



Republic of the Philippines

# Department of Education

DepEd Complex, Meralco Avenue, Pasig City

**STRENGTHENED SENIOR HIGH SCHOOL CURRICULUM**

## **CARPENTRY**

**Grade 11/12**

**Course Description:**

This course equips learners with a thorough understanding of key concepts and principles in finishing and structural carpentry while providing them with the essential knowledge and skills needed for structural carpentry and cabinet making (CM), along with practical skills in surface finishing. Upon completion learners are eligible to take assessments to earn National Certifications level II in Carpentry, higher education, and careers relative carpentry industry sectors.

**Elective:** Technical Professional

**Prerequisite:** None

**Time Allotment:** In Grade 11, 320 hours for two semesters, 8 hours per week. In Grade 12, 320 hours for one semester, 16 hours per week

**Schedule:** First/Second Semester

**QUARTER 1**

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| <b>CONTENT STANDARD</b>     | The learners demonstrate an understanding of the concepts and principles in structural carpentry |  |
| <b>PERFORMANCE STANDARD</b> | The learners perform a batter board set up in structural carpentry with safety practices.        |  |
|                             | <b>LEARNING COMPETENCIES</b>   | <b>CONTENT</b>   |
|                             | 1. Identify principles structural carpentry  | Overview of structural carpentry <ul style="list-style-type: none"> <li>● Definition and scope</li> <li>● Roles of structural carpentry personnel</li> <li>● Career and business opportunities in structural carpentry               <ul style="list-style-type: none"> <li>○ Apprenticeship</li> <li>○ Skilled carpenter</li> <li>○ Contractor</li> </ul> </li> </ul> |
|                             | 2. Prepare tools, equipment, consumables and PPEs used in structural carpentry                   | Essential carpentry tools, equipment, materials and PPEs in structural carpentry <ul style="list-style-type: none"> <li>● Common hand tools               <ul style="list-style-type: none"> <li>○ Types</li> <li>○ Functions</li> <li>○ Maintenance</li> </ul> </li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>● Power tools and equipment <ul style="list-style-type: none"> <li>○ Types</li> <li>○ Functions</li> <li>○ Maintenance</li> </ul> </li> <li>● Materials / consumables used <ul style="list-style-type: none"> <li>○ Wood</li> <li>○ Hardware</li> <li>○ Wood fasteners</li> <li>○ Other composite / engineered materials as wood replacement</li> </ul> </li> <li>● Personal Protective Equipment / (OHSP) <ul style="list-style-type: none"> <li>○ Importance</li> <li>○ Types</li> <li>○ Risk assessment and management</li> <li>○ Emergency and preparedness</li> </ul> </li> </ul> |
| <p>3. Discuss specifications and tolerance in structural carpentry</p> | <p>Essentials of carpentry specifications and tolerance</p> <ul style="list-style-type: none"> <li>● Specifications in carpentry operations <ul style="list-style-type: none"> <li>○ Quality of materials</li> <li>○ Dimensions and sizes</li> <li>○ Finishing requirements</li> <li>○ Joints and connections</li> <li>○ Installation procedures</li> <li>○ Tolerance in carpentry operations</li> <li>○ Importance of tolerance</li> <li>○ Dimensional tolerance</li> <li>○ Angular tolerance</li> <li>○ Squareness, plumbness and levelness</li> <li>○ Fit and clearance tolerance</li> </ul> </li> </ul>                   |

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| 3. Discuss the purpose structural carpentry temporary structures | <p>Overview of structural carpentry temporary structures</p> <ul style="list-style-type: none"> <li>● Importance</li> <li>● Kinds <ul style="list-style-type: none"> <li>○ Batter board</li> <li>○ Falsework / formworks</li> <li>○ Scaffolds and platforms</li> </ul> </li> </ul>   |
| 4. Perform basic 4-corner batter board set up                    | <p>Set up basic 4-corner batter board</p> <ul style="list-style-type: none"> <li>● Site preparation</li> <li>● Building foundation layout (Set tolerance for dimensions)</li> <li>● Setting up batter board at the corners</li> <li>● Establish structure elevation (Checking plumbness and levelness)</li> <li>● Mark reference lines for excavation</li> </ul> |

