Grade level: 9-12 | **Course Title: Wood Technology** | **Topic/Concept: Drawing and Shop Safety**

Time Allotment: 5 days | **Unit Sequence: 1**

Major Concepts to be learned:

- Pictorial Drawing
- Orthographic drawing
- Hand Tool Safety
- Machine Safety
- Shop Safety

Expected Skills to be demonstrated:

- How to use and operate tools and machines in a safe manner
- The student will be able to use and operate machines in a safe manner.

PA Standards/Anchors:

3.2.10.A
3.2.10.B
3.6.10.C
3.7.10.B
13.3.11.A

Eligible Content:

- How to draw pictorial and orthographic drawings on grid paper to scale.
- How to use and operate tools and machines in a safe manner

Instructional Strategies:

Problem solving activities
Written work
Hands-on activity
Live and video demonstrations

Assessments:

- Evaluate classroom work.
- Safety tests

Grade level: 9-12 | **Course Title: Wood Technology** | **Topic/Concept: Machine Operations**

Time Allotment: 10 days | **Unit Sequence: 2**

Major Concepts to be learned:

- Operating the Table Saw
- Operating the Radial Arm Saw
- Operating the Jointer
- Operating the Planer

Expected Skills to be demonstrated:

- How to operate each machine by where you stand and placement of hands.
- Wearing safety glasses when operating the equipment.
- Placement of materials on the machines.
- Knowing the capacities of the machines

PA Standards/Anchors:

3.6.10.C
3.7.10.B
3.4.10.C
13.3.11.A

Eligible Content:

- Demonstrate the ability to operate the table saw, radial arm saw, jointer, and planer in a safe manner
- Demonstrate a safe working knowledge of how to operate the above machines.
- Using the machines to construct required projects provided by the instructor.

Instructional Strategies:

Problem solving activities
Lecture
Performance task
Hands-on activity
Evaluating
Instructional videos via Google Classroom

Assessments:

- Testing on the machines and evaluation of projects.
- Weekly summary and goals sheet

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Student Planning Sheet**

Time Allotment: 3 days **Unit Sequence: 3**

Major Concepts to be learned:

- Types of Wood
- Filling out the student planning sheet
- Figuring Wood cost

Expected Skills to be demonstrated:

- Name and identify types of wood
- Figure sq. foot problems.
- Figure bd. foot problems.
- Figure linear foot problems
- Estimate cost for there own projects.

PA Standards/Anchors:

3.2.10.A
3.4.10.B
3.6.10.C
13.1.11.A

Eligible Content:

- Identify types of wood.
- How to figure cost.

Instructional Strategies:

Problem solving activities
Lecture
Group discussion
Performance task
Research
Written work
Hands-on activity

Assessments:

- Work sheets and student projects
- Weekly summary and goal sheets

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Gluing wood**

Time Allotment: 2 days **Unit Sequence: 4**

Major Concepts to be learned:

- Preparing wood for gluing.
- Types of glue
- Gluing methods

Expected Skills to be demonstrated:

- How to prepare edges for gluing.
- How to work with water base glue for gluing wood projects
- How to clamp wood with bar clamps, c clamps, strap clamps, and hand screw clamps.
- Clean up of glued projects.

PA Standards/Anchors:

3.6.10.C
3.7.10.B

Eligible Content:

- What is required to edge glue and face glue a project?
- Use of different types of glues.
- Use of various types of clamps

Instructional Strategies:

Problem solving activities
Lecture
Group discussion
Performance task
Hands-on activity
Instructional videos via Google Classroom

Assessments:

- Graded student projects
- Weekly summary and goals sheet

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Band saw**

Time Allotment: 1 day **Unit Sequence: 5**

5

Major Concepts to be learned:

- Parts
- Safety
- Operation

Expected Skills to be demonstrated:

- Demonstrate a working knowledge of the band saw and be able to make adjustments to the various parts of the saw.
- Operate the band saw in a safe manner.
- The student will be able to operate the band saw to rip, crosscut, and cut out various shapes required for building a project.
- The student will be able to resaw lumber.

