC honors designation?	No
Prerequisites:	Cabinetmaking (Required)
Co-requisites:	Math 1 (Recommended)
Integrated (Academics / CTE)?	Yes: Cabinetry, Millwork, and Woodworking
Grade levels:	11th, 12th

Course Description

Course overview:

This is an advanced course and will build upon the skills previously taught in the Cabinetmaking course. This course will introduce students to the construction of high-quality finished products such as cabinets and furniture. Students will be introduced to mass production techniques and entrepreneurship as they participate in manufacturing of cabinetry and wood products. Students will receive instruction on the basic elements of production furniture design, prototype building, and product evaluation. Students will design, build, and test market furniture, cabinets, or wood products which will then be selected for manufacturing. Students will also be introduced to areas of technology, such as CNC routing and laser cutting as it applies to wood product manufacturing. Students will gain employable skills as related to the Building and Construction Trades Industry sector. During this course, students will be evaluated and tested using the Woodwork Manufacturing Skills Standards used in the Woodwork Career Alliance (WCA) skill evaluator assessments. Upon completion of this course, students may earn an OSHA 10 certificate, and may also complete industry recognized certifications through Precision Exams.

STUDENT LEARNING OUTCOMES:

- To gain experience that results in an increased understanding of procedure and processes used in the production of cabinets, furniture, and wood products.
- Use critical thinking skills to investigate, explore, and analyze characteristics, uses, and effects of forest products as used in consumer goods.
- To learn how to approach problem solving situations creatively using systematic planning and assessment of actions used in the construction of furniture and wood products.
- To reinforce academics (reading, writing, listening, speaking, and mathematical skills) through completed activities throughout the course.
- To understand and recognize the need to change due to new technologies and environmental advances and concerns.
- To be able to describe career opportunities available in the building and construction trades industry sector, and demonstrate job search and employable skills.

Course content:

Health and Safety

Students will be able describe and demonstrate proper general safety, personal safety, and tool and machine safety techniques and procedures. This unit will consist of safety lessons and demonstrations which will explain the safe and proper use of machines and power tools used in the cabinetmaking industry. Students will take written and practical safety tests that are applicable to each tool demonstrated as well as general shop safety procedures. Students will refer to OSHA and explain the purpose of the Occupational Safety and Health Administration. Students will complete the online training through Career Safe and complete the OSHA 10 coursework.

After completing this unit, students will be able to:

- Identify unsafe acts.
- Explain how to reduce or eliminate hazardous conditions around machines and equipment.
- Handle and store materials properly.
- Name various types of fire protection.
- List types of personal protective equipment and how they protect the user.
- Identify types of guards used on machinery.
- Identify and describe the safe use of various cabinetmaking power tools.
- Explain the importance of first-aid training.

Unit Assignment(s):

Through demonstration and lecture, the teacher will cover all aspects of safety in the shop. The teacher will cover general shop safety, hand tool safety, and portable power tool safety. Also, the teacher will set up machinery and demonstrate the safe operation for the following equipment: Drill Press, Band Saw, Radial Arm Saw, Disc Sander, Spindle Sander, Belt Sander, Table Saw, and Router. The students will be required to pass a safety test and complete a performance evaluation of proper procedures for operating machinery in the shop.

Assignments and Activities:

1. Students will prepare a list of safety rules to be followed in the classroom. The students will study the list and take a written test covering the rules for general safety, hand tool safety, portable power tool safety, and machine operation safety. The teacher will go over the test with students paying particular attention to items that were missed on the test.
2. After instruction on specific tool safety for each shop tool, students create a skill block in order to demonstrate safe operation of shop tools. To prepare them for this, they are given an orthographic drawing that they must interpret to create the skill block. Students are given a 3 in x 14 in block of wood and, using the tools of instruction, they will demonstrate proper tool safety to the teacher as they perform cutting operations on machinery. The teacher will use a safety check off sheet to document the student performance of safe operation.
3. Using the Internet, students will visit the OSHA website and look for "Data and Statistics". They will make a list of the most common injuries and OSHA's top 10 citations. In table groups, they will report their findings to the class.
4. Students will complete the 10 hour online OSHA 10 course through Career Safe. They will complete all assessments to earn the OSHA 10 certificate.

