Workshop Safety & Operations Guide

General Apparel & Dress Code Standards

To maintain a safe environment around moving machinery, all students must adhere to the following personal dress code rules before entering the active shop floor:

Footwear: Fully enclosed leather or heavy canvas shoes are mandatory. Sandals, slides, or open-backed shoes are unsafe due to sharp debris and heavy falling objects.

Hair Safety: Any hair that extends past the shirt collar must be securely tied back behind the head to prevent it from getting caught in spinning tool spindles.

Loose Clothing: Long sleeves must be rolled up securely above the elbow. Avoid loose hoodies, dangling drawstrings, or baggy shirts that could easily pull your hands toward a blade or cutter.

Adornments: All watches, rings, bracelets, lanyards, and dangling jewelry must be removed entirely before operating any workshop equipment.

Part 1: Stationary Machinery Reference Matrix

Equipment	Required PPE	Core Anatomy	Primary Permitted Uses	Operational Safety Guidelines
Stationary Table Saw	Safety Glasses *(No Gloves)*	Fence, Miter Gauge, **Riving Knife**, Blade Guard, Switch.	• **Rip Cuts:** Slicing wide boards lengthwise with grain. • **Crosscuts:** Cutting lumber to length across grain.	Beginners should avoid using the fence and miter gauge together on a single cut, as this can easily bind the wood and cause instant kickback. Use a push stick for narrow stock.
Stationary Bandsaw	Safety Glasses *(No Gloves)*	Guide Post, Upper/Lower Wheel Guards, Thrust Bearings, Table.	• **Scroll & Curve Cutting:** Executing tight, intricate patterns. • **Resawing:** Slicing thick boards into thin sheets.	Adjust the upper blade guide so it sits **1/4 inch** above the material. Always cut radial **relief cuts** before navigating tight curves to avoid twisting or breaking the blade.
Floor Drill Press	Safety Glasses *(No Gloves)*	Chuck, Chuck Key, Quill Lever, Adjustable Table, Depth Stop.	• **Boring Clean Holes:** Drilling vertical holes at precise diameters. • **Counterboring:** Recessing fastener heads below a surface.	Never try to hold workpieces by hand; they should be locked in a **vise or clamped** to the table. Always **remove the chuck key** immediately after tightening a bit.
Sliding Miter Saw	Safety Glasses *(No Gloves)*	Fence, Retractable Guard, Miter Scale, Slide Rails, Bevel Lock.	• **Miter & Bevel Cuts:** Angled trim cuts for framing and molding. • **Wide Crosscuts:** Pulling saw forward for wider boards.	Pull the saw out, pull the trigger, plunge downward, and **push backward** toward the fence. Keep hands completely out of the **4-inch "no-fly" boundary zone**.
Router Table	Safety Glasses, Dust Mask *(No Gloves)*	Router Bit, Fence, Split Fence, Router Lift, Table Top, Dust Port.	• **Edge Profiling:** Cutting decorative edges (roundovers). • **Joinery:** Cutting dados, rabbets, and slots.	Always feed your material **from right to left** against the fence. Feeding the opposite way causes a "climb cut," where the tool can violently grab the wood out of your hands.
Stationary Disc & Belt Sanders	Safety Glasses, Dust Mask *(No Gloves)*	Sanding Disc, Abrasive Belt, Tracking Knob, Work Table, Dust Port.	• **Squaring Edges:** Truing up rough crosscuts. • **Contour Sanding:** Smoothing out concave or convex curved shapes.	On the disc sander, **only sand on the downward-turning side** of the wheel. Sanding on the upward side will throw your workpiece up into the air. Keep table gaps under **1/16 inch**.

