

# Introduction to Carpentry and Joinery

## Introduction to Carpentry & Joinery

Key concepts, tools, materials, and basic techniques for beginners

### 1. What Is Carpentry?

| Aspect            | Description                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Definition        | The trade of shaping, cutting, and assembling wood (or wood-based materials) to create structures, fixtures, and furniture.                      |
| Primary Focus     | Building frameworks (walls, roofs, floors), installing doors & windows, and fabricating interior finish work.                                    |
| Work Environments | Residential construction, commercial projects, renovation sites, workshops, and custom furniture studios.                                        |
| Typical Roles     | <b>Carpenter</b> – structural work, framing, site installation.<br><b>Joiner</b> – fine finish work, cabinetry, doors, windows, decorative trim. |

### 2. What Is Joinery?

| Feature        | Details                                                                                                                                         |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Definition     | A subset of carpentry that emphasizes precise, often decorative, wood connections without nails or screws (e.g., dovetails, mortise and tenon). |
| Products       | Cabinets, drawers, chairs, tables, doors, window frames, mouldings.                                                                             |
| Key Difference | Joinery is usually done in a workshop on smaller components; carpentry often occurs on-site with larger structural elements.                    |

### 3. Core Materials

| Material                                          | Typical Uses                         | Properties to Know                                 |
|---------------------------------------------------|--------------------------------------|----------------------------------------------------|
| <b>Solid Softwoods</b> (e.g., pine, spruce)       | Framing, trim, interior doors        | Light, easy to cut, prone to shrinkage.            |
| <b>Solid Hardwoods</b> (e.g., oak, maple, walnut) | Furniture, cabinets, decorative work | Strong, stable, higher cost, good for fine joints. |

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| Material                                                  | Typical Uses                           | Properties to Know                                        |
|-----------------------------------------------------------|----------------------------------------|-----------------------------------------------------------|
| <b>Engineered Wood</b> (plywood, MDF, particleboard, OSB) | Sub?flooring, cabinet cores, sheathing | Uniform strength, less warping, moisture?sensitive edges. |
| <b>Laminated Veneer Lumber (LVL) / Glulam</b>             | Beams, headers, load? bearing members  | High strength, consistent dimensions.                     |
| <b>Finishes</b> (stain, paint, varnish, oil)              | Protect and beautify                   | Compatibility with wood type & intended use.              |

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## 4. Essential Hand Tools

| Tool                                 | Primary Function                                  | Safety Tip                                             |
|--------------------------------------|---------------------------------------------------|--------------------------------------------------------|
| <b>Tape Measure</b>                  | Accurate length measurement (up to 25?ft typical) | Keep blade retracted when not measuring.               |
| <b>Combination Square</b>            | 90°/45° layout, depth gauge                       | Check for wear; replace if bent.                       |
| <b>Marking Gauge / Scriber</b>       | Fine layout lines                                 | Use a sharp point; keep away from fingers.             |
| <b>Handsaw (crosscut &amp; rip)</b>  | Manual cutting of lumber                          | Cut on the waste side of the line.                     |
| <b>Chisels (bench &amp; mortise)</b> | Removing waste wood, cleaning joints              | Keep edges sharp; tap with a mallet, not a hammer.     |
| <b>Hammer / Mallet</b>               | Driving nails, assembling joints                  | Wear eye protection; use the right hammer face.        |
| <b>Plane (block, bench)</b>          | Smoothing and flattening surfaces                 | Adjust blade depth; push away from body.               |
| <b>Coping Saw</b>                    | Cutting curves and interior cuts                  | Keep blade tension even.                               |
| <b>Level &amp; Plumb Line</b>        | Checking horizontality & verticality              | Verify bubble is centered before trusting the reading. |

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## 5. Essential Power Tools

| Tool | Typical Applications | Key Settings |
|------|----------------------|--------------|
|------|----------------------|--------------|

\*\*Circular