



Furniture Manufacturing and Joinery Production Course: Panel Processing, CNC and Finishing



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Introduction:

Furniture manufacturing and joinery production, covering panel processing, CNC and finishing, is a 5-day course for plant management, production engineering, planning and estimating staff that ends with a Factory Productivity and Order Costing Plan for a case joinery plant. Factories that cut boards without optimised patterns, run edge banders and spray lines on guesswork and price custom orders from rough rates lose margin on trim loss, rework and underquoted contracts. Nominees already supervise or plan shop-floor work and learn through modelling builds on cut lists, capacity data and order quotations. CoreConcept Training Center delivers this furniture manufacturing course.

Course Objectives:

- Select MDF, particleboard, plywood and faced boards for each furniture part by density, moisture behaviour, emission class and surface finish
- Raise panel yield by building cut lists and guillotine cutting patterns and by controlling offcuts on panel saws and CNC nesting routers
- Set up edge banders, boring units, solid wood joint machining and sanding lines to hold dimensional and edge quality
- Reduce coating waste and finish defects by choosing spray methods, booth airflow settings and sanding sequences on evidence
- Estimate and quote contract joinery orders from material yield, machine hours, labour minutes and finishing area
- Improve throughput in a job-shop plant with routing sheets, bottleneck analysis, line balancing and kanban rules

Target Audience:

- Staff responsible for managing furniture, cabinet or joinery factory output, margins and shop-floor teams
 - Staff responsible for production engineering of panel saws, CNC routers, edge banders and finishing lines
 - Staff responsible for production planning, order sequencing and machine capacity in custom furniture plants
 - Staff responsible for estimating, costing and quoting contract joinery and loose furniture packages
 - Staff responsible for quality control of panels, edges, joints, coatings and upholstered items before dispatch
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Course Outline:

Day 1: Furniture and Joinery Plant Landscape and Material Baseline

- Panelised Versus Solid Wood Furniture Production Routes Compared
- MDF, Particleboard and Plywood Selection by Density and Moisture
- Formaldehyde Emission Classes E0, E1 and E2 Board Checks
- Veneer, HPL and Melamine Faced Board Surface Options
- Current-State Value Stream Map of a Joinery Plant

Day 2: Panel Processing Methods, Cutting Optimisation and CNC Nesting Logic

- Cut List Extraction From Shop Drawings and Bills of Materials
- Two-Dimensional Cutting Stock Patterns With Guillotine Cut Constraints
- Panel Saw Yield, Trim Loss and Offcut Library Control
- CNC Router Nesting Versus Beam Saw Cutting Selection Criteria
- Point-to-Point Boring Patterns for Dowels and Cam Fittings

Day 3: Edge-Banding, Solid Wood Machining, Sanding and Upholstery Operations

- Edge Bander Station Setup From Gluing to Buffing
- EVA Versus Polyurethane Hot-Melt Adhesive Selection for Edges
- Mortise, Tenon and Finger Joint Machining Setups
- Sanding Sequence Planning With Grit Progression Charts
- Upholstery Foam, Webbing and Cover Cutting Yield Controls

Day 4: Spray Finishing Problems, Order Costing and Job-Shop Flow Optimisation

- HVLP, Airless and Air-Assisted Airless Transfer Efficiency Comparison
- Spray Booth Airflow, Filtration and Fire Risk Controls
- Finish Defect Diagnosis for Orange Peel, Runs and Blushing
- Contract Joinery Estimating With Material, Machine and Labour Rates
- Bottleneck Analysis and Routing Sheets for Mixed Custom Orders

Day 5: Modelling Build of the Factory Productivity and Order Costing Plan

- Case Joinery Plant Order Book and Machine Capacity Data
 - Case Panel Yield Model From Sample Cut Lists
 - Case Quotation Build for a Hotel Wardrobe Package
 - Case Line Balancing and Kanban Rules for Finishing Queues
 - Factory Productivity and Order Costing Plan Panel Review
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Skills You Will Gain:

- Engineered Panel Selection
- Cutting Pattern Optimisation
- CNC Nesting Planning
- Edge Banding Setup
- Spray Finish Defect Diagnosis
- Joinery Estimating
- Job-Shop Capacity Planning
- Line Balancing

Why Attend This Course:

- Present a Factory Productivity and Order Costing Plan, with yield, capacity and quotation models, to the plant director or general manager for approval
- Decide whether a part goes to the beam saw or the CNC router, and which board, edge and coating it receives, from yield and cost figures
- Avoid underquoted contracts, board waste, edge failures and refinishing by checking patterns, adhesives and spray settings before production
- Coach planners, setters and estimators with the cut list templates, routing sheets and estimating model built during the course

Conclusion:

Back at work, the participant hands the Factory Productivity and Order Costing Plan to the plant director, the commercial lead and the production planning unit. They use it to approve cutting and nesting rules, edge-banding and finishing settings, machine loading, and the rates that every contract joinery quotation will draw on. After the first orders are produced under the plan, the unit should compare actual panel yield, machine hours, finish rework and margin against the quoted figures, then adjust rates, patterns and kanban limits.

Frequently Asked Questions FAQ:

What should participants know before the furniture manufacturing and joinery production course?

Participants should already supervise, plan, engineer or estimate work in a furniture, cabinet or joinery plant and read shop drawings and cut lists. Spreadsheet skills help with the yield and costing models; no CNC programming experience is required.

How does the furniture manufacturing and joinery production course differ from an interior design or fit-out course?

This course runs the factory that makes the items: boards, cutting patterns, CNC nesting, edge banding, finishing lines, costing and flow. Interior design and fit-out courses decide what the rooms contain and manage site delivery, treating the joinery workshop as a supplier.

Why does furniture manufacturing and joinery production depend on cutting pattern optimisation?

Board is usually the largest cost in a panel furniture order. Patterns built with guillotine cuts and grouped across orders reduce trim loss, while a managed offcut library stops usable pieces being scrapped, so the same boards yield more parts.

What do participants take back from the furniture manufacturing and joinery production course?

Each participant takes back a Factory Productivity and Order Costing Plan for a case joinery plant, with a panel yield model, capacity and routing analysis, a contract quotation build and kanban rules, plus templates adaptable to their own factory.
