

Student Desk

OVERVIEW



Introduction

You're about to learn how to make a student's desk featuring simple, elegant design, heavy-duty drawers and a keyboard drawer for computer compatibility.

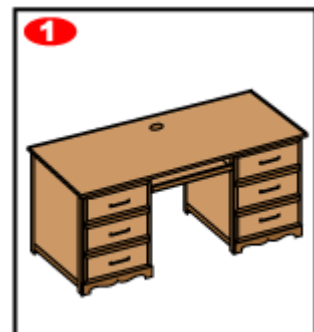
BEFORE YOU START...

SKILL LEVEL & TIME TO COMPLETE

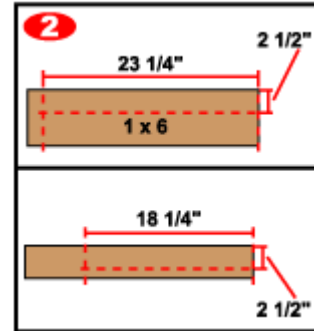
- Beginner - about 6 to 7 days
- Intermediate - about 4 to 5 days
- Advanced - about 2 to 3 days

STEPS

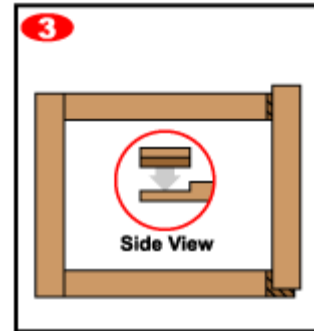
1. For the desk surface and sides, choose the hardwood or softwood plywood of your choice. For the "show wood" edging, we recommend red oak, but the choice is up to you, of course.



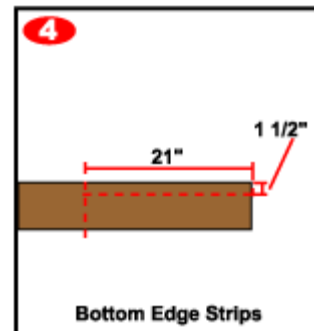
2. You will first construct the frames. Using the 1X6 spruce stock, cut 16 frame sides to 23 1/4" x 2 1/2". Then, from the same stock, cut 16 frame fronts and backs of the same width, but at 18 1/4" lengths



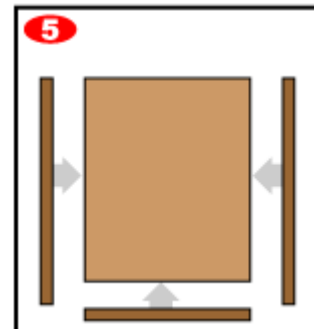
3. Cut half lap joints by making repeated passes on the table saw, using a miter gauge. Set the saw blade to remove exactly one half the thickness of the stock. When two pieces are assembled, the surfaces should be even. Assemble eight frames using C-clamps and glue, making sure the frames are square. Sand the edges flush.



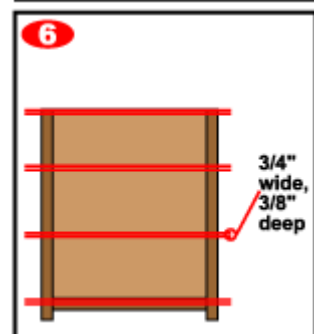
4. From your show wood edging, cut four bottom edge strips to 1-1/2" widths and 21" lengths. Cut eight legs to the same widths and 28-1/2" lengths. Then from the plywood, cut four 21" x 25-3/4" sides.



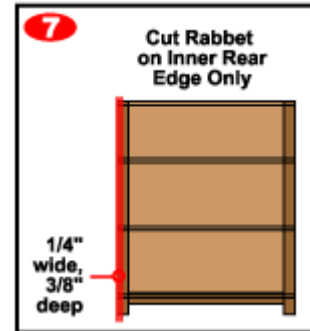
5. Glue the bottom edge strips to the plywood sides along the edges of the plywood, using bar or pipe clamps. Then glue the legs into place along the edges of the sides perpendicular to the bottom edge. You can also use finishing nails if you choose.