Part 2: Handheld & Portable Power Equipment Reference Matrix

Equipment	Required PPE	Core Anatomy	Primary Permitted Uses	Operational Safety Guidelines
Brad & Pin Nailers	Safety Glasses *(No Gloves)*	Nose Piece, Safety Contact Trip, Magazine, Air Inlet/Battery Pack.	• **Trim Carpentry:** Fastening delicate moldings and casings. • **Joinery Tacking:** Holding glued joints together temporarily.	Keep your hands at least **4 inches away** from the nose piece. Fasteners can easily hit a hard wood knot or grain line and deflect sideways right out of the wood.
Oscillating Detail Sanders	Safety Glasses, Dust Mask	Triangular Sanding Pad, Variable Speed Dial, Power Switch, Grip.	• **Corner Sanding:** Getting into sharp 90-degree corners. • **Flush Scraping:** Trimming protrusions flat against a surface.	Secure your workpiece to a bench using clamps. Guide the sander with light, even hand pressure; pressing down too hard causes heavy vibration and stalls the tool.
Trim (Palm) Routers	Safety Glasses, Dust Mask *(No Gloves)*	Base Plate, Collet, Depth Adjustment Ring, Motor Housing.	• **Light Chamfering:** Trimming laminates or breaking sharp edges. • **Small Mortising:** Cutting shallow hinge mortises by hand.	Ensure the bit is secure in the collet before plugging it in. When working on **outside edges**, guide the router **counter-clockwise** around the piece to retain complete control.
Impact & Drill Drivers	Safety Glasses *(No Gloves)*	Quick-Change Collet (Impact), Keyless Chuck (Drill), Clutch, Trigger.	• **Driving Fasteners:** Sinking long construction screws efficiently. • **Mobile Drilling:** Creating pilot holes in assembled pieces.	Maintain firm forward pressure to keep the driver bit from slipping out of the screw head (**cam-out**). Keep your free hand clear of the backside of the material where the bit breaks through.

Part 3: Shop Etiquette & Clean-Up Checklist

[ ] The "Dead Stop" Rule: Never walk away from a machine while it is still coasting or slowing down. Stay at the station until the blade, belt, or bit has come to a complete, 100% stop.

[ ] Zero-Power Verification: Turn off all equipment switches. If using handheld cordless tools, remove the battery packs and place them back on the charging dock. If using pneumatic tools, disconnect the air line.

[ ] Clearing the Tables: Use a hand brush (never your bare hands) to sweep all wood scraps, sawdust, and metal burrs off machine tables, sander platforms, and workbenches.

[ ] Clearing the Floor: Sweep up all sawdust around your station's footprint. Sawdust on concrete floors acts like tiny roller bearings and becomes incredibly slick, making it a major slip hazard.

[ ] Dust Collection Management: If your machine is attached to an individual dust collector or shop vac, turn it off and empty it if it has reached its fill line.

[ ] Tool Return Accountability: Wipe down any hand tools or measuring equipment used (combination squares, tape measures, drivers) and return them to their exact designated slots on the tool wall or cabinet.

[ ] Material Storage: Return any reusable lumber offcuts to the scrap bin. Store your active project pieces in your assigned locker or storage rack—never leave them sitting out on tables or fences.

[ ] Final Floor Sweep: Cooperate with your class peers to execute a final, room-wide floor sweep, pushing bulk dust toward the central collection bins.

Student Safety Acknowledgement & Sign-off Block

By signing below, I certify that I have read this guide, understand the personal dress code requirements, and will follow the recommended beginner safety rules for all workshop equipment.

Student Name (Printed): _____ Class Period: _____

Student Signature: _____ Date: _____

Instructor Live Performance Validation:
[ ] Student passed physical 'dry run' and live operational test for all required machinery.

Instructor Signature: _____ Date Verified: _____

Workshop Safety Questionnaire

Student Name: _____ Date: _____

Class Period: _____ Score: _____

1. When crosscutting a board on the Stationary Table Saw, why should beginners avoid using the rip fence and the miter gauge at the same time?

A) It dulls the blade faster.

B) It can pinch and bind the wood against the spinning blade, causing a dangerous kickback.

C) It cuts the wood at an unintended angle.

D) The machine's motor will automatically shut down.

2. To what height should the upper blade guide on a Stationary Bandsaw be adjusted above your material?

A) Approximately 2 inches

B) Hidden completely inside the upper wheel housing

C) Exactly 1/4 inch above the material

D) Tightly clamped down flat against the face of the wood

3. Why are radial "relief cuts" recommended when navigating tight curves on the bandsaw?

A) They allow the blade to spin at a higher RPM.

B) They let waste wood fall away, preventing the blade from twisting, binding, or snapping.

C) They ensure the cut remains perfectly straight.

D) They eliminate the need for eye protection.

4. What must you always do immediately after securing a drill bit into a Floor Drill Press chuck?

A) Apply cutting oil to the drill press column.

B) Turn the machine on high speed to test the balance.

C) Remove the chuck key from the chuck.

D) Lower the table to its lowest vertical limit.

5. When operating a Sliding Miter Saw, what is the safest physical motion for completing a wide crosscut?

A) Push the saw all the way back, plunge, and pull it violently forward.

B) Pull the saw out, pull the trigger, plunge downward, and push back smoothly toward the fence.

C) Chop downward repeatedly while free-sliding the rails.

D) Hold the saw with both hands and slide the material laterally with your foot.

6. When using a Router Table, why is it critical to feed your material from right to left?

A) It follows the natural direction of the wood grain.

B) It keeps the dust collection running at peak efficiency.

