KCKPS CTE CURRICULUM PACING GUIDE

WOODWORKING PRINCIPLES

KSDE Course Code	17007	KSDE Course Name	Woodworking Principles
CIP Code	46.0000	KSDE Pathway	Construction & Design
Infinite Campus Course Numbers	13111045S 13111045Y		
Prerequisites	None		
Courses That Follow	Furniture and Carpentry Fabrication, Carpentry 1, & 2		
Buildings Offered	Wyandotte		

KCKPS Course Description

A comprehensive course designed to instruct students in the basic knowledge and skills required for cabinetmaking and furniture design

Kansas Department of Education Course Competencies

Link to Career Cluster on KSDE

This course utilizes the approved competencies provided on the KSDE website. The competencies identified by KSDE provide the foundation for what students should know and/or be able to do by the end of the course.

Common District Summative Assessment

Woodworking Safety Tests and Semester Final - https://www.quia.com/servlets/quia.web.QuiaWebManager?tagModuleType=106&rand=2907491

PACING GUIDE AT A GLANCE

Unit	Unit Name	Length
1	The Woodworking Industry/Career Search	2-90minuteblocks
2	Planning for the Project	5-90minutebl

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3	Safety Practices for tools and machinery	6 - 9 0 m i n u t e b l o c k s
4	Project Construction and Fastening Techniques	6 5 - 9 0 m i n u t e b l o c

		ks
5	Project Finishing	3-90minuteblocks

KSDE COURSE COMPETENCIES	
Competency	Unit Taught
1. The Woodworking Industry/Career Search	
1.1 Communicate clearly, effectively, and with reason (speaking, listening, reading, writing – including giving & following instructions)	1
1.2 Act as a responsible and contributing citizen and employee (including working knowledge of workplace issues such as sexual harassment, stress & substance abuse)	1
1.3 Plan education and career path aligned to personal goals	1

2. Planning for the Project	
2.1 Add, subtract, multiply, and divide whole numbers, fractions, decimals and percentages.	2
2.2 Use a standard ruler, a metric ruler, and a measuring tape to measure.	2
2.3. Develop a multi-view drawing.	2
2.4 Demonstrate the ability to dimension a drawing.	2
2.5 Demonstrate visualization skills in orthographic projection.	2
2.6 Read, interpret, and use technical drawings, documents, and specifications to plan a project	2
2.7 Select quality wood, based upon; strength, appearance and durability requirements of the project designed.	2
2.8 Create a bill of material, and a plan of procedure for a project being planned for construction.	2
2.9 Estimate costs of a project.	2
3. Safety Practices for tools and machinery	
3.1 Apply safe practices while using tools and equipment.	2,3
3.2 Demonstrate the safe use of common power tools.	2,3
3.3 Properly use, maintain & care for hand tools common to the woodworking industry.	2,3
3.4 Properly set up, maintain and care for machines and power tools as they are used for constructing projects.	2,3
3.5 Explain the purpose of OSHA and how it promotes safety on the job.	2,3
4. Project Construction and Fastening Techniques	
4.1 Apply traditional history with the principles and elements of design to create project plans, which fulfills the criteria for the project to be constructed.	2,3,4
4.2 Utilize the common styles and methods to construct and install cabinet and/or furniture sub-assemblies	2,3,4
4.3 Select and apply “best method” joint construction and fitting for the project being constructed.	2,3,4

4.4 Select and perform “best-method” assembly techniques for cabinet or furniture construction.	2,3,4
5. Project Finishing	
5.1 Select and perform the appropriate finish for the cabinet or furniture project being constructed	4,5
5.2 Properly set up, maintain and care for the tools and equipment used for finishing cabinets and furniture.	2,3,4,5

UNIT 1 The Woodworking Industry/Career Search

Unit 1 Overview

In this unit students will learn about the woodworking industry. Students will study six soft skills employers are looking for in a valued employee. Students will complete a career search to match their values and educational goals.