PA Standards/Anchors:	Eligible Content:
3.6.10.C 3.7.10.B	• Identify the various parts of the band saw. • Safety procedures for the band saw. • Demonstrate the ability and expertise to operate the band saw

Instructional Strategies:	Assessments:
Problem solving activities Lecture Group discussion Performance task Hands-on activity Individual work Instructional videos via Google Classroom	• Graded projects • Weekly summary and goals sheet

Grade level: 9-12 | **Course Title: Wood Technology** | **Topic/Concept: Sanders**

Time Allotment: 3 days | **Unit Sequence: 6**

Major Concepts to be learned:

- Parts
- Safety
- Operation

Expected Skills to be demonstrated:

- Demonstrate a working knowledge of the disc sander, belt sander, open-ended drum sander, spindle sander and be able to make adjustments to the various parts of the disk sander.
- Operate the sanders in a safe manner.
- The student will be able to operate the sanders for sanding various shapes required for building a project.
- The student will be able to change/mount a new sanding paper.

PA Standards/Anchors:

3.6.10.C
3.7.10.B

Eligible Content:

- Identify the various parts of the sanders.
- Safety procedures for the sanders.
- Demonstrate the ability and expertise to operate the sanders.

Instructional Strategies:

Problem solving activities
Lecture
Group discussion
Performance task
Hands-on activity
Instructional videos via Google Classroom

Assessments:

- Individual work
- Graded projects
- Weekly summary and goals sheet

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Drill Press**

Time Allotment: 1 day **Unit Sequence: 7**

Major Concepts to be learned:

- Parts
- Safety
- Operation

Expected Skills to be demonstrated:

- Demonstrate a working knowledge of the drill press and be able to make adjustments to the various parts of the drill press.
- Operate the drill press in a safe manner.
- The student will be able to operate the drill press for drilling holes and using a drum sander for constructing a student projects.

PA Standards/Anchors:	Eligible Content:
3.6.10.C 3.7.10.B	• Identify the various parts of the drill press. • Safety procedures for the drill press. • Demonstrate the ability and expertise to operate the drill press.

Instructional Strategies:	Assessments:
Problem solving activities Lecture Group discussion Performance task Hands-on activity Instructional videos via Google Classroom	• Individual work • Graded projects • Weekly summary and goals sheet

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Handheld & table routers**

Time Allotment: 2 days **Unit Sequence: 8**

Major Concepts to be learned:

- Parts
- Safety
- Operation

Expected Skills to be demonstrated:

- Demonstrate a working knowledge of the router and be able to make adjustments to the router for various types of cutters.
- Operate the router in a safe manner.
- Operate the router in a safe manner.

PA Standards/Anchors:	Eligible Content:
3.6.10.C 3.7.10.B	• Safety procedures for the router. • Demonstrate the ability and expertise to operate the • router.

Instructional Strategies:	Assessments:
Problem solving activities Lecture Group discussion Performance task Hands-on activity Instructional videos via Google Classroom	• Individual work • Graded projects • Weekly summary and goals sheet

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Jig saw**

Time Allotment: 1 day **Unit Sequence: 9**

Major Concepts to be learned:

- Parts
- Safety
- Operation

Expected Skills to be demonstrated:

- Demonstrate a working knowledge of the jig saw and be able to make adjustments to the saw for cutting operations.
- Operate the jig saw in a safe manner.
- The student will be able to cut out both regular and irregular shapes on the jig saw.
- The student will be able to identify five different materials which can be cut on the jig saw.

PA Standards/Anchors:

3.6.10.C
3.7.10.B

Eligible Content:

- Identify the various parts of the jig saw.
- Safety procedures for the jig saw.
- Demonstrate the ability and expertise to operate the jig saw.