Capstone Cabinet Project

This unit will demonstrate the mastery of skills taught in the previous cabinetmaking course. Students will complete a capstone project by producing a wood project from conception to completion. This will include demonstrating competency in the planning and construction of a large furniture or cabinet project. Students will demonstrate competence in the design, layout, and technical drawings used in woodworking, cabinetmaking, and millworking. They will research and select appropriate building materials, and demonstrate common construction methods used in producing cabinetry, furniture, and wood products.

By the end of this unit students will be able to:

1. Develop plans for a cabinet which will include working drawings, cutting lists, a bill of materials, and plan of procedures.
2. Identify and select materials in order to manufacture cabinet components such as face frames, cases, doors, and drawers.
3. Identify and demonstrate proper joinery and assembly processes to complete cabinet projects.
4. Identify and select hardware and fasteners used in the process of cabinet construction
5. Identify and demonstrate proper finishing techniques for cabinets.

Unit Assignment(s):

Through instructor guidance, students will select a project of choice to complete as a capstone project. Students will use the Internet to research cabinet and furniture styles, and come up with a sketch of the capstone project. Students will then research materials, joinery, and construction techniques to complete the design and produce their project. Students will start by completing working drawings, cutting lists, bill of materials, and plan of procedure. They will demonstrate and apply their skills and knowledge of woodworking to construct and produce high quality furniture and cabinetry.

Assignments:**1. Construction of capstone project****Math Assignments:**

1. Students will complete all the necessary drawings to construct their projects, which will consist of pictorial, technical and detail drawings of the project.
2. Produce a material and cutting list for all project components.
3. Produce a bill of materials and compute project costs.

Writing Assignments:

- Create a plan of procedure for the construction of project components and final project.
- Students will complete a written assignment on why and how they selected wood joinery for their project. The documents will include a compare and contrast of woodworking joints, and how this played into the selection for the project.

Speaking and Presentation Skills:

- Students will produce a power point covering all aspects of building the capstone project. The power point must include the cabinet style, along with the period of time which the cabinets were produced. Also, include all sketches and problems encountered in the construction process. Students will present the power point to the class.

Mass Production Using an Assembly Line

This unit will introduce students to mass production and the assembly line. Students will work in teams to design, construct, test, and redesign an assembly line to manufacture a product as quickly and efficiently as possible to meet the quality control criteria. Students will create and build a prototype that will then be produced through mass production techniques.

Objectives:

During this lesson, students will:

- 1) Assemble a product individually that meets the quality control criteria.
- 2) Design an assembly line process to assemble a product as quickly and efficiently as possible meeting the quality control criteria.
- 3) Construct an assembly line.
- 4) Compare the difference between assembling a product individually versus with an assembly line.

Recommended Reading:

- Henry Ford and the Assembly Line (ISBN: 978-1584151739)
- The Assembly Line (ISBN: 978-0618484379)
- Lean Assembly: The Nuts and Bolts of Making Assembly Operations Flow (ISBN: 978-1563272639)

Unit Assignment(s):

Students will use the Internet to research and review how assembly lines are used to mass produce products. Students will review the online videos and use them as a resource to construct their own assembly line.

Online Video:

- Assembly Line: Crayola Crayons (<http://videos.howstuffworks.com/discovery/4269-assembly-line-crayola-crayons-video.htm>)
- History Channel -- the Assembly Line ([history.com/topics/assembly-line](http://www.history.com/topics/assembly-line) (<http://www.history.com/topics/assembly-line>))

Lesson Activities and Assignments:

Students will take a product, design, and assemble a product individually that meets quality control criteria. Students will be randomly assigned one of the positions: Project assembly line supervisor, quality control, machine operator, assembler, or finisher. The class will need to then vote on the best design for the project to construct with a production assembly line. Next, as a team they will construct, test and redesign an assembly line process to build 20 projects. Finally they will compare the difference between assembling a product individually versus with an assembly line.

Assignment 1: Students will build a prototype of a small project to be constructed through mass production techniques. They will construct all the components and assemble the project.

Assignment 2: Students will create a flow chart for the project prototype to be constructed using an assembly line. The flow chart will show the movement of the components and the machine processes performed.

Assignment 3: Students will participate as a working member in a production assembly line to build 20 projects.