C) It feeds the wood against the rotation of the bit, preventing a dangerous "climb cut" where the tool grabs the wood.

D) It is only required for left-handed operators.

7. On a Stationary Disc Sander, why must you only sand on the downward-turning side of the disc?

A) The upward-turning side doesn't have any abrasive paper on it.

B) Sanding on the upward side can instantly lift and throw the workpiece out of your control.

C) It keeps the motor cool during heavy operation.

D) It prevents the sander belt from slipping off its tracking knob.

8. Why is wearing gloves generally a major safety risk when working with stationary woodworking machinery?

A) Gloves reduce your hand grip on heavy lumber.

B) Fabric or leather fibers can easily snag on spinning blades, guards, or spindles, pulling your hand into the tool.

C) Gloves trap heat and can cause mild surface burns.

D) They make using push sticks too easy.

9. What can happen if your hand is placed too close (within 4 inches) to the nose of a Brad or Pin Nailer?

A) The tool will lose compressed air pressure.

B) The fastener can hit a dense wood knot or grain line and deflect completely out the side of the wood into your hand.

C) The tool's safety contact trip will fail to engage.

D) The nail will sink too deep into the surface.

10. When guiding a Handheld Trim Router around the outside edges of a workpiece, what is the best directional path to maintain control?

A) Smoothly moving clockwise around the piece

B) Moving counter-clockwise around the piece

C) Pushing and pulling the router in short back-and-forth strokes

D) Dragging the router directly toward your body

11. When is it acceptable to walk away from a stationary power tool after you have finished making a cut?

A) As soon as you hit the "OFF" switch or E-stop.

B) When the blade has slowed down enough that it is no longer making a loud noise.

C) Only after the blade, belt, or bit has come to a complete, 100% dead stop.

D) When the next student in line steps up to use the machine.

12. Why is sweeping up loose sawdust from the shop's concrete floor considered a high safety priority?

A) Sawdust on concrete acts like tiny bearings, creating an incredibly slick slip hazard.

B) It makes the shop smell too heavily of lumber.

C) Accumulating sawdust will automatically cause the tools to lose electric power.

D) It prevents the wood from warping.

13. What is the safest way to clear sawdust and wood chips off a table saw or router table surface?

A) Wipe it off quickly using your bare hands.

B) Use a dedicated bench brush or hand broom.

C) Blow it off using your lung power.

D) Leave it for the next class period to clean up.

14. What should you do with a cordless impact driver or drill before putting it away at the end of class?

A) Leave the battery attached and lock the trigger.

B) Remove the battery pack, place it on the charging dock, and return the tool to its designated slot.

C) Place the tool directly into the wood scrap bin.

D) Leave the drill bit inside the chuck tightly locked.

15. Where should active, unfinished student projects be stored at the end of the work period?

A) Clamped tightly to the sliding miter saw fence.

B) Left sitting out on the main workbench so they stay flat.

C) Put away in your assigned storage locker or project rack.

D) Stacked directly on top of the table saw surface.

Instructor Answer Key & Explanations

Q#	Key	Educational Justification & Operational Context
1	**B**	Combining the fence and miter gauge traps the cutoff piece, causing binding and severe kickback.
2	**C**	The 1/4-inch rule minimizes exposed blade area, significantly dropping the severity of accidental contact.
3	**B**	Relief cuts prevent a thin bandsaw blade from twisting sideways and wandering off its tracking wheels.
4	**C**	A forgotten chuck key becomes a dangerous high-velocity projectile the instant the motor turns on.
5	**B**	Pulling out, plunging, and pushing back utilizes the saw's rotation to push the wood safely against the fence.
6	**C**	Feeding right-to-left ensures the bit cuts *into* the wood, maintaining complete control over feed speed.
7	**B**	The downward side uses rotation to push the workpiece safely flat against the support table surface.
8	**B**	Rotating spindles can catch glove fabric threads and pull fingers in before an operator can react.
9	**B**	Thin brad nails easily follow wood grain curves or knots, causing sudden lateral blowouts.
10	**B**	A counter-clockwise rotation on outside edges ensures a clean cut that resists pulling or lunging.
11	**C**	Leaving a coasting tool unattended invites accidental contact from passing students who may not realize the blade is still spinning.
12	**A**	Fine dust on smooth concrete drastically reduces footwear traction, leading to dangerous slips near heavy machinery.
13	**B**	Bare hands should never sweep tables, as sharp metal slivers, splinters, or hidden blade teeth can cause severe lacerations.
14	**B**	Isolating the power source ensures the tool cannot accidentally discharge or activate while stored in a cabinet.
15	**C**	Keeping work surfaces and tool tables completely clear ensures the next class can immediately configure their setups safely.