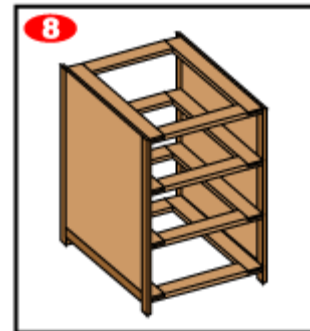
6. Sand the completed side panels flush. Lay out and cut dados 3/4" wide and 3/8" deep into one side in the positions shown. Once the dados are cut into one side, mate it against the opposite side and transfer the dado locations with a pencil. Cut all the dados in all four side panels, and keep the panels in mated pairs from this point on.



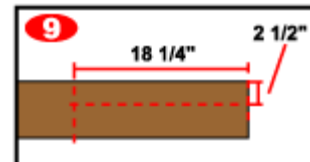
7. On the inner rear edge of the panels, cut a rabbet 1/4" wide and 3/8" deep -- the same depth as the dadoes.



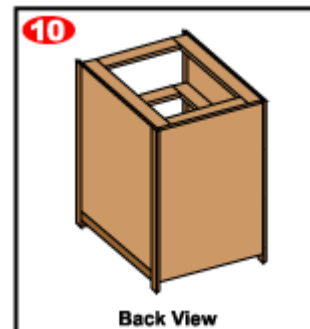
8. Stack the frames together and sand or plane them even. Assemble the two drawer cases by attaching the side panels to the frames; making sure the assembly is square. Use glue and finishing nails.



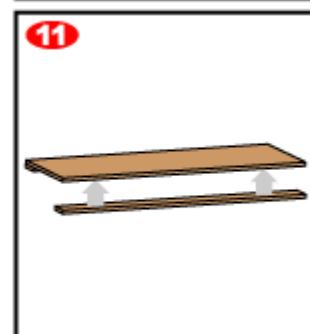
9. Cut eight frame edge strips from the show wood to 2-1/2" widths and 18-1/4" lengths to fill the gaps left at the fronts of the frames. Make all of the strips the width of the widest gap to be filled, allowing a little extra thickness for sanding. Glue the strips into place, using clamps. Once the glue is dry enough, sand the protruding edge strips flush to the front with your belt sander.



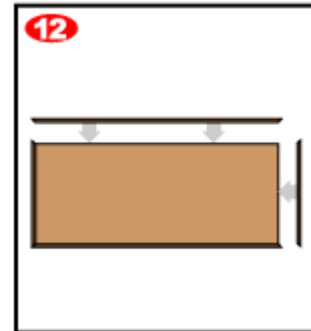
10. Cut the backs from your 1/8" plywood or hardboard to 26-1/2" by 18-1/4" to fit the openings of the recess on the backs of the drawer case. Apply glue to the frame edges and nail the backs into place.



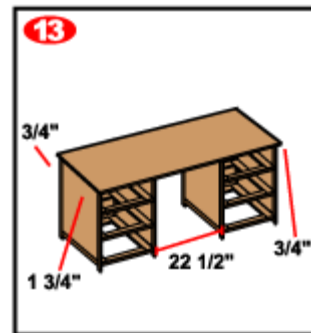
11. Cut the desktop from your 3/4" plywood to 60-1/2" x 25". Make sure you get the edges as straight and flat as possible. Then cut the two top supports from your spruce 1X6s to 60-1/2" lengths. Apply glue to the supports and screw them into the desktop from underneath, making sure your screws won't penetrate the surface.



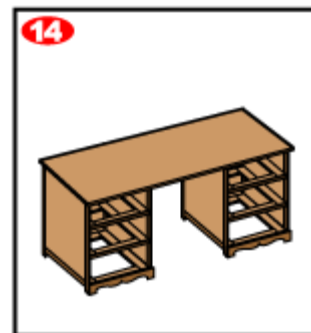
12. Cut the edge moldings from your show wood. The two long molding cut dimensions are 1-1/2" x 62", while the two short moldings will run the same width but 26-1/2" long. Miter the molding ends and attach to the desktop with small finishing nails. Sand the surfaces flush and round them over with the router.



