

# 3-Day Planning for Cellular Manufacturing

## Description

The world's most comprehensive course on the planning, design, and operation of linked manufacturing cells. Taught by leading authorities using Systematic Planning of Manufacturing Cells (SPMC), this course will prepare you to plan multiple, linked cells of any kind, size, or complexity. Thousands of cells have been planned using SPMC's universally applicable techniques. Multiple case exercises assure your mastery of these methods.

Essential skills for those who are planning new cells or reconfiguring existing ones. Ideal for engineers, supervisors, and team leaders. SPMC's practical methods are easily learned by production operators and support staffs in materials, maintenance, and quality.

## Objectives

- To reduce flow time, work-in-process, and material handling cost.
- To improve the planning and performance of manufacturing cells.
- To provide a standard planning method for accelerated implementations of continuous flow, world-class and lean manufacturing.

## Who Will Benefit

- Plant and Manufacturing Managers
- Manufacturing and process engineers
- Industrial Engineers and systems analysts
- Materials and production planners
- Production supervisors and team leaders
- Cell planning and Lean Manufacturing implementation teams

## Timing

Duration: 3 days  
(1-, 2-, and 4-day versions also available)  
Start: 8:00  
AM Break: 10:30  
Lunch: 12:00 – 1:00  
PM Breaks: 2:15 & 3:45  
Adjourn Days 1 & 2: 5:00  
Adjourn Day 3: 3:30

## Course Outline

### Day One

#### A. WELCOME & INTRODUCTION

- Manufacturing cells defined.
- Foundation for lean manufacturing.
- Real-world benefits of successful cells.
- What risks and difficulties can be expected?

#### B. A SHORT-FORM, SIMPLIFIED APPROACH FOR PLANNING SMALL CELLS

- Three fundamentals of cell-planning projects.
- Six-step approach to cell planning and implementation.

#### C. CASE EXERCISE IN PLANNING A SMALL CELL

- Team exercise using the six-step approach.

#### D. HOW TO PLAN MANUFACTURING CELLS

- Typical approaches to cell planning.
- Systematic Planning of Manufacturing Cells (SPMC).
- The four phases of cell planning.
- Pattern of procedures for cell planning.

#### E. SYSTEMATIC PLANNING TECHNIQUES

- Documenting the planning environment.
- Location and Orientation worksheet.
- Organizing the cell-planning project(s).
- Gathering and analyzing input data.
- How to classify parts.
- Summarizing and communicating parts classifications.

#### F. HOW TO ANALYZE CELL PROCESSES

- Process charting and visualization.
- Process improvement; eliminating waste.
- Determining work content and processing times.

### Day Two

#### A. ESTABLISHING CAPACITY, BALANCE & FLOW

- Determining equipment requirements and utilization.
- Analyzing flow through the cell.
- Line balancing.
- How to prepare a Cell Flow Diagram.

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### Course Outline continued

#### Day Two continued

##### B. INTEGRATING PARTS WITH PROCESSES

- Developing preliminary cell layouts.
- Physical arrangement of the cell – basic choices.
- Materials handling within the cell.
- Other coupling factors: physical, procedural, people.

##### C. CELL SCHEDULING & MATERIALS MANAGEMENT

- Six methods of scheduling and sequencing jobs and parts.
- Twelve ways to manage workloads and capacities.
- Reporting production and material usage.
- Discussion exercise in scheduling and materials management.

##### D. PAY PLANS, TRAINING & SUPERVISION

- Performance measurement; employee incentives.
- Cross training and union considerations.
- Worker assignment and supervision of cells.
- Empowering the cell team for management and problem solving.

##### E. CASE EXERCISE: DEVELOPING YOUR CELL PLAN

- Team exercise: Develop a cell plan for a real problem, coupling the physical, procedural, and people aspects of a cell.
- Receive and apply a comprehensive 160-point checklist and worksheet for cell planning.

##### F. MODIFYING, SELECTING AND ACCEPTING CELL PLANS

- Modify and refine overall cell alternatives.
- Economic considerations.
- Evaluating intangible factors.
- Selecting the most-preferred plan.
- What management wants to know before approving cell plans.

#### Day Three

##### A. LOCATING THE CELL: FACILITIES PLANNING

- Factors to consider when choosing a cell location.
- The value of an overall plan.
- Case exercise in cell location.

##### B. DETAILED CELL PLANS & WORKPLACE DESIGNS

- Levels of planning.
- Alternative approaches to detail planning.
- Breakout components within the cell.
- Fundamentals of workplace design.
- Case exercise in workplace design.

##### C. WORKPLACE EQUIPMENT, ERGONOMICS & SAFETY

- Equipment design & selection.
- Basic lifting principles.
- Principles of motion economy, ergonomics and safety.

##### D. ECONOMIC CONSIDERATIONS & COST JUSTIFICATION

- How cellular manufacturing impacts your income statement.
- How cellular manufacturing impacts your balance sheet.
- The impact of partial and full implementation.
- Calculation technique for strategic planning.

##### E. MANAGEMENT & STRATEGIC ISSUES

- Special issues with automation and information technologies.
- Coupling with product design and engineering.
- External coupling with suppliers, customers, sales, and distribution.
- The need for logistics and facilities strategies.
- Program teams and committees.
- Typical roles and responsibilities.
- Who should lead the program?
- The pyramid of progress.
- Characteristics of successful programs.

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### EXTENSIVE REFERENCE MATERIALS AND TEXT

Your 150-page course manual includes a set of practical Working Forms and detailed checklists for immediate application on your current or next cell-planning project. And in addition to your course manual, you will also receive *Planning Manufacturing Cells*, by Lee Hales and Bruce Andersen. This 270-page text provides complete documentation of the SPMC methodology. Dozens of illustrations show cell planning in action.

### OPTIONAL SPMC CERTIFICATION EXAM

Our 3-day course on Planning for Cellular Manufacturing contains sufficient depth for those attending to pass our SPMC Certification Examination. This exam lasts roughly 3 hours. It can be given after the close of the course on Day Three, or the following morning. The first hour consists of true-false, fill-in-the-blanks, and multiple-choice questions about Systematic Planning of Manufacturing Cells (SPMC). The remainder is spent working a small case problem to demonstrate mastery of SPMC techniques. Exams are graded pass-fail.

We charge a modest fee for administering and grading each exam.

Examination is the first part of formal certification in SPMC. The second part is Project Submission in which the practitioner submits the documentation of an actual project performed using SPMC. This is also graded pass-fail.

Taking the examination only makes sense for those who intend to follow through with a Project Submission.

Those passing both parts receive a Certificate attesting to their proficiency in Systematic Planning of Manufacturing Cells (SPMC).