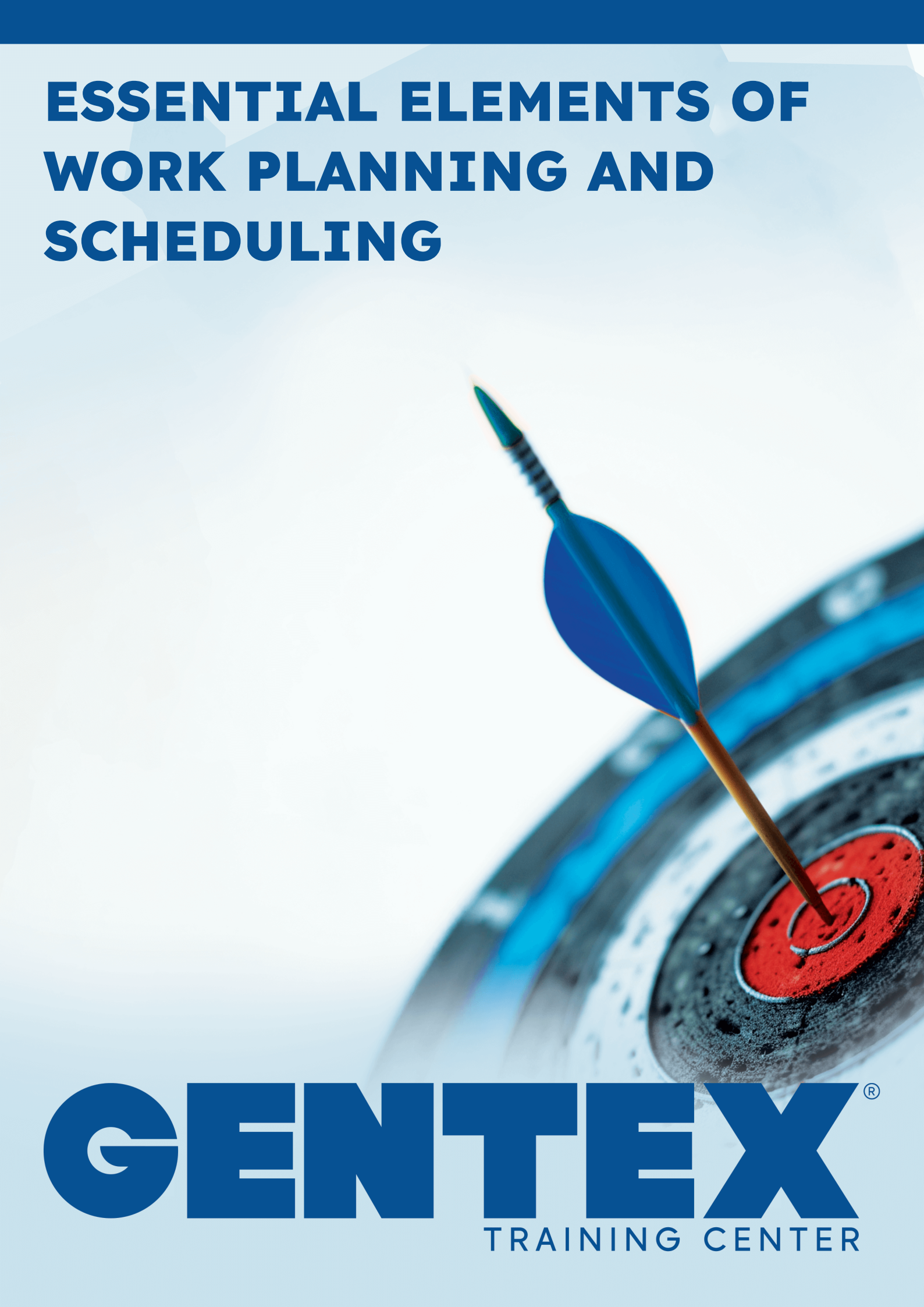
ESSENTIAL ELEMENTS OF WORK PLANNING AND SCHEDULING