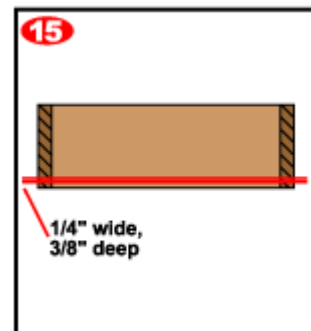
13. Position the completed desktop over the drawer cases so the top overhangs by 3/4" at the sides and rear and 1-3/4" at the front. The knee opening should be 22-1/2" front and back. Attach the drawer cases to the desktop with four screws each, driven upward through the frame.



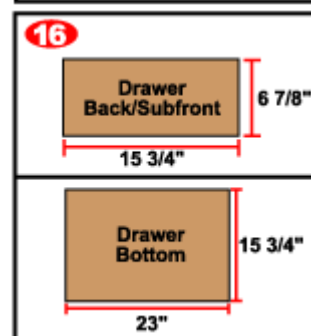
14. Cut the two front trim pieces to 2-1/8" x 19" dimensions from the show wood. Then create the contour with a jigsaw or band saw. Each square is one inch. You can round over the top edge and ends with a router if you wish. Pre-drill holes for the finishing nails at either end of each part, and nail it into place, using glue only at the ends.



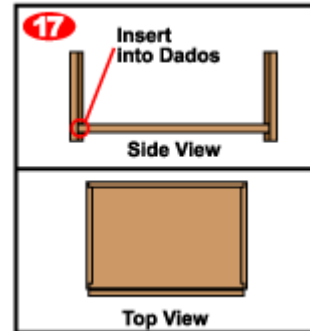
15. Cut the twelve drawer sides from the 3/4" plywood to 7-1/2" x 23" dimensions. After cutting 3/4" wide and 3/8" deep rabbets into each end, cut a dado 1/4" wide and 3/8" deep along the bottom of each piece, 3/8" from the bottom edge. Sand the top and bottom edges, rounding them slightly to remove splinters.



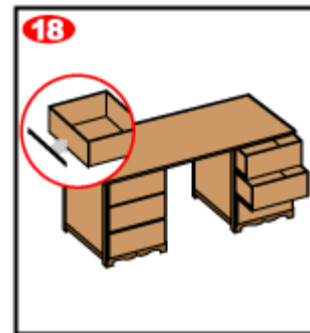
16. Cut your twelve drawer backs/subfronts to 6-7/8" x 15-3/4" dimensions from the 3/4" plywood. From the 1/4" plywood, cut 6 drawer bottoms to 15-3/4" x 23" dimensions.



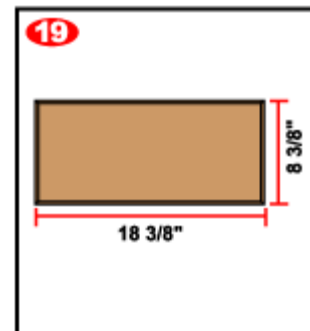
17. Assemble drawers as shown. Working with the drawer upside down, insert the bottom into the dados. Apply glue to three edges of the back and subfront, and insert them between the sides. Use 2" finishing nails on each end. Make sure the drawer is square and tap in a few 1" nails at each end, at the bottom into the back and subfront.



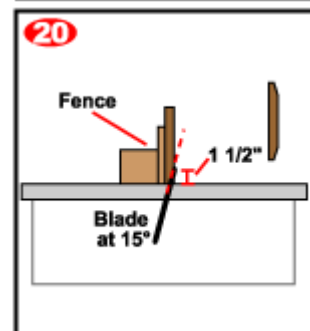
18. Install 22" drawer tracks that are even with the front. In sets of four, each track is usually stamped DL-for drawer left side, CL-for cabinet left side, etc. Install the tracks at the bottom edge of the drawers and at the appropriate height in the cabinet.



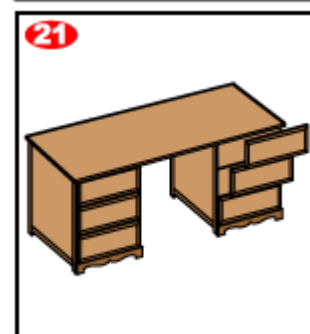
19. Prepare your six drawer fronts by edge-gluing show wood and trimming to 8-3/8" x 18-3/8". Sand the surfaces and edges smooth.



