Advanced Load Planning and Dispatch Control

2 – 13 November 2026
Boston (USA)

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MERCURY

Advanced Load Planning and Dispatch Control

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Advanced Load Planning and Dispatch Control is a 2-week course for logistics planners and dispatch leads who already run outbound operations and now need to plan loads by weight and cube, schedule routes and vehicles, and control dispatch through TMS and WMS data across high-volume networks. You take back a Load and Dispatch Control Plan for one of your own sites. Mercury Training Center delivers this advanced load planning course.

About This Course

Trucks leave half full, wait at docks or reach customers out of sequence because loads, routes and dock slots are planned separately. This course answers that gap. You should already plan or supervise outbound shipments. You practice on order files, vehicle profiles and dock schedules, building load plans and routes and testing them against service windows.

Who It Is For

- Transport planners who build loads, routes and vehicle schedules every day.
- Dispatch supervisors who release vehicles and handle late changes and exceptions.
- Warehouse and yard leads who stage orders, assign doors and manage loading teams.
- 3PL and freight coordinators who book carriers and share capacity across clients.
- Logistics engineers and analysts who set up TMS and WMS rules and report performance.

This course is not for readers new to outbound logistics who need the basics of loading and dispatch; a foundation course on loading and dispatch coordination suits them better. It also does not suit fleet maintenance staff; a fleet maintenance and vehicle care course fits them better.

Competencies You Will Build

- Weight and Cube Planning: you build loads that respect axle limits, stacking rules and vehicle volume.
- Route and Vehicle Scheduling: you assign orders to vehicles and stops to routes within delivery windows.
- Dock and Yard Control: you set door slots and staging so vehicles load without waiting.
- System-Supported Dispatch: you use TMS and WMS data to release, track and re-plan shipments.
- Exception Handling: you re-plan quickly when an order, driver or vehicle changes at the last minute.
- Performance Governance: you report fill rate, on-time delivery and cost per drop and act on the gaps.

What You Will Be Able to Do

By the end of the course you will be able to:

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- Given an order file and vehicle profiles, build load plans that keep weight distribution and cube use within limits.
- Using delivery windows and drop sequences, design multi-drop routes and estimate vehicle numbers for a day.
- From a dock schedule and staging layout, set door slots that remove waiting and rehandling.
- Given TMS and WMS exception reports, decide which shipments to re-plan and record the reason.
- Using a month of dispatch data, calculate fill rate, on-time delivery and cost per drop and rank the causes of loss.
- From a risk review of loading and transport, write controls for load security, dangerous goods and continuity.

Course Content

Day 1: Outbound Network and Service Levels

- Outbound Flow Mapping from Order Release to Proof of Delivery
- Service Level Agreements and Delivery Windows as Planning Inputs
- Interfaces Between Warehouse, Transport and Customers in a Distribution Network
- Cost of Loading and Dispatch Errors on Service and Margin
- Centralized Versus Decentralized Dispatch Models

Day 2: Load Building by Weight and Cube

- Axle Weight Distribution and Load Stability Calculations
- Cube Utilization and Pallet Pattern Planning for Trailers and Containers
- Product Classification for Stacking, Fragility and Temperature Needs
- Load Sequencing by Delivery Order for Multi-Drop Vehicles
- Load Planning Software Outputs and How to Check Them

Day 3: Route and Vehicle Scheduling

- Vehicle Routing with Time Windows for Multi-Drop Deliveries
- Fleet Mix Selection and Vehicle Capacity Allocation
- Driver Hours, Breaks and Shift Patterns in Schedules
- Consolidation and Hub-and-Spoke Distribution Sequencing
- Route Performance Review with Fuel and Distance Data

Day 4: Dock, Yard and Staging Control

- Dock Door Scheduling and Appointment Slots
- Staging Area Layout and Load Readiness Checks
- Synchronizing Picking Waves with Vehicle Arrival
- Yard Management to Remove Idle Time and Queues
- Peak-Period Bottleneck Planning at the Dock

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Day 5: TMS and WMS-Supported Dispatch