Unit 1 Competencies

1.1 Communicate clearly, effectively, and with reason (speaking, listening, reading, writing – including giving & following instructions)		
1.2 Act as a responsible and contributing citizen and employee (including working knowledge of workplace issues such as sexual harassment, stress & substance abuse)		
1.3 Plan education and career path aligned to personal goals		

Unit 1 Resources

Primary Resources	Supplemental Resources
● Electronic Woodworking Text - https://nglsync.cengage.com/portal/Account/LogOn?ReturnUrl=%2fportal ● Occupational Outlook Handbook Website - https://www.bls.gov/ooh/ ● Kansas High School Teachers Collaboration Google Drive -	● OOH Handout - https://docs.google.com/document/d/1E88DNjxGAINhd

https://drive.google.com/drive/u/1/folders/1DAt1Dq1JE-63TORruwAbuldycFMYk9-6

0ILZN_tyU1y9eOMqjy-nlToZMpi3Fk/edit

- Naviance Software
- Woodworking - tools, materials, processes, by William Spence/L. Duane Griffiths

Unit 1 Vocabulary

- apprentice
- Bureau of Labor Statistics
- internship
- interview
- journeyman
- labor unions
- Occupational Outlook Handbook
- Résume
- Soft Skills
    - Communication Skills
    - Professional Life Skills
    - Customer Centered Culture
    - Telephone Skills
    - Management Skills
    - Team Skills

UNIT 2 Planning for the Project

Unit 2 Overview

Students will be tested for measurement accuracy. This is necessary for machinery set up and project accuracy. Project planning will include drafting and design principles, orthographic projection, working drawings, bill of materials, and project plan of procedure. Students will understand the creative process of taking a project idea and developing the supporting documents necessary to build the project.

Unit 2 Competencies

2.2 Use a standard ruler, a metric ruler, and a measuring tape to measure.		
2.3. Develop a multi-view drawing.		
2.4 Demonstrate the ability to dimension a drawing.		
2.5 Demonstrate visualization skills in orthographic projection.		
2.6 Read, interpret, and use technical drawings, documents, and specifications to plan a project		
2.7 Select quality wood, based upon; strength, appearance and durability requirements of the project designed.		
2.8 Create a bill of material, and a plan of procedure for a project being planned for construction.		
2.9 Estimate costs of a project.		

Unit 2 Resources

Primary Resources	Supplemen

tal Resources

- Electronic Textbook - https://nglsync.cengage.com/portal/Account/LogOn?ReturnUrl=%2fportal
- OnShape CAD Software
- My Youtube Channel - https://studio.youtube.com/channel/UCsosYugpqgk-tcEnWuk7Sfg/playlists
- Kansas High School Teachers Collaboration Google Drive - https://drive.google.com/drive/u/1/folders/1DAt1Dq1JE-63TORruwAbuldycFMYk9-6

Unit 2 Vocabulary

Bill of Materials
Plan of Procedure
Working Drawings
Orthographic Projection
Board Feet
Linear Feet
Square Feet
Nominal Size
Random Widths & Lengths
Reducing Fractions
Elements of Design

Design Principles
Dimensioning
Alphabet of Lines

UNIT 3 Safety Practices for tools and machinery

Unit 3 Overview

This unit will be a study of general and specific machinery safety rules and procedures. Students will receive safety information in a variety of ways, including but not limited to, (textbook, handouts, youtube videos, lecture, and demonstration). Students will be tested using Quia safety tests. They must pass each by 100%. Students are given unlimited tries to obtain the 100% score. After passing the test, the students will receive a safety demonstration on each test. Students will then complete a performance test for each machine.

Unit 3 Competencies

3.1 Apply safe practices while using tools and equipment.		
3.2 Demonstrate the safe use of common power tools.		
3.3 Properly use, maintain & care for hand tools common to the woodworking industry.		
3.4 Properly set up, maintain and care for machines and power tools as they are used for constructing projects.		