Writing Activities:

- 1) Students will write a report on their assembly line position. The report will include their responsibilities, what operation they performed, and any problems encountered. They will compare the difference between assembling a product individually versus with an assembly line.
- 2) Students will write an "explanatory essay" describing the steps of the assembly line process. They will share their essay with other class members in order to see any variations of other student's perspectives.
- 3) Students will use the Internet and research Henry Ford. Then produce a one page essay documenting Henry Ford's contributions to manufacturing.

Entrepreneurship/Create Your Own Business

This unit is designed to have students explore the possibilities of Entrepreneurship. Students will create a business plan for the use of creating a business to manufacture and produce wood products. They will create a business for the construction of their completed prototype produced in the mass production unit. They will look at the tools and equipment used to construct the prototype project, and create a cost analysis to build the project. Students will work individually and in teams to review the elements of a business plan, and once prepared, proceed to create a plan for their course project. Students will gain a better understanding of the research and planning required to plan for a new venture. Individual team members will gain different skills depending on which team they participate with.

Topics of Discussion:

- 1) Entrepreneurship
- 2) The Market
- 3) Individual Traits
- 4) Financial Backing
- 5) New Businesses & Start-Up Shops
- 6) Consignment Production

Unit Assignment(s):

Students will use the Internet to explore business models and research various business plans. On their own, they will pursue their own ideas and create a business proposal, which will represent their prospective business. They will create a power point which illustrates their plan and the types of projects their company will produce. Students will research the city in which they live, look up local ordinances and zoning, and come up with a location for their business.

Writing Assignments and Activities:

1) Business Proposal - Write a business proposal. It must be a minimum of one page. It must contain all of the information listed below. Every item needs a detailed explanation.

- Name of your business.
- Hours you will be open. What will you be producing?
- Location of the business. Is it a small, rural community or a large, urban community? Where in the town will you be located? Actually choose a location. Explain why that location will be good for your business.
- Identify the competition in your business area and location.
- How many employees will you need? (3 minimum). What specific positions will these employees hold?
- Why do you think your business will succeed?
- Graphics to help convey your ideas: photos, organization chart, map, sketches, etc.

2) Logo - Think of logos that companies use, such as the Nike swoosh sign, the Ford logo, or the Apple computer logo. Why did these companies choose these kinds of logos? How do they represent their businesses most effectively? Design a logo for your business. You may use Publisher, Photoshop or draw something that can be scanned. This symbol must represent your business effectively and give your customers a visual representation of your business. Design it carefully because it will appear on most of your company's literature. The logo should be colorful and creative, but not necessarily complex. Keep it simple, crisp and catchy.

3) Slogan - Think about popular business slogans used by companies today. For example, Nike uses the slogan "Just do it." Volkswagen's slogan is "Drivers wanted." A slogan is a catchy phrase used by a company to help consumers or customers remember their business. The shorter the slogan is, the better, because it will be easier to remember. Write a short slogan that will be used to represent and advertise your business. It should not be more than six or seven words.

4) Job Descriptions - Write your own detailed description of each position you will need filled in your business. These must be on separate pages. Refer to your business plan for the number of employees that you decided on. Use the Internet to look up samples of job descriptions for your business type. The job description must contain all of the following: Position Title, Who this employee reports to, Compensation (Pay), Summary of Job, List of specific qualifications/skills, Education needed.

5) Advertising - Design a full-page (8 ½ x 11), color advertisement for the newspaper, using Photo Shop. Look through some of the newspapers to get ideas. On a separate piece of paper, write a paragraph explaining which paper you'll be using for your advertising and why you chose that paper, along with where in the paper you will be advertising (sports,

business, entertainment, etc.) The ad must include: Business name, Location, Purpose (what are you in business to do?), "Sale" information.

6) Final Presentation - Create a PowerPoint presentation to show your prospective business. Refer back to your business plan. Your power points should include an example of all the things you created for your business. You may use photos and clipart if it will enhance your presentation. Include pictures of the owners. This will be presented to the class. Be prepared to use the PowerPoint as an outline as you present your business to potential investors (the rest of the class).

7) Put together a startup cost analysis for your business. Create a spreadsheet on the equipment in you prospective business, including costs. Sketch a layout of the shop with the equipment, and square footage of shop space needed. In your city, look up retail space cost for your needs.