## QUARTER 2

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| <b>CONTENT STANDARD</b>                             | The learners understand procedures in formworks preparations in rough carpentry.  |
| <b>PERFORMANCE STANDARD</b>                         | The learners perform procedures in wooden foundation and column formworks with safety   |
| <b>LEARNING COMPETENCIES</b>                        | <b>CONTENT</b>  |
| 1. Discuss importance and applications of formworks | <p>Importance points of formworks</p> <p>Types of formworks</p> <ul style="list-style-type: none"> <li>● Wood forms and coverings</li> <li>● Metal forms and fasteners</li> </ul> <p>Applications of formwork</p> <ul style="list-style-type: none"> <li>● Foundations</li> </ul> |

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|  | <ul style="list-style-type: none"> <li>● Columns</li> <li>● Beams</li> <li>● Slabs</li> </ul>  |
| 2. Prepare tools, materials and equipment in wooden formwork | <p>Factors affecting wood form quality</p> <ul style="list-style-type: none"> <li>● Wood defects</li> <li>● Wood properties (Physical and Mechanical)</li> </ul> <p>Common formwork materials</p> <ul style="list-style-type: none"> <li>● Frame and covering</li> <li>● Hardware</li> </ul> <p>Occupational safety and health practices (OHSP)</p> <p>Power tools and equipment</p> <ul style="list-style-type: none"> <li>● Types</li> <li>● Functions</li> <li>● Maintenance</li> </ul> |
| 3. Perform working drawing plan for wooden form              | <p>Construct wooden form working drawing</p> <ul style="list-style-type: none"> <li>● Foundations and footings</li> <li>● Columns</li> <li>● Beams</li> <li>● Slabs</li> </ul>   |
| 4. Prepare wooden foundation and column form for fabrication | <p>Correctly interpret and identify plans and details</p> <ul style="list-style-type: none"> <li>● Check tools and materials to be used</li> <li>● Apply and use proper safety precautions and PPEs</li> </ul>   |
| 5. Apply wooden foundation and column form process           | <p>Clear area for form installation</p> <p>Erection process</p> <ul style="list-style-type: none"> <li>● Scaffold and braces assembly</li> <li>● Secure locks and connectors</li> </ul> <p>Final checking</p> <ul style="list-style-type: none"> <li>● Measurements</li> <li>● Squareness</li> <li>● plumbness</li> <li>● levelness</li> </ul>   |

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| 6. Strip / disassembly wooden foundation and column form | Prepare tools for formworks disassembly <ul style="list-style-type: none"> <li>● Dismantle formworks components and accessories</li> <li>● Sort formworks components according to condition</li> </ul> Store formworks components and accessories |
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### QUARTER 3

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| <b>CONTENT STANDARD</b>                   | The learners demonstrate an understanding of concepts in carpentry  |  |
| <b>PERFORMANCE STANDARD</b>               | The learners perform procedures for installation of framing works (wall, floor, window and jambs) with safety practices.  |  |
| <b>LEARNING COMPETENCIES</b>              | <b>CONTENT</b>  |  |
| 1. Perform operations for walling works   | Layout post and horizontal members according to working plan <ul style="list-style-type: none"> <li>● Vertical dimensions</li> <li>● Horizontal members dimensions</li> </ul> Install posts and horizontal members according to measurements <ul style="list-style-type: none"> <li>● Check for squareness, plumbness and levelness</li> <li>● Install coverings / sheathings             <ul style="list-style-type: none"> <li>○ Plywood</li> <li>○ Drywall</li> <li>○ Plaster board</li> <li>○ Acoustic tiles</li> </ul> </li> </ul> |  |
| 2. Apply flooring installation procedures | Selecting and planning flooring layout <ul style="list-style-type: none"> <li>● Room type</li> <li>● Traffic level</li> <li>● Proper alignment</li> <li>● Pattern consistency</li> </ul> Applying flooring materials <ul style="list-style-type: none"> <li>● Framing procedures</li> </ul>   |  |

