Course Description

Production planning, scheduling, and control for printed products. Equipment and inventory planning, resource optimization, and the application of quality management principles to the printing industry. Three lectures, one activity. Prerequisites: GRC 101, and MATH 117, 118, or 120.

Expected Outcomes

The student will understand:

1. Plant organization for production
2. Capacity and equipment planning
3. Production planning, scheduling, and control for printing
4. Principles of inventory control
5. Fundamentals of quality management for the printing industry

Text

Printing Production Management by Gary G. Field, Graphic Arts Publishing Inc.,
Livonia, New York, 1996.

Required Student Materials

Notebook; Textbook; Calculator

Expanded Course Outline

1. Printing Production Systems
   a) Intermittent Process
   b) Repetitive Process
2. Organizational Structure for Manufacturing
   a) Line
   b) Staff
   c) Communication Linkages
3. Equipment and Capacity Planning
   a) Economies of Scale
   b) Elasticity of Demand
   c) Break Even Analysis
   d) Indifference Point Analysis
4. Equipment Investment Analysis
   a) Discounted Cash Flow Techniques
   b) Cost of Capital
   c) Risk Analysis
   d) Non Financial Considerations
5. Production Planning I
   a) Production Administration Concepts
   b) Multi-Image Layout Problems
6. Production Allocation Types of Work
   a) The Assignment Technique
7. Production Planning II
   a) Multi-Sheet Products
8. Production Scheduling
   a) The Single Machine Case
   b) Multi-Machine and Product Cases - Gantt Chart Application
9. Production Control
   a) Administrative Networks
   b) Forms Design
10. Inventory and Purchasing Management
    a) Optimal Order and Production Quantities
    b) Price Break Analysis
11. Quality Management
    a) Quality Assurance
    b) The Quality Analysis Cycle
12. a) The Failure of Management Theories and Fads
    b) Open Book Management

**Method of Instruction**

Lecture, Readings, Problem Solving Activities

**Method of Evaluation**

<table>
<thead>
<tr>
<th>Midterm Exam</th>
<th>30 percent</th>
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<tbody>
<tr>
<td>Final Exam</td>
<td>40 percent</td>
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<tr>
<td>Laboratory Activities</td>
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