

Introduction to Carpentry and Joinery

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Fundamentals, tools, techniques, and safety basics for beginners

1. What Is Carpentry?

Aspect	Description
Definition	The craft of shaping, cutting, and assembling wood (or wood-based materials) to create structures, furniture, and fittings.
Primary Goals	- Build load-bearing frameworks (e.g., walls, roofs). - Produce functional or decorative items (e.g., cabinets, doors). - Rough Carpentry – framing, structural work.
Specialisations	- Finish Carpentry – trim, cabinetry, fine detail. - Restoration/Conservation – repairing historic woodwork.

2. What Is Joinery?

Aspect	Description
Definition	The subset of carpentry focused on creating precise, often decorative, connections between wood components without relying on metal fasteners.
Typical Products	Doors, windows, furniture, interior fittings, staircases.
Key Difference	Joinery emphasizes joint design (mortise-and-tenon, dovetail, etc.) whereas carpentry may use nails, screws, or metal brackets for speed.

3. Core Materials

Material	Common Uses	Characteristics
Softwoods (e.g., pine, spruce, fir)	Framing, sheathing, trim	Light, easy to cut, inexpensive, lower strength.
Hardwoods (e.g., oak, maple, walnut)	Furniture, cabinetry, doors	Dense, strong, attractive grain, more stable.

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Material	Common Uses	Characteristics
Engineered Wood (plywood, MDF, OSB, particleboard)	Sub?floors, cabinets, shelving	Uniform strength, less warping, cost ?effective.
Composite & Laminates	Countertops, exterior cladding	Weather?resistant, high durability, low maintenance.

4. Essential Hand Tools

Tool	Primary Function	Tips for Use
Measuring Tape / Rule	Accurate dimensions	Check zero point before each measurement.
Combination Square	90°/45° layout, depth gauge	Keep the blade clean for true readings.
Marking Gauge	Scribe lines for cuts	Use a sharp point; set depth to material thickness.
Handsaw (crosscut & rip)	Manual cutting	Follow the grain for rip cuts; use a smooth stroke.
Chisels	Cutting, cleaning joints	Keep edges honed; tap with a mallet, not a hammer.
Plane (bench, block)	Flatten, thickness, shape	Adjust mouth opening for fine shavings.
Hammer / Mallet	Driving nails, assembling joints	Use a claw hammer for nail removal; a wooden mallet for delicate work.
Screwdrivers / Bits	Driving screws, adjusting hardware	Match tip size to screw head to avoid cam-out.

5. Essential Power Tools

Tool	Typical Applications	Safety Highlight
Circular Saw	Straight cuts in sheet goods, lumber	Use a guard, keep blade guard engaged, never cut above shoulder height.
Table Saw	Rip cuts, precise repeated cuts	Use a riving knife, push stick, and blade guard.
Miter Saw	Angled cross	