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|  | <ul style="list-style-type: none"> <li>● Wood parquet</li> </ul>  |
| 3. Perform doors, windows, and trim installation | <p>Fabrication and installation doors and windows</p> <ul style="list-style-type: none"> <li>● Doors</li> <li>● Windows</li> </ul> <p>Installation jambs</p> <ul style="list-style-type: none"> <li>● Measuring and cutting jambs</li> <li>● Installing and jambs</li> <li>● Finishing</li> </ul> |

#### QUARTER 4

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| <b>CONTENT STANDARD</b>                 | The learners understand the concepts and principles in structural carpentry.  |
| <b>PERFORMANCE STANDARD</b>             | The learners perform construction process for roof, ceiling, and build – in cabinet in structural carpentry with safety practices.  |
| <b>LEARNING COMPETENCIES</b>            | <b>CONTENT</b>  |
| 1. Perform operations for roofing works | <p>Constructing concepts and designs in roofing</p> <ul style="list-style-type: none"> <li>● Roof framing and structure <ul style="list-style-type: none"> <li>○ Roof frame</li> <li>○ Rafters</li> <li>○ Trusses</li> <li>○ Supports</li> </ul> </li> <li>● Installing roofing materials <ul style="list-style-type: none"> <li>○ Lumbers</li> <li>○ Fasteners</li> <li>○ Adhesives</li> <li>○ Sealants</li> </ul> </li> </ul> |

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|  | <ul style="list-style-type: none"> <li>● Installing roof flashing and ventilation <ul style="list-style-type: none"> <li>○ Flashing <ul style="list-style-type: none"> <li>-Gutter</li> <li>-Downspout</li> </ul> </li> <li>○ Ventilation systems <ul style="list-style-type: none"> <li>- Ridge vents</li> <li>- Soffit vents</li> </ul> </li> </ul> </li> </ul>  |
| <p>2. Perform process in ceiling works</p>       | <p>Installing ceiling framework</p> <ul style="list-style-type: none"> <li>● Beam</li> <li>● Joists</li> <li>● Supports</li> <li>● Cross bracing</li> </ul> <p>Installing ceiling sheathings</p> <ul style="list-style-type: none"> <li>● Plywood</li> <li>● Drywall</li> <li>● Plaster board</li> <li>● Acoustic tiles</li> </ul> <p>Installing ceiling decorative</p> <ul style="list-style-type: none"> <li>● Moldings</li> <li>● Covings/ceiling decorative</li> </ul> |
| <p>3. Perform build – in cabinet fabrication</p> | <p>Introduction to build – in cabinet</p> <ul style="list-style-type: none"> <li>● Definition</li> <li>● Importance</li> <li>● Types</li> </ul> <p>Planning and design</p> <ul style="list-style-type: none"> <li>● Considerations</li> <li>● Tools and material selection</li> <li>● Working drawing</li> </ul> <p>Construction process</p>   |

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|  | <ul style="list-style-type: none"><li>● Cutting and assembly techniques</li><li>● Mounting and installation</li><li>● Finishing techniques</li><li>● Safety considerations</li></ul> |
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## GLOSSARY

