Course Title: Material Planning Basics

Course web page: http://www.collin.edu/ce/courses/material_planning_basics.html

Course Description: Explore the fundamentals of materials requirements planning. Plan inventory using various available techniques. Understand the data requirements and how computer systems develop material and capacity plans.

Suggested Course Prerequisite(s): N/A

Materials Needed: N/A

Course Objectives:
1. Explore the fundamentals of materials requirements planning
2. Plan inventory using various available techniques
3. Understand the data requirements and how computer systems develop material and capacity plans

Lesson Plan – by week or session
Session 1: Introductions and syllabus.
   - Student Data Forms.
   - Material Planning Basics Objectives
   - Key Terms
   - Business Process Flow
   - Materials Requirements Planning - MRP
   - Priority and Capacity
   - Manufacturing Resource Planning – MRPII
   - Item Master
   - Engineering Data
   - Inventory Planning Data
   - Lead Time
   - Inventory Management – Order Planning
   - Objectives/ Purpose of Inventory Strategy
   - Definition of Inventory
   - Classifications of Inventory
   - Sub-classifications of Inventory
   - Inventory Categories
   - Order Review Methodologies
   - The MRP Grid
   - Sources of Demand & the Logic of TPOP Illustrated
   - TPOP Equation
   - TPOP Solution with and without MRP Grid
   - Order Quantity Constraints and Modifiers
   - Costs Associated with Order Quantity Decisions
   - Opportunity Costs
   - Cost of Placing Orders
Order Quantity/Cost Comparisons
Economic Order Quantity
Total Cost
EOQ Equation
Fixed/ Period Order Quantity
Lot for Lot
Inventory Management – Customer Service
Safety Stock Analysis
Definition/ Purpose of Inventory Accuracy
The Cost of Inaccurate Records

Session 2: Types of Demands
Inventory-Related Performance Measurements and Indicators
Stock Balances
Sources of MRP Requirements
Cumulative Lead Time
MRP Model
Planning Factors and Techniques
Pegging
Performance Measures for MRP
Operational Characteristics of MRP
MRP Mechanics & Grid
A – Bill of Material
F – Bill of Material
Low Level Code
MRP Grid Examples
MRP Outputs
Netting Time – Phased Order Point
TPOP/MRP Netting Logic
Maintaining Valid Order Priorities
Exception Reports
Single-Level Pegging
Firm Planned Order
Revision of Planning Parameters
Simulation
Scrap and Yield
Closing the Loop
Material Planning Basics Summary
Student Evaluation of Instruction

Course Sessions: listed are a guideline to indicate all topics that will be covered during your course. Do not plan your personal calendar based on these sessions. Your instructor will give you a calendar for your class that will indicate specific topics, assignments, and days.

Method of Evaluation: Unless otherwise stated, course completion is evaluated on the basis of attendance. Students must be in attendance 90% of the class time in order to be considered a successful completer of the course.

Students must be in attendance 90% of each course in a certificate series for successful completion and to earn a certificate as specified.

Students must complete all courses (core and no. of elective courses needed) to complete a certificate series within two years from start date of the first course taken.
**Americans with Disabilities Act:** Collin College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal opportunity. It is the student’s responsibility to contact the ACCESS office, SCC-G200 or 972.881.5898 (V/TTD: 972.881.5950) to arrange for appropriate accommodations. See the current Collin Student Handbook for additional information.

[http://www.collin.edu/studentresources/personal/studenthandbook.aspx](http://www.collin.edu/studentresources/personal/studenthandbook.aspx)