

Basic Woodworking

Priority Standards:

- Ind 3.1 Demonstrate safe practices and procedures with tools and equipment.
- CWP 3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws and routers, safely and appropriately.
- IND 4.4 Exhibit a responsible work ethic.
- CWP 1.4 Know conventional measurement processes for cabinetmaking and wood products, linear measurements and conversions of fractions and decimals.

Class Work/Projects:

- Safety overview/safety exam
- Joinery unit- Students will learn different types of joinery that can be implemented into their work.
- Sofa Table project- Each student will make a sofa table. During this project, students will each make a sofa table where they will demonstrate: safety, joinery, finish work, 21st century skills, and ability to read blueprints.
- End Table

Students will:

- Demonstrate shop safety
- Understand Employability skills
- Know common fractions
- Understand the building process of a basic wood project

Product Development

Priorities Standards:

- Ind 3.1 Demonstrate safe practices and procedures with tools and equipment.

- CWP 3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws and routers, safely and appropriately.
- IND 4.4 Exhibit a responsible work ethic.
- CWP 1.4 Know conventional measurement processes for cabinetmaking and wood products, linear measurements and conversions of fractions and decimals.

- CWP6.2 Develop a production plan, including the layout, bill of materials and cost analysis, for the production of cabinets or wood products.
- MNU10.2 Select appropriate tools, processes and equipment to successfully produce formed parts or products.

Class Work/Projects:

- Safety overview/safety exam

- Students will work in groups and build production plans.
 - Blueprints
 - Material costs
 - Price per unit
 - Job assignments
 - Sale price

- Once the production plans are completed, students will begin working in groups to complete their projects they have planned out.

- Students will work after school to sell their projects.

Students will:

- Demonstrate shop safety
- Understand Employability skills
- Know common fractions
- Understand the building process of a basic wood project
- Demonstrate the skills learned to form and operate a business/business plan

Geometry In Construction

Priority Standards:

- Ind 3.1 Demonstrate safe practices and procedures with tools and equipment.
- CWP 3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws and routers, safely and appropriately.
- IND 4.4 Exhibit a responsible work ethic.
- CWP 1.4 Know conventional measurement processes for cabinetmaking and wood products, linear measurements and conversions of fractions and decimals.

- CWP6.2 Develop a production plan, including the layout, bill of materials and cost analysis, for the production of cabinets or wood products.
- MNU10.2 Select appropriate tools, processes and equipment to successfully produce formed parts or products.

Class Work/Projects:

- **Safety Test**
- **Safety Demonstration**
- **OSHA Training**
- **Balsa Wood Houses**
- **Designing and blueprinting to scale**
- **T-Shirt Designs/Printing**
- **Geometrical Shape Collage**
- **Stair stringer**
- **Customer project**
- **Shed**

Students will:

- Demonstrate shop safety
- Understand Employability skills
- Know common fractions
- Understand the building process of a basic wood project

Construction Trades

Priority Standards:

- CON4.1 Interpret and use residential construction blueprints and specifications.
- CON4.4 Solve common residential construction problems, such as framing, plumbing and electrical, by using the official codes.
- CON6.4 Complete the phases of residential and commercial construction.

Class Work/Projects:

- Learn about building codes
- Learn how to work through and recognize repairs.
- Work on different projects learning: construction techniques in framing, electrical, and plumbing

Students will:

- Demonstrate shop safety
- Understand Employability skills
- Know common fractions
- Understand building codes
- Demonstrate how to read a blueprint
- Understand basic trades concepts and a better understanding of opportunities in the trades

Advanced Woodworking

Priority Standards:

- Ind 3.1 Demonstrate safe practices and procedures with tools and equipment.
- CWP 3.1 Use portable power tools, such as single and compound miter saws, drills, sanders, saber saws and routers, safely and appropriately.
- IND 4.4 Exhibit a responsible work ethic.
- CWP6.2 Develop a production plan, including the layout, bill of materials and cost analysis, for the production of cabinets or wood products.
- MNU10.2 Select appropriate tools, processes and equipment to successfully produce formed parts or products.
- CWP 6.1 Design and create cabinet and wood products.

Class Work/Projects:

- Safety
- Blueprint reading
- Cabinetry
- CNC Programming
- Fusion360 (Autodesk)p

Students will: Work on advanced woods projects such as cabinetry or various other large projects. Students can expect to learn about and use the CNC Router to make more intricate products.

Civil Engineering

Priority Standards:

- DFT3.1 Know how the various measurement systems are used in engineering drawings
- CON 4.1 Interpret and use residential construction blueprints and specifications.
- CON4.2 Understand how to estimate materials from blueprints and specifications.

Class Work/Projects:

- Students will learn how to use Autodesk Revit
- Design a garden shed
- Students will design a home for a customer and follow strict guidelines set by Habitat for Humanity
- Students will design commercial buildings to develop a site plan for a "local community."
- History of architecture
- Architectural Styles
- Building codes

Students will:

- Understand how to read blueprints, use basic CAD programs/functions
- Understand the history of architectural styles, common practices
- Gain the knowledge of how to locate and interpret building codes
- Understand the differences of residential and commercial construction.

Advanced Construction Trades

Priority Standards:

- CON4.1 Interpret and use residential construction blueprints and specifications.
- CON4.4 Solve common residential construction problems, such as framing, plumbing and electrical, by using the official codes.
- CON6.4 Complete the phases of residential and commercial construction.
- CON4.6 Understand customer service/relations as applied to project management and wholesale and retail sales.
- CON4.2 Understand how to estimate materials from blueprints and specifications.

Class Work/Projects:

- Building codes
- Construction repairs
- Larger scale projects: sheds, chicken coops, etc.
- Project planning/estimating
- Industry Tours

Students will: Learn about building codes, construction repairs, safety, the Industry, codes, blueprint reading, customer estimates, and do some basic construction practices.