Green Cabinetmaking Practices

This unit is designed to demonstrate to students how building design, construction, and maintenance can greatly influence energy use and waste. Students will gain knowledge of past and emerging practices in building design and materials. Students will be made aware and understand that our current lifestyles have an unintended negative consequence on the environment. Through research, they will start to realize practices that harm the environment, along with depletion of natural resources, will have a long-term effect on our ability to survive on the planet. Students will research and understand how green design will have a positive response to the problem.

Topics of Discussion:

- 1) Green Technology Definition
- 2) Historical Trends
- 3) Personal Green Practices
- 4) Economic Benefits
- 5) Green Cabinetmaking Practices - (Eco Friendly Cabinets)

Unit Assignment(s):

Students will identify innovative building techniques that use green technology. They will list the green materials that are used in the cabinet construction, and identify the material used to identify it as green. Students will be made aware of and understand how LEED and WELL encourage a number of different product standards, certifications, and disclosures.

Students will use the Internet as a resource to explore green materials used in construction. They will use up the following websites for research and to complete assignments:

<https://www.bobvila.com/articles/507-eco-friendly-cabinets/> (<https://www.bobvila.com/articles/507-eco-friendly-cabinets/>)

<https://www.buildinggreen.com/> (<https://www.buildinggreen.com/>)

<https://www.buildinggreen.com/product-guide/engineered-wood> (<https://www.buildinggreen.com/product-guide/engineered-wood>)

<https://www.buildinggreen.com/product-guide/engineered-wood> (<https://www.buildinggreen.com/product-guide/engineered-wood>)

Assignments:

- 1) Students will use the Internet, and create a list of green materials used in construction.
- 2) Students will use the Internet to look up and review 5 MSDS sheets on green sustainable products. They will compile and turn in a list of the URL's.

Writing Assignment:

- 3) Students will write a report on the benefits of using engineered wood and how sustainably harvested timber in place of concrete, steel, and brick would have a massive positive impact on the environment.

Computer Numerically Controlled (CNC) Machinery & Lasers

This unit will introduce students to technology used in the wood manufacturing industry. Students will get firsthand knowledge, by application of cnc machining in the construction of their own projects. Students will explore how technology such as cnc machining and laser cutting can be used to produce cabinet components quickly and accurately, instead of the traditional model. Students will be introduced to computer programs such as Mastercam and Corel Draw, and explore how tools that use computers to automatically execute machining operations, allows the ability to offer accuracy, repeatability, and flexibility, which makes the use of machining very attractive.

Topics of discussion:

CNC Applications

Software

Cartesian Coordinate System

Machine Controllers

Techniques for Holding Small Parts

Tooling

Unit Assignment(s):

Students will learn how technology is used by the construction of their own projects using technology to produce cabinet components and machining processes. Students will learn Mastercam and produce a G-code of coordinates for cnc machining during the completion of their sign projects. They will also learn and use Corel Draw to add creative art design to their projects. They will learn and use the Cartesian coordinate system, using the X, and Y axes to lay out projects on the laser and cnc machine. Students will complete math and writing assignments to help develop their skills and understand how technology is used in the wood manufacturing industry.

Project Assignments:

- 1) Students will create a sign using Mastercam and cnc machining operations. The sign project must contain a curvature exterior and text in the interior.
- 2) Students will create a lasered design added to their box project. They will do math to compute and layout the lasering to cut in the center of the top of their project. There must be equally spaced proportions around the exterior surface.

Math Problems:

- 3) Students will calculate the chip load when cnc cutting, using the formula $\text{Chip Load} = \text{Feed Rate}/\text{rpm} \times \text{the number of cutting edges}$. Example: Given the feed rate of 600 inches per minute, what is the chip load for a $\frac{1}{2}$ " diameter, two flute bit rotating at 14,000 rpm
- 4) Students will calculate the Feed Rate, using the formula $\text{Feed Rate} = \text{rpm} \times \text{number of cutting edges} \times \text{chip load}$. Example: Using a chip load chart, calculate the feed rates for solid wood being machined with $\frac{1}{4}$ ", $\frac{3}{8}$ ", and $\frac{1}{2}$ " diameter, two-flute cutters. Assume the spindle speed of 12,000 rpm.

Writing Assignment:

Students will use the Internet to research the history of CNC. Upon completion of their research, prepare a presentation for the class outlining when CNC first appeared and highlighting significant developments in the years that have followed.

