

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: MECH 442 Department: Mechanical Engineering
Tech.
Course Title: Manufact. Planning & Control Semester: Spring Year: 1999

Objectives/Competencies

Course Objective	Competencies
1. Be knowledgeable in defining elements of production planning and control including general terms and concerns of production planning.	1. Demonstrate knowledge of the historical background of production planning and control. 2. Identify the scientific method as it applies to production planning and control. 3. Distinguish between the three classifications of a production: a. Continuous b. Batch c. Unit Production 4. Utilize a basic decision-making model and basic problem-solving model to solve case studies.
2. Be knowledgeable of the elements that contribute to a successful production control program and understand the techniques when planning processes for production.	1. Demonstrate use of a Gantt chart and network modeling techniques. 2. Understand the use of product structure trees and bills of material.

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<p>3. Be knowledgeable of how decisions are made concerning how much of a product should be produced for future periods. Techniques to project product demand and projecting capacity will be discussed.</p>	<p>3. Evaluate process sequences by performing break-even analyses.</p> <p>4. Utilize group technology methods to attain greater efficiency in production processes.</p> <p>1. Calculate product demand for short term planning, medium term planning, and long term planning using quantitative techniques of demand trend, seasonal demand, demand cycle, and moving average.</p> <p>2. Develop production plans and master production schedules utilizing the medium term planning method.</p> <p>3. Evaluate capacity of a facility using medium term capacity planning.</p> <p>4. Evaluate the effect of learning curves to a production process.</p>
<p>4. Evaluate reasons for inventory, inventory control, and ways to minimize costs of inventory.</p>	<p>1. Calculate economic order quantity, economic order value, and periodic order quantity. Apply these to minimize inventory costs.</p> <p>2. Establish lead time requirements for ordering material.</p> <p>3. Apply average and deviation calculations to measure data.</p>
<p>5. Compare different production control processes used in various industries currently.</p>	<p>1. Accurately calculate material needs by utilizing material requirement plans (MRP) and MRPII philosophies.</p> <p>2. Explain backward and forward scheduling, infinite and finite capacity planning.</p> <p>3. Describe the use of Kanban as a controlling method of</p>

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