Instructional Strategies:

Problem solving activities
Lecture
Group discussion
Performance task
Hands-on activity
Instructional videos via Google Classroom

Assessments:

- Individual work
- Graded projects
- Weekly summary and goals sheet

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Sanding**

Time Allotment: 1 day **Unit Sequence: 10**

Major Concepts to be learned:

- Types of sand paper.
- Grades of sand paper.
- Using sand paper.

Expected Skills to be demonstrated:

- Be able to list the three materials which make up sand paper.(abrasive, glue, and a backing)
- Demonstrate a working knowledge of the sand paper grading system.
- Demonstrate the ability to use sand paper to obtain a smooth surface ready for finish.
- Understand the concept of wet sanding

PA Standards/Anchors:

3.6.10.C
3.7.10.B

Eligible Content:

- Materials that make up sand paper.
- Grading system for sand paper.
- How to work with sand paper to smooth a surface.

Instructional Strategies:

Problem solving activities
Lecture
Group discussion
Performance task
Hands-on activity
Instructional videos via Google Classroom

Assessments:

- Individual work
- Graded projects
- Weekly summary and goals sheet

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Stains & Finishes**

Time Allotment: 3 days **Unit Sequence: 11**

Major Concepts to be learned:

- Types of stain and finishes.
- Methods of applying stains and finishes.
- Drying times and rubbing out finishes.

Expected Skills to be demonstrated:

- The student will be able to select the right type of stains and finishes for a project.
- The student will be able to demonstrate how to apply stain and finish to a project the correct way.
- The student will be able to apply stain and finish in a safe manner
- Students will be able explain how rub out a finish to obtain a smooth finished surface.

PA Standards/Anchors:

3.6.10.C
3.7.10.B
13.3.11.A

Eligible Content:

- Polyurethane, oil and lacquer base finishes.
- Liquid and semi gelled stains.
- Types of finishing equipment.

Instructional Strategies:

Problem solving activities
Lecture
Group discussion
Performance task
Hands-on activity
Instructional videos via Google Classroom

Assessments:

- Individual work
- Graded projects
- Weekly summary and goals sheet

Grade level: 9-12 **Course Title: Wood Technology** **Topic/Concept: Wood Lathe**

Time Allotment: 5 days **Unit Sequence: 12**

Major Concepts to be learned:

- Parts
- Safety
- Operation

Expected Skills to be demonstrated:

- Demonstrate a working knowledge of the wood lathe and the various cutting tools.
- Operate the wood lathe in a safe manner.
- The student will be able to operate the wood lathe for bowl and spindle turning.
- The student will be able to prepare stock for turning operations on the wood lathe.

PA Standards/Anchors:	Eligible Content:
3.6.10.C 3.7.10.B 3.4.10.C	• Identify the various parts of the wood lathe. • Safety procedures for the wood lathe. • Demonstrate the ability and expertise to operate the wood lathe.

Instructional Strategies:	Assessments:
Problem solving activities Lecture Group discussion Performance task Hands-on activity Instructional videos via Google Classroom	• Individual work • Graded projects • Weekly summary and goals sheet

Grade level: 9-12 | **Course Title: Wood Technology** | **Topic/Concept: Student Projects**

Time Allotment: 30 weeks | **Unit Sequence: 13**

Major Concepts to be learned:

- Planning
- Drawings
- Cost Sheet

Expected Skills to be demonstrated:

- Demonstrate a working knowledge of how to draw, design, plan, and figure the cost of a student wood project.
- Operate all of the wood shop equipment in a safe manner.
- The student will be able to assemble wood projects by use of wood screws, nails, and wood glue as required.
- The student will be able to evaluate their projects for grading.

PA Standards/Anchors:

3.2.10.A-D
3.6.10.C
3.7.10.B
13.1.11.A
13.3.11.A
13.4.11.A

Eligible Content:

- Steps for planning projects.
- Steps for building and finishing a projects
- The student will be able to complete a self evaluation sheet
- of their project.

Instructional Strategies:

Problem solving activities
Lecture
Group discussion
Performance task
Hands-on activity
Instructional videos via Google Classroom

Assessments:

- Individual work
- Graded projects
- Weekly summary and goals sheet