**Acrylic paint:** A fast-drying paint with acrylic resins, often used for wood finishing.

**Aesthetic:** Concerned with beauty or the appreciation of beauty.

**Allowance:** Additional space or measurements given for tolerance or shrinkage.

**Anchors:** Devices used to hold formworks in place or to secure it to the structure.

**Base-coat:** The first layer of paint applied for wood serving as the foundation for the final finish

**Batter:** The inclination or slope of form or surface, typically for drainage.

**Cantilever:** A projecting structure supported at one end, commonly used in formwork designs.

**Carpentry:** The art or trade specifically the art of shaping and assembling structural woodworks.

**Coating:** A general term for the application of wood finish or any layer on a wood surface

**Construction:** The building of large structures considered as an industry

**Drying time:** The time it takes for the paint or finish to dry and hardens on a wood surface.

**Equipment:** The set of things that you need for a particular purpose or work tasks.

**Erection:** The process of assembling and positioning the formwork on-site.

**False-work:** Temporary structures used to support formwork until the concrete hardens.

**Finish:** The final appearance and texture of a painted wood surface, which can be glossy, satin or matte.

**Finishing Carpentry:** The area of carpentry work that transforms an interior space into a precise craftsmanship project output.

**Inventory:** A record of tools, components, or products.

**Job Order:** A document detailing tasks or instructions for servicing or repair.

**Layout Transfer Method:** Techniques for transferring drawing plans designs onto actual work area.

**Preventive Maintenance:** Scheduled maintenance to prevent failures.

**Recording and Reporting Procedures:** Methods for documenting service activities and outcomes.

**Rough Carpentry:** It refers to the building and installation of structural foundations such as wood and steel frames like bridges, scaffolds and roofing supports.

**Sanding:** The process of smoothing wood surfaces before or between layers of paint or finish

**Specialized Hand Tools:** Advanced tools for specific servicing tasks, like soldering.

**Sealer:** A product used to protect wood and seal the surface, ensuring better adhesion of paint or finish

**Technical Drawing:** A detailed plan or diagram for electronic or mechanical systems.

**Trims:** Refers to decorative and functional elements that are used to finish and enhance building's appearance

**Troubleshooting:** Diagnosing and solving problems in systems.

**Working Principle:** The fundamental mechanism by which a device or system operates.

### TOOLS, MATERIALS, AND EQUIPMENT

| TOOLS                                   | MATERIALS               | EQUIPMENT            |
|---|-------------------------|----------------------|
| Pliers assorted, long nose, Side cutter | Common wire nails (CWN) | Nail gun             |
| Screwdriver assorted, Phillips, slotted | Wood lumber             | Electric drill       |
| Hammer                                  | Plywood                 | Angle grinder        |
| Wrenches assorted                       | Phenolic board          | Jigsaw               |
| Allen wrench/key                        | Hardwares               | Band saw             |
| Utility knife/stripper                  | Laminations             | Circular saw         |
| Test jigs                               | Nylon ties              | Wood plane           |
| Crowbar                                 | Wood fasteners          | Regulator and filter |
| Pull – Push Rule                        | Paint                   | Air compressor       |
| Tri – Square                            | Shellac                 | Spray booth          |
| Plumb bob                               | Varnish                 | PPEs                 |
| Spirit level bar                        | Cloth rag               | Router               |
| Plastic hose with water                 | Wood stain              | Table saw            |
| Marking tool                            | Sandpaper               | Trolley              |
| Wood saw                                | Wood fillers            | Racks                |
| Chisel                                  | Powder / wood fillers   | Portable sander      |
| Wood plane                              | Wood glue               | Working table        |
| Spoke Shave                             | Wood glue with saw dust | Dust collector       |
| Chalk line                              | Sealers                 |                      |
| Tin snips                               | Putty                   |                      |
| Wood clamps                             | Paint remover           |                      |
| Vices                                   | Glaze                   |                      |
| Mallet                                  | Steel wool              |                      |
| Spray gun                               |                         |                      |

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|--------------------|--|--|
| Viscosity cup      |  |  |
| Thermometer        |  |  |
| Spray gun wrenches |  |  |
| Cleaning brushes   |  |  |
| Pallet knife       |  |  |
| Sanding block      |  |  |
| Brushes            |  |  |

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