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TRAINING CENTER

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Introduction

Essential Elements of Work Planning and Scheduling examines how teams turn a list of work into a plan that resources can actually execute on the day. This Training Course covers work identification, task planning, duration estimating, capacity loading, and schedule control. Participants study the PMBOK Guide schedule management processes, work breakdown structures and activity decomposition, Gantt charts and network logic, the critical path method with total and free float, resource levelling and smoothing, capacity and availability analysis, the Theory of Constraints for bottleneck identification, Little's Law for flow and queueing, roll-wave and look-ahead planning, short-interval planning on site, KPI dictionaries with formula, source, owner and frequency, Statistical Process Control with control charts and run rules, and progress measurement and schedule compliance practice. Furthermore, the programme connects planning to execution through work breakdown labs, schedule building workshops, and capacity planning simulations.

Essential Elements of Work Planning and Scheduling Course Objectives

- Define work planning and scheduling and the difference between them.
- Apply the PMBOK Guide schedule management processes.
- Build work breakdown structures and activity lists.
- Estimate durations with productivity factors and allowances.
- Build network logic, Gantt charts, and critical path analysis.
- Calculate total float, free float, and identify the critical path.
- Apply resource levelling, smoothing, and capacity analysis.
- Identify bottlenecks with the Theory of Constraints and Little's Law.
- Design roll-wave, look-ahead, and short-interval planning routines.
- Measure schedule compliance and govern plan revisions.

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Course Methodology

- Interactive workshops using real work lists and schedules.
- Work breakdown and activity decomposition labs.
- Duration estimating and network logic exercises.
- Capacity loading and levelling workshops.
- Look-ahead planning and progress review simulations.
- Action planning that converts each session into a workplace commitment.

Who Should Take This Course

- Planners and schedulers.
- Project and maintenance controllers.
- Supervisors and team leaders planning work.
- Planning engineers and cost engineers.
- Production and operations coordinators.
- Maintenance and shutdown planners.
- Staff accountable for weekly work plans.

Essential Elements of Work Planning and Scheduling Course Outlines

Day 1: Planning Foundations and Work Definition

- Work planning versus scheduling and their sequence.
- PMBOK Guide schedule management processes.
- Scope definition and work breakdown structure construction.

- Activity decomposition and task-level definition.
- Work package design and ownership assignment.
- Common failures: unplanned work, missing resources, unrealistic durations.
- Building the planning framework pack.

Day 2: Estimation and Network Logic

- Duration estimating methods and productivity factors.
- Allowances for weather, congestion, and learning curves.
- Dependency types and network logic construction.
- Constraint and calendar management.
- Milestone definition and acceptance criteria.
- Three-point estimating and PERT basics.
- Building the estimation and logic pack.

Day 3: Critical Path, Float, and Schedule Building

- Forward and backward pass calculations.
- Total float, free float, and negative float interpretation.
- Critical path identification and multiple-path analysis.
- Gantt chart construction and progress display.
- Schedule compression: crashing and fast-tracking.
- Baseline establishment and version control.
- Building the schedule pack.

Day 4: Capacity, Resources, and Flow

- Resource loading and availability analysis.

- Resource levelling and smoothing techniques.
- Capacity versus demand balancing and overtime decisions.
- Theory of Constraints and bottleneck identification.
- Little's Law applied to work in progress and queues.
- Kanban and pull system basics for flow control.
- Building the capacity and flow pack.

Day 5: Look-Ahead Planning and Schedule Control

- Roll-wave planning and look-ahead horizons.
- Short-interval planning at weekly and daily level.
- Progress measurement and physical percent complete.
- Schedule compliance and variance reporting.
- Statistical Process Control with control charts and run rules.
- Recovery planning, re-baselining, and lessons learned.
- Personal action plan and continuous improvement.

Conclusion

By successfully completing Essential Elements of Work Planning and Scheduling, participants will have acquired a practical command of work definition, duration estimating, network logic, critical path analysis, resource levelling, capacity management, look-ahead planning, and schedule control. They will know how to break work into schedulable tasks, build logic that shows the real critical path, and level a plan against the capacity actually available. In addition, the course prepares delegates to run weekly look-ahead and short-interval routines that keep the plan alive on site. As a result, they return to work ready to produce plans that teams execute rather than file. Gentex Training Center delivers this Training Course with a practical, standards-based approach.