Woodwork Career Alliance Assessments

This unit will be used to provide students the necessary skills to enter the workforce in the Building and Construction Trades Industry Sector. The unit will provide opportunities for students to demonstrate their knowledge on the use of equipment and machining processes used in the woodworking industry. Students will have the opportunity to receive industry recognized certifications. There will be an in depth look at machinery, as students will be introduced to changing blades and setting up cutting processes. The students will look at and apply the Industry-Approved Standards for the Woodworking Profession. Students will be tested, as they demonstrate their knowledge by performing basic measuring and layout operations, and machining procedures. The student skills assessments will be evaluated and monitored by a Woodwork Career Alliance Skill Evaluator. The assessments will be recorded on the WCA website, for future employers to view. This web-based transcript archive is a permanent record of the accomplishments of Passport holders enrolled in the program. Upon completion of this unit, and students pass all assessments and the final written test, students will earn the SAW Blade Award from the Woodwork Career Alliance.

Unit Assignment(s):

Students will demonstrate their skills and knowledge through completing the Woodwork Career Alliance Assessments. They will log into the Woodwork Career Alliance (WCA) website and create an account where records of assessments will be kept on file. Students will perform the required levels of competency for each assessment. This will be completed by student demonstrations on machines, written assignments, and a final test, which will be evaluated by the teacher who has been approved as a skill evaluator from the WCA. There will be lectures and demonstrations from the teacher. Students will also gain competency level skills during the construction of their capstone project.

Assignments and Assessments: (Students will be using the Woodwork Career Alliance skill standards)

1. Using calipers and a tape measure, students will complete measuring a widget worksheet. Given a material and measuring devices, students will record the measurements for inside, outside and depth dimensions.
2. Given a block of wood, students will use a tape measure, try square, protractor, and sliding t-bevel to complete a layout of specifications from a detail drawing. Students will layout marks evenly across the board, divide the block into 4 equal sections, and layout a mortise joint on the edge.
3. Given a block of wood, students will complete the following performance standards:
 1. Ripping
 2. Edge rabbeting with a single blade
 3. Edge jointing first edge
 4. Drill holes to a specified location and depth
 5. Sand flat pieces of solid lumber
4. Written online test. Students will log in to the WCA website and complete the 40 question WCA Sawblade Certificate test. Student scores of 80% or better required to earn the Sawblade Certificate.

Preparing for a Career in Cabinetmaking

Students will explore the many career and job opportunities that exist in the Building & Construction Trades Industry. This unit outlines the number of job opportunities, and an overall picture of the skills you will need to get and keep a job in the Cabinetmaking or Wood Product Manufacturing field. Students will explore educational programs and apprenticeship opportunities within the wood products industry.

Objectives:

After the completion of this unit, you will be able to:

1. Compare the duties and educational requirements of various careers in Cabinetmaking.
2. Describe the skills and traits employers look for when interviewing job applicants.
3. Complete a job application and resume.
4. Complete a personal portfolio.

Instructional Unit (outline):

- **Careers in the Cabinetmaking Industry** - Cabinetmaker, Cabinet Installer, Woodworking Machinery Operator, Custom Millwork Project Estimator, Woodwork Engineer/Drafter CAD
- **Education** - Technical Education Programs, Community and Technical Colleges, Advanced Degrees, and Apprenticeships
- **Employability Skills** - Job Seeking Skills, Workplace Skills

- Job Applications
- Resume
- Portfolios

Unit Assignment(s):

Assignments:

1. Using library references such as the Occupational Outlook Handbook, The ONET or the Employment Development Department, select a career related to cabinetmaking. Write a report covering topics such as job opportunities, educational requirements, job responsibilities, and predicted factors for success. Complete an Online Employment Application and create an academic or professional resume
2. Complete a portfolio based on the criteria that was provided.

Course Materials

Textbooks

Title	Author	Publisher	Edition	Website	Primary
Modern Cabinetmaking	William D. Umstattd, Charles W. Davis, Patrick A. Molzahn	The Goodheart-Wilcox Company, Inc.	5th Edition, 2016	www.g-w.com	Yes

Manuals

Title	Author	Publisher	Edition	Website	Read in entirety
Woodwork Manufacturing Skill standards	[empty]	Woodwork Career Alliance	Version 1.0, 2011	http://woodworkcareer.org	No

Additional Information

Course Author:

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