QUEST
Professional Center

PROFESSIONAL TRAINING COURSE

Course No. 1636

Advanced Production Management & Productivity Improvement Training Course

MANUFACTURING & PRODUCTION ENGINEERING
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION
5 Days

DELIVERY
Classroom

Course Overview

The Advanced Production Management & Productivity Improvement Training Course is a professional program designed to strengthen the managerial, analytical, and operational capabilities required to lead modern production environments and improve manufacturing productivity. The course provides an integrated understanding of production management, resource utilization, capacity planning, process performance, equipment effectiveness, quality, cost, and delivery, enabling participants to make informed decisions that support sustainable operational performance.

Modern production management requires more than achieving daily output targets. Production leaders must continuously balance productivity, quality, cost, equipment availability, workforce capability, material availability, delivery requirements, and operational flexibility. This course addresses these challenges by providing practical approaches for evaluating production performance, identifying constraints, managing resources, improving workflow, reducing operational losses, and establishing effective performance management practices.

The Advanced Production Management & Productivity Improvement Training Course covers advanced topics including production planning and control, capacity management, production flow analysis, bottleneck management, production line balancing, productivity measurement, operational loss analysis, resource optimization, equipment performance, continuous improvement, and operational excellence. The program also explores the connection between production performance and supporting functions such as maintenance, engineering, quality, supply chain, procurement, and inventory management.

Designed for manufacturing organizations, oil and gas companies, energy and petrochemical operations, engineering organizations, industrial services, and large corporations, the course is equally relevant to government entities with production-intensive or operational environments. Through practical exercises, case analysis, and workplace-oriented applications, participants will develop the ability to assess production performance, prioritize improvement opportunities, optimize resources, and develop practical initiatives for productivity improvement.

Objectives

- Analyze current production performance and identify the major factors influencing productivity, efficiency, quality, cost, and delivery performance during the course.
- Develop an integrated production management approach connecting planning, resources, equipment, workforce, quality, and delivery requirements.
- Evaluate production capacity and identify constraints and bottlenecks limiting operational output.
- Apply advanced productivity analysis techniques to identify operational losses, waste, delays, downtime, and performance gaps.
- Improve the utilization of equipment, workforce, materials, energy, and other production resources through systematic performance analysis.
- Design practical approaches for improving production flow and reducing waiting time, downtime, setup time, changeover losses, and process delays.
- Apply production line balancing techniques to improve workload distribution across production stages and work centers.
- Evaluate production performance indicators and align them with operational and organizational objectives.
- Analyze deviations in production, quality, cost, capacity, and delivery performance and determine appropriate corrective actions.
- Strengthen the application of continuous improvement and operational excellence principles within production environments.
- Design data-driven productivity improvement initiatives with clear objectives, performance measures, responsibilities, and implementation priorities.
- Develop an advanced production productivity improvement plan for a selected workplace environment by the end of the course.

Who Should Attend

The Advanced Production Management & Productivity Improvement Training Course is designed for production leaders, operations managers, manufacturing professionals, engineers, supervisors, and specialists responsible for managing and improving production performance. It is particularly suitable for Production Managers, Plant Managers, Manufacturing Managers, Operations Managers, Engineering Managers, Maintenance Managers, Quality Managers, Continuous Improvement Managers, Industrial Engineers, Production Engineers, Process Engineers, Manufacturing Engineers, and Production Supervisors.

The course is also relevant to Operations Leaders, Supply Chain Managers, Production Planning Managers, Materials and Warehouse Managers, and professionals involved in productivity improvement and operational excellence initiatives. Executives, department heads, and decision makers within manufacturing, oil and gas, energy, petrochemical, engineering, and industrial organizations will benefit from developing a stronger understanding of production performance, resource optimization, productivity management, and sustainable operational improvement.

Learning Outcomes

- Evaluate the overall performance of production operations and identify priority improvement opportunities.
- Analyze the relationship between productivity, production capacity, resources, quality, cost, and delivery performance.
- Identify bottlenecks and operational constraints affecting production flow and available capacity.
- Analyze sources of waste, operational losses, downtime, waiting time, and productivity reduction.
- Apply productivity measurement and analysis techniques to equipment, workforce, materials, and production processes.
- Optimize resource allocation and workload distribution across production lines and work centers.
- Apply production line balancing techniques to improve workflow and reduce operational bottlenecks.
- Develop appropriate key performance indicators for monitoring productivity, efficiency, quality, capacity, and production performance.
- Analyze operational deviations and determine the underlying factors contributing to production and performance gaps.
- Develop practical continuous improvement and operational excellence initiatives for production environments.
- Prepare improvement plans for optimizing equipment, materials, workforce, and production capacity.
- Develop an integrated productivity improvement plan supported by measurable objectives, performance indicators, implementation actions, and monitoring mechanisms.