LEARN BOLD. **LEAD BEYOND**
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FAQs for the Essential Elements of Work Planning and Scheduling course

Q1 What is the "Essential Elements of Work Planning and Scheduling" course about?

It is a five-day programme on turning a list of work into a plan that resources can actually execute on the day. It covers work breakdown and activity definition, duration estimating with productivity factors, network logic and critical path analysis, float interpretation, resource levelling and capacity analysis, Theory of Constraints and Little's Law, look-ahead planning, and schedule compliance measurement.

Q2 What are the key benefits of the "Essential Elements of Work Planning and Scheduling" course?

Participants gain the ability to break work into schedulable tasks, build logic that shows the real critical path, and level a plan against the capacity actually available. They also learn to run weekly look-ahead and short-interval routines that keep the plan alive on site.

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Q3 What skills will I gain from the "Essential Elements of Work Planning and Scheduling" course?

Planning foundations with PMBOK schedule process application, scope definition, work breakdown structure construction, activity decomposition, and work package design, estimation and logic work with duration estimating, productivity factor application, allowance setting, dependency type selection, network logic construction, constraint and calendar management, milestone definition, and three-point estimating, schedule work with forward and backward pass calculation, total float, free float and negative float interpretation, critical path identification, Gantt chart construction, schedule compression, and baseline establishment, and capacity and control with resource loading, availability analysis, levelling and smoothing, demand balancing, Theory of Constraints bottleneck identification, Little's Law application, Kanban and pull system design, roll-wave and look-ahead planning, short-interval planning, progress measurement, schedule compliance reporting, control chart application, run rule interpretation, recovery planning, and re-baselining discipline.

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Q4 What tools, methods, or standards are covered in the "Essential Elements of Work Planning and Scheduling" course?

The course covers work planning versus scheduling and their sequence, PMBOK Guide schedule management processes, scope definition and work breakdown structure construction, activity decomposition and task-level definition, work package design and ownership assignment, common failures across unplanned work, missing resources and unrealistic durations, duration estimating methods and productivity factors, allowances for weather, congestion and learning curves, dependency types and network logic construction, constraint and calendar management, milestone definition and acceptance criteria, three-point estimating and PERT basics, forward and backward pass calculations, total float, free float and negative float interpretation, critical path identification and multiple-path analysis, Gantt chart construction and progress display, schedule compression across crashing and fast-tracking, baseline establishment and version control, resource loading and availability analysis, resource levelling and smoothing techniques, capacity versus demand balancing and overtime decisions, the Theory of Constraints and bottleneck identification, Little's Law applied to work in progress and queues, Kanban and pull system basics for flow control, roll-wave planning and look-ahead horizons, short-interval planning at weekly and daily level, progress measurement and physical percent complete, schedule compliance and variance reporting, Statistical Process Control with control charts and run rules, and recovery planning, re-baselining and lessons learned.

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Q5 How is the "Essential Elements of Work Planning and Scheduling" course applied in real-world practice?

Delegates apply it through planning frameworks, scope statements, work breakdown structures, activity lists, task definitions, work packages, ownership assignments, duration estimate sheets, productivity factor records, allowance schedules, dependency logs, network diagrams, constraint registers, calendar definitions, milestone registers, acceptance criteria sheets, three-point estimates, PERT calculations, forward and backward pass worksheets, float reports, critical path analyses, Gantt charts, schedule compression analyses, baseline records, version control logs, resource loading sheets, resource histograms, availability reports, levelling reports, smoothing plans, demand and capacity balances, overtime decisions, bottleneck analyses, constraint reports, Little's Law models, queue analyses, Kanban boards, pull system designs, work in progress reports, roll-wave plans, look-ahead schedules, short-interval plans, daily work plans, progress measurement records, physical percent complete records, schedule compliance reports, variance reports, control charts, run rule assessments, recovery schedules, re-baselining proposals, and lessons learned registers. They also use them to chair weekly planning meetings and to report schedule performance to project and operations leadership.