

## Execution and Control of Operations

### Course Description

Execution & Control of Operations focuses on the areas of prioritizing and sequencing work, executing work plans and implementing controls, reporting activity results, and providing evaluation feedback on performance. The course explains techniques for scheduling and controlling production processes, the execution of quality initiatives and continuous improvement plans, and the control and handling of inventories.

### Objectives

- Explain how to schedule production and process plans in the manufacturing process, impacts of variation on business systems, and methods for managing production resources
- Demonstrate the effect of the facility's layout on scheduling and workflow, input and output control techniques, push systems techniques, and scheduling techniques.
- Explain bottleneck management, lead-time control operations and techniques, reporting activities and data collection techniques, cost systems, impact on decision-making, and the effect of specifications and standards on product quality
- Identify report and data collection techniques, manufacturing environments for pull systems, interfaces and data exchanges required to execute a plan, and pull system strengths and weaknesses
- Demonstrate knowledge of how to implement a continuous improvement plan and identify techniques for monitoring and evaluating quality management initiatives and continuous improvement efforts.

This course focuses on three main areas: prioritizing and sequencing work; executing work plans, implementing controls, and reporting activity results; and evaluating and providing feedback on performance. The course explains techniques for scheduling and controlling production and process operations. It also addresses the execution of quality initiatives and continuous improvement plans as well as controlling and handling inventories. Finally, the course presents techniques for evaluating performance and collecting data for effective feedback.

## I. Prioritizing and Sequencing Work to be Performed

### A. Interfaces

- Planning
- Manufacturing supervision

### B. Production environment

- Work cell
- Group technology
- Focused factory
- Synchronous or flow shop production
- Functional
- Site base

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C. Scheduling Production and Process Operations

- Scheduling techniques
- Line balancing
- Bottleneck identification and management
- Queue management
- Lead-time control
- Preventive maintenance

**II. Executing Plans, Implementing Physical Controls, and reporting Results of Activities Performed**

A. Authorizing and Reporting Activities for Push Systems

- Release activities
- Dispatching techniques
- Expediting/de-expediting
- Availability checking
- Documentation
- Staging/kitting
- Work assignment
- Work-in-process
- Material (scrap, rework, yield)
- Capacity resources (labor, equipment)
- Data collection techniques

B. Authorizing and Reporting Activities for Pull Systems

- Kanban signals
- Documentation
- Work assignment
- Data collection
- Count points
- Work-in-process
- Bill of material levels
- Container quantities
- Visibility
- Immediate feedback

C. Transaction Reporting

- Inventory transactions and methods
- Backflushing

D. Communicating Customer-Supplier Information

- Sharing of information
- Methods of data communication (editing, fax, internet, bar-coding, etc.)

E. Controlling Resources

- Storage and location issues
- Transportation and material handling
- Impact of production rate and lead time on inventory

F. Executing Quality Initiatives, Eliminating Waste, and Implementing Continuous Improvement Plans

- Process improvement
- Housekeeping and workplace organization
- Paperwork and transaction reduction
- Set-up reduction
- Quality and continuous improvement tools
- Lead time and throughput time reduction
- Lot size reduction
- Move/transit time reduction
- Developing, evaluating, rewarding people

**III. Evaluating Performance and Providing Feedback**

A. Evaluating Quality Management Processes

- Concept of variation
- Statistical Process Control (SPC)
- Process capability analysis
- Quality Function Deployment (QFD)

B. Monitoring Supplier Performance

- Specifications and standards
- Quality audits
- Incoming inspection
- Sampling plans
- Delivery performance

C. Evaluating Performance of Production Operations

- Data sources and requirements
- Accuracy of inventory records
- Performance reporting
- Quality measures

D. Evaluating Contractual and Regulatory Compliance and Cost Performance of Operations

- Certification and regulatory compliance
- Cost management processes
- Audits and control

Classes are offered periodically throughout the year. Classes provide a forum for discussion and exchange of ideas with peers.

All classes are limited to 20 Students, on a First come First served basis. Please register EARLY, to insure your spot

All classes are held at WCTC

To Register Call 1-262-695-6576 or email [cctmatrix@wctc.edu](mailto:cctmatrix@wctc.edu)