PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

PRODUCTION OPERATIONS
MGT 2120

Class Hours: 3.0  Credit Hours: 3.0
Laboratory Hours: 0.0  Date Revised: Fall 00

NOTE: This course is not designed for transfer credit.

Catalog Course Description:

This course is a study of forecasting, capacity planning, materials management, scheduling, and other production control techniques.

Entry Level Standards:

The beginning student must be competent in college-level algebra and be able to solve linear equations. The student must be able to use a basic electronic calculator, especially the statistical section. The student must be able to use a microcomputer. The student must be able to read and write at the college level and reason logically.

Prerequisites:

MGT 2000, MATH 1010, MATH 1530, OST 1211

Textbook(s) and Other Reference Materials Basic to the Course:

Please note that the following textbook should be the soft cover version with POM for Windows software included.
Calculator with a statistical section is required for the course.

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Course Introduction; Production Operations Management</td>
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<tr>
<td>2-4</td>
<td>Forecasting</td>
</tr>
<tr>
<td>5-6</td>
<td>Aggregate Scheduling</td>
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<td>7</td>
<td>Just-In-Time Inventory Systems</td>
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<td>8-10</td>
<td>Materials Requirements Planning</td>
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<td>11-12</td>
<td>Independent Demand; Inventory</td>
</tr>
<tr>
<td>13-15</td>
<td>Final Simulation</td>
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II. Course Objectives*:

A. Exhibit a basic production operations vocabulary. I, II
B. Demonstrate an adequate knowledge of business forecasting. I, II, III
C. Demonstrate an adequate knowledge of aggregate scheduling. I, II, III
D. Demonstrate an adequate knowledge of inventory management. I, II, III
E. Exhibit a working knowledge of microcomputer P.O. applications. I, III, V

*Roman numerals after course objectives reference goals of the Management program.

III. Instructional Processes*:

Students will:

1. Practice elements of the work ethic such as professionalism, preparedness, punctuality, honesty, cooperation, dependability, contribution, effectiveness, good manners, etc. Personal Development Outcome, Cultural Diversity & Social Adaptation Outcome, Transitional Strategy

2. Calculate homework problems, case studies, etc. using computer software and/or a calculator. Problem Solving & Decision Making Outcome, Technological Literacy Outcome, Numerical Literacy Outcome, Active Learning Strategy

3. Calculate, using computer software, and write a major planning report on a simulated company. Communication Outcome, Problem Solving & Decision Making Outcome, Technological Literacy Outcome, Numerical Literacy Outcome, Informational Literacy Outcome, Transitional Strategy, Active Learning Strategy

*Strategies and outcomes listed after instructional processes reference Pellissippi State's goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Explain how P.O. fits into the overall scope of business. A, B, C, D, E, F

2. Calculate, using both manual and by computer, and interpret business forecasts using the following techniques: A, B, F
   a. Judgment and opinion.
   b. Time series analysis by moving averages.
   c. Time series analysis by exponential smoothing with and without trend.
   d. Time series analysis by simple linear regression.

3. Calculate, both manually and by computer, using the informal technique and interpret an aggregate production schedule. A,C

4. Explain how a Just-In-Time inventory system operates. A, D

5. Calculate a MRP both manually and by computer. A,D
6. Calculate, manually and by computer, and interpret an economic order quantity for the following models: A,D,F
   a. Basic
   b. Economic production run
   c. Quantity discounts

7. Calculate, both manually and by computer, and interpret the four reorder point models. A,D

8. Complete a microcomputer based P.O. simulation project. A,B,C,D,E,F

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures:

   Each instructor must provide full details during the first week of class via a syllabus supplement.

B. Laboratory Expectations:

   Students will use microcomputers to complete applications software labs and homework. The instructor will furnish further details.

C. Field Work:

   N/A

D. Other Evaluation Methods:

   Class participation, group work, and homework will also comprise the final grade for the course. Each instructor must provide full details during the first week of class via a syllabus supplement.

E. Grading Scale:

   92 - 100   A
   89 - 91    B+
   82 - 88    B
   79 - 81    C+
   72 - 78    C
   65 - 71    D
   Below 65   F

VI. Policies:

   Attendance Policy:

   Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.