

Introduction to Carpentry and Joinery

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Key concepts, tools, techniques, and safety basics for beginners

1. What Is Carpentry?

Aspect	Description
Definition	The trade of shaping, assembling, and installing wood components to create structures, furniture, and fixtures.
Primary Areas	- Rough Carpentry: Framing, structural work, building shells. - Finish Carpentry: Trim, molding, cabinets, fine-detail work.
Typical Projects	House framing, decks, doors & windows, stairs, cabinets, interior trim, custom furniture.

2. What Is Joinery?

Aspect	Description
Definition	A subset of carpentry focused on the creation of joints that connect wood pieces without relying on metal fasteners.
Key Goal	Achieve strong, durable connections while often showcasing the joint as a decorative element.
Common Joints	Mortise-and-tenon, dovetail, finger (box) joint, lap joint, biscuit joint, dowel joint, pocket-hole joint.

3. Core Materials

Material	Characteristics	Typical Uses
Softwoods (e.g., pine, spruce, fir)	Light, easy to cut, inexpensive	Framing, trim, interior doors
Hardwoods (e.g., oak, maple, walnut)	Dense, strong, attractive grain	Furniture, cabinets, decorative trim
Engineered Wood (plywood, MDF, particleboard, OSB)	Stable, uniform, often cheaper	Sub-floors, sheathing, interior panels

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Material	Characteristics	Typical Uses
Composite Decking	Weather-resistant, low maintenance	Outdoor decks, railings

4. Essential Hand Tools

Tool	Purpose	Tips for Use
Tape Measure	Accurate length measurement	Keep the blade flat; lock for consistent readings
Combination Square	Marking 90° and 45° lines; checking depth	Use the steel rule for fine markings
Marking Gauge	Scribing parallel lines	Set depth to material thickness for consistent cuts
Coping Saw	Cutting curves & coping mouldings	Use fine-toothed blades for smoother cuts
**Chisels (bench, mortise) **	Removing waste wood, shaping joints	Keep edges sharp; tap with a mallet, not a hammer
Hand Plane	Flattening, smoothing, trimming	Adjust mouth opening for fine vs. rough work
Claw Hammer	Driving nails, extracting them	Choose weight (16-20oz) for balance

5. Essential Power Tools

Tool	Primary Function	Safety Highlights
Circular Saw	Straight cuts in sheet goods, lumber	Use a blade guard; keep the base plate flat
Table Saw	Precise rip cuts, cross-cuts, dados	Use a riving knife, blade guard, and push stick
Miter Saw	Angled cross-cuts, miters, bevels	Keep blade guard closed; never reach over blade
Jig Saw	Curved cuts in thin material	Use the correct blade for wood vs. metal

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Tool

Primary Function

Safety Highlights

Router

Shaping edges, creating dados, decorative profiles

Use a router table for stability; wear a push block

Random?Orbit Sander

Surface sanding, smoothing edges

Keep dust extraction on; avoid excessive pressure

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