Unit 3 Resources

Primary Resources	Supplemental Resources
• Electronic Textbook - https://nglsync.cengage.com/portal/Account/LogOn?ReturnUrl=%2fportal • My Youtube Channel - https://studio.youtube.com/channel/UCsosYugpqgk-tcEnWuk7Sfg/playlists • Quia - www.quia.com/web • Kansas High School Teachers Collaboration Google Drive - https://drive.google.com/drive/u/1/folders/1DAt1Dq1JE-63TORruwAbuldycFMYk9-6	• Quia Safety Tests - Hard Copies • Misc. Websites • Woodworking - tools, materials, processes, by William Spence/L. Duane Griffiths

Unit 3 Vocabulary

Kickback
Safety Zone
Eye Protection
Ear Protection
OSHA
Safety Demonstration
Performance Testing
Guard
Fence
Table
Blade
Cutter Head
Cross Cutting
Ripping
Grain Direction
Special Setups
Safety Hazards
Radial Arm Saw
Joiner
Table Saw
Planer
Belt Sander
Drill Press
Oscillating Spindle Sander
Router
Saw Stop
Router Table
Edge Sander
In Feed
Out Feed
Miter Saw

Unit 4 Project Construction and Fastening Techniques

Unit 4 Overview

This unit students learn to put their learned project information to use. They will build each required project using precise measurement, material selection, machinery operation, gluing techniques, joinery, and fasteners to build the project to design specifications.

Unit 4 Competencies

4.1 Apply traditional history with the principles and elements of design to create project plans, which fulfills the criteria for the project to be constructed.		
4.2 Utilize the common styles and methods to construct and install cabinet and/or furniture sub-assemblies		
4.3 Select and apply “best method” joint construction and fitting for the project being constructed.		
4.4 Select and perform “best-method” assembly techniques for cabinet or furniture construction.		

Unit 4 Resources

Primary Resources

- Electronic Textbook - https://nglsync.cengage.com/portal/Account/LogOn?ReturnUrl=%2fportal
- My Youtube Channel - https://studio.youtube.com/channel/UCsosYugpqgk-tcEnWuk7Sfg/playlists
- Kansas High School Teachers Collaboration Google Drive - https://drive.google.com/drive/u/1/folders/1DAt1Dq1JE-63TORruwAbuldycFMYk9-6

Supplemental Resources

- Cutting Board Project
- Lap Desk Project
- Mini Cedar Chest Project
- Woodworking - tools, materials, processes, by William Spence/L. Duane Griffiths
- Independent Study Project

Unit 4 Vocabulary

Straight Edge
Four Step Squaring Process
Cross Cut Sled
Kreg Screws
Wood Screws
Nails
Brads
Hanger Bolt
Washer
Counter Sink
Pilot Hole

Shank Hole
Staples
Glue Joint
Wood Joints
Wood Glue
Waterproof Glue
Super Glue
Bar Clamp
Quick Clamp
C-Clamp
Spring Clamp
Table Vice
Rails
Styles
Raised Panel
Dowel Pins
Biscuit
Chuck
Relief Cut
Joinery
I/O Jointing Technique
Torque
Cutter Head Rotation
Wood Species
Finger Joint Jig

UNIT 5 Project Finishing

Unit 5 Overview

Students will learn about different finishes and the multiple steps used for each finish type, to achieve a professional finish for each required project.

Unit 5 Competencies

5.1 Select and perform the appropriate finish for the cabinet or furniture project being constructed		

5.2 Properly set up, maintain and care for the tools and equipment used for finishing cabinets and furniture.		

Unit 5 Resources

Primary Resources	Supplemental Resources
• Electronic Textbook - https://nglsync.cengage.com/portal/Account/LogOn?ReturnUrl=%2fportal • My Youtube Channel - https://studio.youtube.com/channel/UCsosYugpqgk-tcEnWuk7Sfg/playlists • Kansas High School Teachers Collaboration Google Drive - https://drive.google.com/drive/u/1/folders/1DAt1Dq1JE-63TORruwAbuldycFMYk9-6	• Youtube Videos • Woodworking - tools, materials, processes, by William Spence/L. Duane Griffiths

Unit 5 Vocabulary

Mineral Oil
Tung Oil
Lacquer
Sanding Sealer
Lacquer Thinner
Steel Wool
Sanding Grits
Abrasives
Wood Filler
Stain
Grain direction
Defects
Spray Gun