Course Outline

DAY 01

Advanced Production Management and Operational Excellence

- The strategic role of production management in achieving organizational objectives.
- Production system components and the relationship between inputs, processes, outputs, and performance.
- Principles of advanced production and manufacturing management.
- Aligning production strategy with organizational and operational objectives.
- Evaluating production performance through productivity, quality, cost, and delivery dimensions.
- Balancing productivity, flexibility, quality, responsiveness, and operational stability.
- Production system characteristics and their implications for management decisions.
- The role of operational leadership in improving production performance.
- Building accountability and continuous improvement within production teams.

> **PRACTICAL APPLICATION OR DISCUSSION**
>
> Evaluate a selected production system, identify operational strengths and performance gaps, and prioritize improvement opportunities.

DAY 02

Capacity Management, Resource Optimization, and Production Flow

- Understanding available, effective, actual, and utilized production capacity.
- Analyzing production capacity and identifying capacity gaps and operational constraints.
- Identifying bottlenecks and evaluating their impact on productivity, cycle time, and production capacity.
- Equipment workload planning and work-center capacity management.
- Optimizing workforce and resource allocation according to production requirements.
- Analyzing material and information flow throughout production operations.
- Reducing waiting time, congestion, unnecessary movement, and material handling losses.

DAY 02 — CONTINUED

- Production line balancing and workload distribution across process stages.
- Improving workflow between production processes and work centers.
- Managing setup and changeover time and its impact on productivity.

PRACTICAL APPLICATION OR DISCUSSION

Analyze a production line, identify the primary bottleneck, and redesign resource and workload distribution to improve workflow and capacity utilization.

DAY 03

Productivity Measurement, Loss Analysis, and Operational Performance

- Understanding productivity and methods for measuring it in industrial environments.
- Measuring workforce, equipment, material, energy, and process productivity.
- Key performance indicators for production and manufacturing operations.
- Measuring equipment effectiveness and production capacity utilization.
- Identifying downtime, operational losses, and sources of production reduction.
- Analyzing waiting time, delays, rework, scrap, and quality-related losses.
- Comparing actual performance with planned and target performance.
- Using operational data to support production and resource decisions.
- Establishing priorities for improvement based on operational impact.
- Linking production performance indicators with organizational and financial performance.

PRACTICAL APPLICATION OR DISCUSSION

Analyze production performance data, calculate selected productivity indicators, identify major sources of loss, and determine improvement priorities.

DAY 04

Productivity Improvement and Continuous Improvement

- Principles of continuous improvement within production and manufacturing environments.
- Identifying and reducing waste across manufacturing processes.

DAY 04 — CONTINUED

- Applying Lean principles to improve production flow and resource utilization.
- Reducing setup, changeover, downtime, and operational losses.
- Improving process stability and reducing performance variation.
- Strengthening integration between production, maintenance, engineering, and quality.
- Applying structured problem-solving and root cause analysis to recurring production problems.
- Developing standard operating procedures to improve process consistency.
- Designing productivity improvement projects and prioritizing them according to impact and feasibility.
- Managing operational change and strengthening employee engagement in improvement initiatives.

PRACTICAL APPLICATION OR DISCUSSION

Select a production productivity problem, analyze its contributing causes, and develop an improvement initiative with defined objectives, actions, responsibilities, and performance measures.

DAY 05

Production Performance Leadership and Integrated Improvement Planning

- Assessing the maturity of production management and continuous improvement systems.
- Developing integrated production performance dashboards.
- Aligning production indicators with strategic and operational objectives.
- Establishing daily, weekly, and monthly production performance review mechanisms.
- Managing operational deviations through data-driven corrective decision making.
- Identifying opportunities for automation and digitalization in production management.
- Strengthening integration between production planning, operations, maintenance, quality, and supply chain.
- Managing productivity improvement programs and monitoring implementation progress.
- Identifying risks that may affect the sustainability of production improvements.
- Building a production culture focused on accountability, continuous improvement, and operational excellence.

DAY 05 — CONTINUED

- Linking productivity improvement with operational efficiency, waste reduction, cost performance, and industrial competitiveness.

FINAL WORKSHOP, ACTION PLAN, OR IMPLEMENTATION EXERCISE

Develop an advanced production productivity improvement plan covering the current-state assessment, capacity and resource analysis, bottleneck and loss identification, performance indicators, improvement initiatives, implementation priorities, responsibilities, monitoring mechanisms, expected operational impact, and sustainability measures.

Register or Request More Information

Course page: https://quest-training.com/courses/advanced-production-management-productivity-improvement-training-course
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