- TMS Planning, Tendering and Execution Functions for Dispatch
- WMS Wave, Pick and Load Confirmation Data
- Integration Points Between TMS, WMS and the Order System
- Track-and-Trace Visibility and Estimated Arrival Updates
- Dispatch Documentation, Authorization and Release Flow

Day 6: Exception Management and Re-Planning

- Exception Categories: Order Changes, No-Show Vehicles and Driver Gaps
- Priority Rules for Re-Planning Under Time Pressure
- Escalation Matrix and Decision Rights in Dispatch
- Communication Protocols Between Dispatch, Warehouse and Customers
- Lead Time Variability and Its Effect on Delivery Promises

Day 7: Carriers, 3PLs and Network Coordination

- Carrier Selection, Tendering and Capacity Booking
- 3PL Coordination and Shared Information Standards
- Regional Hub and Delivery Point Coordination
- Supplier-to-Distribution Hand-Offs and Upstream Planning Links
- Inventory Availability Checks Before Dispatch Commitment

Day 8: Loading Risk, Security and Compliance

- Load Securing Methods and Restraint Checks
- Dangerous Goods Segregation and Documentation at Loading
- Data Accuracy Risks in Orders, Weights and Addresses
- Incident Response for Damaged or Lost Loads
- Continuity Plans for Dispatch During Disruptions

Day 9: Dispatch Performance and Governance

- Fill Rate, On-Time Delivery and Cost per Drop Dashboards
- Root Cause Analysis of Loading and Dispatch Failures
- Standard Operating Procedures and Accountability for Dispatch Desks
- Coordination Maturity Review Across Logistics Functions
- Improvement Roadmap with Sustainability and Fuel Targets

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Day 10: Load and Dispatch Planning Practice

- Exercise: Rebuilding a Day 2 Load Plan After an Overweight Axle Check
- Exercise: Re-Routing a Day 3 Schedule After a Vehicle Breakdown
- Exercise: Resolving a Day 4 Dock Conflict at Peak
- Exercise: Reading Day 9 Dashboards to Choose Improvement Actions
- Completing Your Load and Dispatch Control Plan

Case Studies and Exercises

The items below are suggested activities.

- Case study: a beverage distributor runs multi-drop routes with heavy pallets; you rebuild loads to meet axle limits and delivery order.
- Case study: a retail distribution center misses store windows at peak; you redesign dock slots and picking waves.
- Exercise: a pharmaceutical wholesaler ships temperature-sensitive goods; you plan loads and set exception rules.
- Exercise: a building materials supplier uses a 3PL for long-haul routes; you set tendering rules and visibility checks.

What You Take Back

The Load and Dispatch Control Plan is the planning document you complete across the two weeks for one of your own sites. In your first month back you test its load rules and dock slots on live orders, agree its escalation matrix with the warehouse, and start reporting its dashboard measures weekly.

- Load building rules by vehicle and product type.
- Route and dock scheduling standards.
- Exception and escalation matrix.
- Performance dashboard and improvement list.

Quick Answers FAQ

What should you know before an advanced load planning and dispatch course?

You should already plan, release or supervise outbound shipments and be comfortable with spreadsheets. Some exposure to a transport or warehouse management system helps, though its functions are explained in the course.

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How does advanced load planning and dispatch control differ from a basic loading and dispatch course?

A basic course explains the flow from loading to delivery. This one goes further: load building by weight and cube, routing with time windows, dock scheduling and TMS and WMS-supported control across high-volume networks.

How can load planning raise vehicle fill rate without missing delivery windows?

Plan loads and routes together. Grouping orders by drop sequence and window, then checking weight and cube against each vehicle, fills space while keeping stop order. Dock slots must match the plan so vehicles leave on time.

What do you take back from advanced load planning and dispatch control training?

You take back a Load and Dispatch Control Plan for one of your own sites, with load rules, routing and dock standards, an escalation matrix and a performance dashboard.

For Your Manager

After the course, the team member can build loads by weight and cube, schedule routes and docks, use TMS and WMS data to control dispatch and report fill rate and on-time delivery. They return with a Load and Dispatch Control Plan for one site, first used to test load rules and dock slots on live orders.

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