20. To produce the raised panel effect, here's how to set up your table saw. Make an auxiliary fence out of 3/4" plywood to keep the work piece stable and 90 degrees to the saw table. Adjust the blade to 1-1/4" height and about 15 degrees. Adjust the angle and fence position as required to have the teeth of the blade just barely emerging from the surface of the panel. Once the edges are cut on all fronts, sand the angled edges.



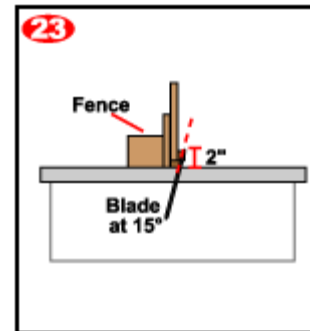
21. Place the completed drawer front on the closed drawer, and hold it in proper position as you pull the drawer open from an adjacent opening. Being careful not to disturb the position of the front, drive four screws into it from inside the drawer.



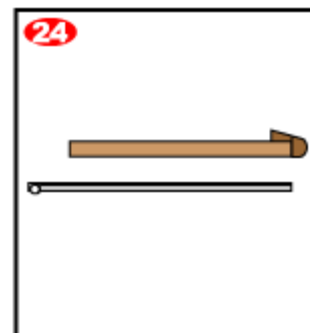
22. Cut the keyboard shelf from 3/4" plywood to 11" x 21-1/2" dimensions. Then, cut the keyboard drawer edge strip to 1" x 22-1/4" and the wrist rest to the same dimensions. Sand the edge of the wrist rest that will face the keyboard, and sand the edges of the keyboard shelf. Assemble the pieces with glue and clamps. Note that the edge strip and wrist rest overhang the shelf by 3/8" on each end.



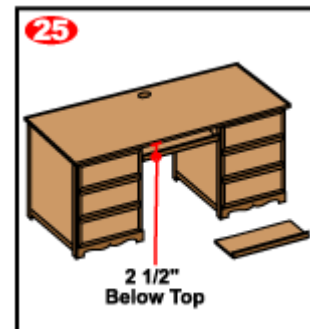
23. Using the same auxiliary saw fence described earlier, set the saw blade height to 2" and angle to 15 degrees. The edge of the wrist rest that faces the keyboard should be about 1/2" high and the front edge of the wrist rest assembly should be 3/4" to 7/8" thick. Cut the surface of the wrist rest.



24. With a belt sander, sand off the saw marks from the wrist rest surface and round over the edges of the keyboard drawer. The drawer tracks must be 16" long to open the drawer far enough from the desk. The cabinet portion of the tracks is used as-is, but the drawer portion must be cut shorter with a hacksaw. Cut 2-1/4" from the front end of each track, filing away the sharp edges. Mount the tracks on the side with at least three screws per side.



25. Mount the keyboard drawer tracks on the sides of the drawer cases high enough to give a 2-1/2" space between the drawer and the underside of the desktop. Install each track with three or four screws. Then drill or cut a hole about 3" in diameter in the surface of the desktop to accept a plastic cable grommet. Now all you have to do is finish the desk and install the handles. If you're using plywood, consider finishing with three coats of polyurethane. If you're building with the melamine-coated particleboard, your best option is two or three coats of high quality oil-based paint. And finally, present your desk to your very grateful student.



SHOP LIST

Materials List

- (1) 4'x8' sheet of 3/4" hardwood plywood or MCP
- (1) 3/4" sheet 4'x8' G1S plywood
- (1) 1/4" sheet 4'x4' G1S plywood
- (1) 1/8" sheet 4'x8' plywood or hardwood
- (5) 1" x 4", 8' lengths of spruce
- (4) 1"x6", 8' lengths of "show wood"
- (6 sets) drawer tracks
- (6) drawer handles
- Wood glue
- Finishing nails
- Wood screws

Tools List

Jigsaw or band saw

Drill

Belt sander

Table saw

Router

C-clamps

Bar or pipe clamps

Basic hand tools